TOSHIBA

Selection Guide 2024

Isolators and Solid State Relays

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1. Isolators

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1-1-1 IC Output

Logic

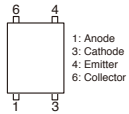
Open-collector Output Type

Part Number	Data Rate (Mbps)	Current Transfer Ratio CTR min (%) @Ta = 25 °C	Propagation Delay Time t_{pLH} max (µs)	Propagation Delay Time t_{pHL} max (µs)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / µs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2301	0.02	50 (@I_F = 1 mA)	30	30	-	40	-	-	-55	125	3750	4pin SO6	(A)	-
TLP2701	0.02	50 (@I_F = 1 mA)	30	30	-	40	-	-	-55	125	5000	4pin SO6L	(A)	-
TLP2303	0.1	900 (@I_F = 0.5 mA)	90	20	4.5	18	1.5	+/-15	-40	125	3750	5pin SO6	(B)	-
TLP2703	0.1	900 (@I_F = 0.5 mA)	90	20	4.5	18	1.5	+/-15	-40	125	5000	SO6L	(C)	-
TLP109	1	20 (@I_F = 16 mA)	0.8	0.8	-	30	0.001	+/-5	-55	125	3750	5pin SO6	(D)	-
TLP2309	1	15 (@I_F = 10 mA)	1	1	2.7	20	0.001	+/-15	-40	110	3750	5pin SO6	(D)	-
TLP2719	1	15 (@I_F = 16 mA)	2	0.85	4.5	20	0.001	+/-10	-40	100	5000	SO6L	(E)	✓

Note1: Recommended Operating Condition

Pin Configuration

(A)



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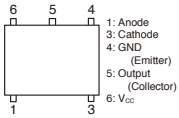

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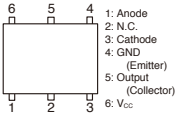

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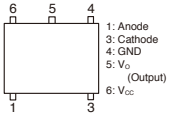

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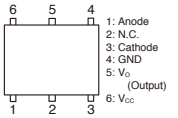


High Speed Logic

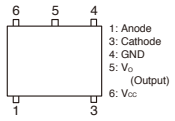
Open-collector Output Type

Part Number	Data Rate (Mbps)	Threshold LED Input Current I_{FHL} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / µs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2309	1	10 (Note2)	1000	1000	2.7	20	0.001	+/-15	-40	110	3750	5pin SO6	(A)	-
TLP2719	1	10 (Note2)	2000	850	4.5	20	0.001	+/-10	-40	100	5000	SO6L	(D)	✓
TLP2304	1	5	550	400	4.5	30	1.3	+/-20	-40	125	3750	5pin SO6	(B)	-
TLP2704	1	5	550	400	4.5	30	1.3	+/-20	-40	125	5000	SO6L	(C)	✓
TLP2362	10	5	100	100	2.7	5.5	4	+/-20	-40	125	3750	5pin SO6	(B)	-
TLP2362B*	10	5	100	100	2.7	5.5	1	+/-50	-40	125	3750	5pin SO6	(B)	-
TLP2363	15	2.4 (min 0.3)	80	80	2.7	5.5	4	+/-20	-40	105	3750	5pin SO6	(B)	-
TLP2368	20	5	60	60	2.7	5.5	4	+/-20	-40	125	3750	5pin SO6	(B)	-
TLP2368B*	20	5	60	60	2.7	5.5	1	+/-50	-40	125	3750	5pin SO6	(B)	-
TLP2768A	20	5	60	60	2.7	5.5	4	+/-20	-40	125	5000	SO6L	(C)	✓

Note1: Recommended Operating Condition
Note2: Input on-state current ($I_{F(ON)}$) min (Recommended Operating Conditions)
*: Supported slow inputs to the LED and detector

Pin Configuration

(A)



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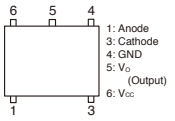

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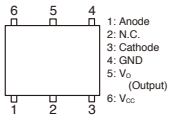

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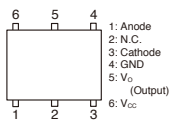


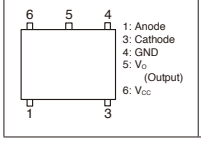
Totem-pole (Inverter) Output Type

Part Number	Data Rate (Mbps)	Threshold LED Input Current I_{FHL} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} / V_{DD} (Note1) min (V)	Supply Voltage Operating Range V_{CC} / V_{DD} (Note1) max (V)	High / Low -level Supply Current I_{CC} / I_{DD} max (mA)	Common Mode Transient Immunity CM min (kV / µs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2358	5	1.6	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(A)	-
TLP2348	10	1.6	120	120	4.5	30	3	+/-30	-40	110	3750	5pin SO6	(A)	-
TLP2748	10	1.6	120	120	4.5	30	3	+/-30	-40	110	5000	SO6L	(B)	✓
TLP2762B*	10	5	100	100	2.7	5.5	1	+/-50	-40	125	5000	SO6L	(B)	✓
TLP2261 (Note2)	15	1.6	80	80	2.7	5.5	2	+/-20	-40	125	5000	SO8L	(C)	(Note3)
TLP2361	15	1.6	80	80	2.7	5.5	1	+/-20	-40	125	3750	5pin SO6	(A)	-
TLP2761	15	1.6	80	80	2.7	5.5	1	+/-20	-40	125	5000	SO6L	(B)	✓
TLP2366	20	3.5	55	55	2.7	5.5	3	+/-20	-40	125	3750	5pin SO6	(A)	-
TLP2766A	20	3.5	55	55	2.7	5.5	3	+/-20	-40	125	5000	SO6L	(B)	✓
TLP2768B*	20	5	60	60	2.7	5.5	1	+/-50	-40	125	5000	SO6L	(B)	✓
TLP2367	50	4	20	20	2.7	5.5	2.5	+/-25	-40	125	3750	5pin SO6	(D)	-
TLP2767	50	4	20	20	2.7	5.5	2.5	+/-25	-40	125	5000	SO6L	(E)	✓

Note1: Recommended Operating Condition
Note2: Dual channel version
Note3: This product supports only SO8L(LF4) lead form option.
*: Supported slow inputs to the LED and detector

Pin Configuration

(A)



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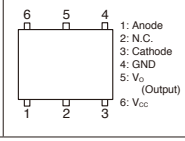

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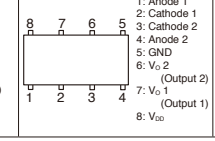

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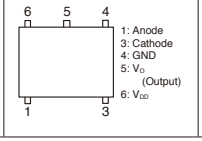

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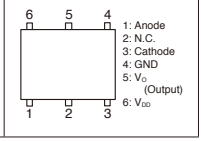


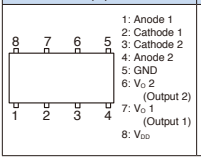
Totem-pole (Buffer) Output Type

Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{CC} / V_{DD} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
	(Mbps)	I_{FLH} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} / I_{DD} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP2310	5	1	250	250	2.7	5.5	0.3	+/-25	-40	125	3750	5pin SO6	(B)	-
TLP2210 (Note2)	5	1.3	250	250	2.7	5.5	0.6	+/-25	-40	125	5000	SO8L	(A)	(Note3)
TLP2312	5	1.6	250	250	2.2	5.5	0.5	+/-20	-40	125	3750	5pin SO6	(B)	-
TLP2710	5	1	250	250	2.7	5.5	0.3	+/-25	-40	125	5000	SO6L	(C)	✓
TLP2355	5	1.6	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(D)	-
TLP2345	10	1.6	120	120	4.5	30	3	+/-30	-40	110	3750	5pin SO6	(D)	-
TLP2745	10	1.6	120	120	4.5	30	3	+/-30	-40	110	5000	SO6L	(E)	✓
TLP2735	10	3	100	100	9	15	4.5	+/-25	-40	125	5000	SO6L	(C)	-
TLP2270 (Note2)	20	1	60	60	2.7	5.5	0.8	+/-20	-40	125	5000	SO8L	(A)	(Note3)
TLP2370	20	1	60	60	2.7	5.5	0.4	+/-20	-40	125	3750	5pin SO6	(B)	-
TLP2770	20	1	60	60	2.7	5.5	0.4	+/-20	-40	125	5000	SO6L	(C)	-
TLP2372	20	1.6	75	75	2.2	5.5	0.5	+/-20	-40	125	3750	5pin SO6	(B)	-

Note1: Recommended Operating Condition
Note2: Dual channel version
Note3: This product supports only SO8L(LF4) lead form option.

Pin Configuration

(A)



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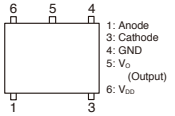

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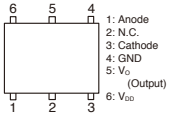

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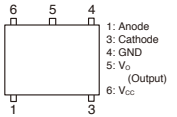

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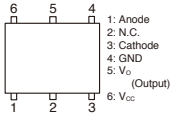


AC Input Type

Totem-pole (Inverter) Output Type

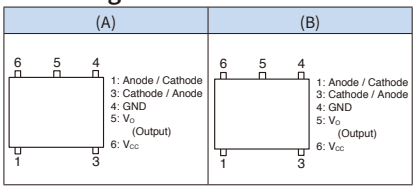
Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{CC} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
	(Mbps)	I_{FHL} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP2398	5	2.3	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(A)	-
TLP2391	10	2.5	100	100	2.7	5.5	1	+/-20	-40	125	3750	5pin SO6	(A)	-

Totem-pole (Buffer) Output Type

Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{CC} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
	(Mbps)	I_{FLH} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP2395	5	2.3	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(B)	-

Note1: Recommended Operating Condition

Pin Configuration



IPM Driver

Open-collector Output Type

Part Number	Data Rate (Mbps)	Threshold LED Input Current I_{FHL} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / μs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2304	1	5	550	400	4.5	30	1.3	+/-20	-40	125	3750	5pin SO6	(A)	-
TLP2704	1	5	550	400	4.5	30	1.3	+/-20	-40	125	5000	SO6L	(B)	✓

Totem-pole (Inverter) Output Type

Part Number	Data Rate (Mbps)	Threshold LED Input Current I_{FHL} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / μs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2358	5	1.6	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(C)	-
TLP2348	10	1.6	120	120	4.5	30	3	+/-30	-40	110	3750	5pin SO6	(C)	-
TLP2748	10	1.6	120	120	4.5	30	3	+/-30	-40	110	5000	SO6L	(D)	✓

Totem-pole (Buffer) Output Type

Part Number	Data Rate (Mbps)	Threshold LED Input Current I_{FLH} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / μs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP2355	5	1.6	250	250	3	20	3	+/-20	-40	125	3750	5pin SO6	(E)	-
TLP2345	10	1.6	120	120	4.5	30	3	+/-30	-40	110	3750	5pin SO6	(E)	-
TLP2745	10	1.6	120	120	4.5	30	3	+/-30	-40	110	5000	SO6L	(F)	✓
TLP2735	10	3	100	100	9	15	4.5	+/-25	-40	125	5000	SO6L	(F)	-

Note1: Recommended Operating Condition

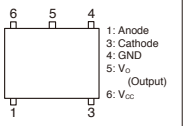
Open-collector Output Type

Part Number	Data Rate (Mbps)	Current Transfer Ratio CTR min (%) @Ta = 25 °C	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / μs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP109(IGM)	1	25 (@I_F = 10 mA)	1000	1000	-	30	0.001	+/-10	-55	125	3750	5pin SO6	(G)	-
TLP2719	1	15 (@I_F = 16 mA)	2000	850	4.5	20	0.001	+/-10	-40	100	5000	SO6L	(H)	✓

Note1: Recommended Operating Condition

Pin Configuration

(A)



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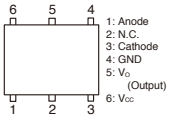

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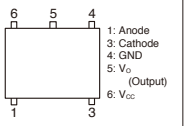

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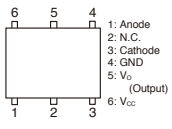
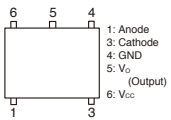


(E)



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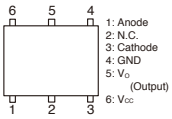

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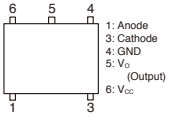

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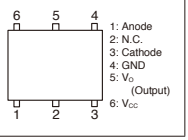


IGBT / MOSFET Driver

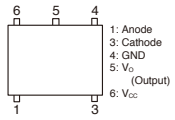
Totem-pole (Buffer) Output Type

Part Number	Output Current (Note2) I_{OPH} or I_{OPL} max (A)	Threshold LED Input Current I_{FLH} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / µs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP155E	+/-0.6	7.5	200	200	10	30	3	+/-15	-40	100	3750	5pin SO6	(A)	-
TLP151A	+/-0.6	5	500	500	10	30	2	+/-20	-40	110	3750	5pin SO6	(A)	-
TLP5701	+/-0.6	5	500	500	10	30	2	+/-20	-40	110	5000	SO6L	(B)	✓
TLP5751	+/-1	4	150	150	15	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5751H	+/-1	4	150	150	15	30	3	+/-35	-40	125	5000	SO6L	(C)	✓
TLP5771	+/-1	2	150	150	10	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5771H	+/-1	2	150	150	10	30	3	+/-35	-40	125	5000	SO6L	(C)	✓
TLP5752	+/-2.5	4	150	150	15	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5752H	+/-2.5	4	150	150	15	30	3	+/-35	-40	125	5000	SO6L	(C)	✓
TLP5772	+/-2.5	2	150	150	10	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5772H	+/-2.5	2	150	150	10	30	3	+/-35	-40	125	5000	SO6L	(C)	✓
TLP152	+/-2.5	7.5	170	190	10	30	3	+/-20	-40	100	3750	5pin SO6	(A)	-
TLP5702	+/-2.5	5	200	200	15	30	3	+/-20	-40	110	5000	SO6L	(B)	✓
TLP5702H	+/-2.5	5	200	200	15	30	3	+/-50	-40	125	5000	SO6L	(B)	✓
TLP5705H	+/-5	5	200	200	15	30	3	+/-50	-40	125	5000	SO6L	(B)	✓
TLP5832	+/-2.5	5	200	200	15	30	3	+/-20	-40	110	5000	SO8L	(D)	-
TLP5754	+/-4	4	150	150	15	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5754H	+/-4	4	150	150	15	30	3	+/-35	-40	125	5000	SO6L	(C)	✓
TLP5774	+/-4	2	150	150	10	30	3	+/-35	-40	110	5000	SO6L	(C)	✓
TLP5774H	+/-4	2	150	150	10	30	3	+/-35	-40	125	5000	SO6L	(C)	✓

Note1: Recommended Operating Condition
Note2: Absolute Maximum Ratings

Pin Configuration

(A)



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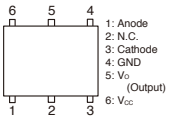

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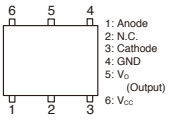

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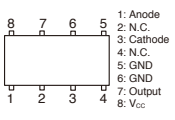
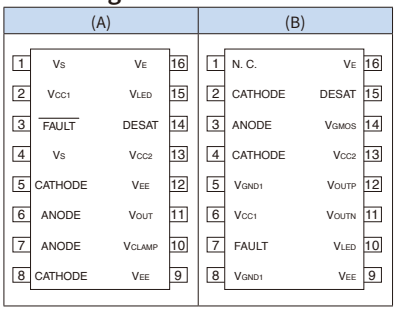


Smart Gate Driver

Part Number	Output Current (Note2) I_{OPH} or I_{OPL} max (A)	Threshold LED Input Current I_{FLH} max (mA)	Propagation Delay Time t_{pLH} max (ns)	Propagation Delay Time t_{pHL} max (ns)	Supply Voltage Operating Range V_{CC} (Note1) min (V)	Supply Voltage Operating Range V_{CC} (Note1) max (V)	High / Low -level Supply Current I_{CC} max (mA)	Common Mode Transient Immunity CM min (kV / μs)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configuration
TLP5222 ☆	+/-2.5	6	250	250	15	30	5	+/-25	-40	110	5000	SO16L	(A)
	• Non-rail to rail output • Active miller clamp • DESAT / UVLO protection and failure feedback • Auto reset												
TLP5214A	+/-4	6	150	150	15	30	3.8	+/-35	-40	110	5000	SO16L	(A)
	• Rail to rail output • Active miller clamp • DESAT / UVLO protection and failure feedback • LED reset												
TLP5212	+/-2.5	6	250	250	15	30	5	+/-25	-40	110	5000	SO16L	(A)
	• Non-rail to rail output • Active miller clamp • DESAT / UVLO protection and failure feedback • LED reset												
TLP5231	+/-2.5	3.5 (I_{FHL})	300	300	21.5	30	10.2	+/-25	-40	110	5000	SO16L	(B)
	• High current IGBT / MOSFET Pre-drive Coupler • Rail to rail output • Overlap control for MOSFET buffer • Over current / UVLO protection and failure feedback • LED reset												

☆ New Products
Note1: Recommended Operating Condition
Note2: Absolute Maximum Ratings

Pin Configuration



Isolation Amplifiers / Delta-Sigma Modulators

Analog Output

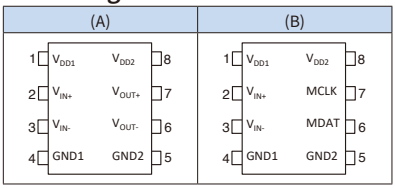
Part Number	Supply Voltage V_{DD1} (V) V_{DD2} (V) (Note1)	Supply Current max I_{DD1} (mA) I_{DD2} (mA)	Common Mode Transient Immunity CMTI typ. (kV / μs)	V_{OUT} Non-linearity NL_{200} typ. (%)	Gain G typ. @Ta = 25 °C (V / V)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP7820	4.5 to 5.5 3 to 5.5	12 10	20	0.02	8.2	-40	105	5000	SO8L	(A)	(Note2)
TLP7920	4.5 to 5.5 3 to 5.5	12 10	20	0.02	8.2	-40	105	5000	DIP8	(A)	✓

Digital Output

Part Number	Supply Voltage V_{DD1} (V) V_{DD2} (V) (Note1)	Supply Current max I_{DD1} (mA) I_{DD2} (mA)	Common Mode Transient Immunity CMTI typ. (kV / μs)	V_{OUT} Non-linearity INL @Ta = -40 to 85 °C (LSB)	Gain Error G_E typ. @Ta = 25 °C (%)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP7830	4.5 to 5.5 3 to 5.5	12 8	20	-15 to 15	0.1	-40	105	5000	SO8L	(B)	(Note2)
TLP7930	4.5 to 5.5 3 to 5.5	12 8	20	-15 to 15	0.1	-40	105	5000	DIP8	(B)	✓

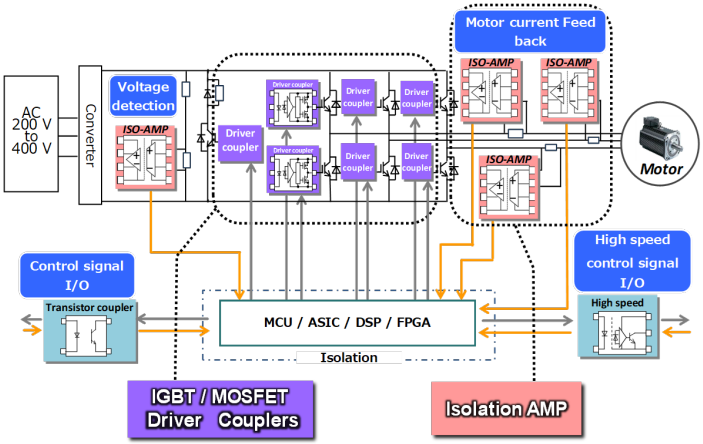
Note1: Recommended Operating Condition
Note2: This product supports only SO8L(LF4) lead form option.

Pin Configuration



D-IGBT, MOSFET based AC-Servo Amp / Inverter

Block diagram of Inverter



1-1-2 Transistor Output

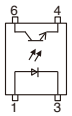
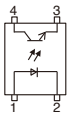
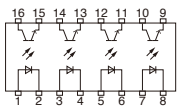
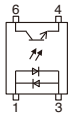
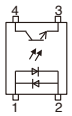
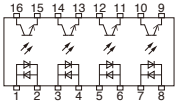
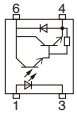
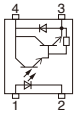
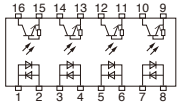
Part Number	Input Type	Function	Current Transfer Ratio CTR (I_C / I_F) @Ta = 25 °C			Collector -Emitter Voltage	Collector Current	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
			min (%)	max (%)	Relevant Part	V_{CEO} max (V)	I_C max (A)	min (°C)	max (°C)	BVs min (Vrms)			
TLP185(SE	DC	General-purpose	50	600	☆1	80	0.05	-55	110	3750	4pin SO6	(A)	-
TLP291(SE			50	600	☆1	80	0.05	-55	110	3750	SO4	(B)	-
TLP291-4 (Note1)			50	400	☆3	80	0.05	-55	110	2500	SO16	(C)	-
TLP385			50	600	☆1	80	0.05	-55	110	5000	4pin SO6L	(A)	-
TLP785			50	600	☆1	80	0.05	-55	110	5000	DIP4 (TLP785)	(B)	✓
TLP183		Low I_F	50	600	☆1	80	0.05	-55	125	3750	4pin SO6	(A)	-
TLP293-4 (Note1)			50	600	☆4	80	0.05	-55	125	3750	SO16	(C)	-
TLP293			50	600	☆1	80	0.05	-55	125	3750	SO4	(B)	-
TLP383			50	600	☆3	80	0.05	-55	125	5000	4pin SO6L	(A)	-
TLP621M			50	600	☆1	80	0.05	-55	125	5000	DIP4	(B)	✓
TLP188		High V_{CEO}	50	600	☆3	350	0.05	-55	110	3750	4pin SO6	(A)	-
TLP388			50	600	☆3	350	0.05	-55	125	5000	4pin SO6L	(A)	-
TLP628M			50	600	☆3	350	0.05	-55	125	5000	DIP4	(B)	✓
TLP184(SE	AC	General-purpose	50	600	☆2	80	0.05	-55	110	3750	4pin SO6	(D)	-
TLP290(SE			50	600	☆2	80	0.05	-55	110	3750	SO4	(E)	-
TLP290-4 (Note1)			50	400	☆3	80	0.05	-55	110	2500	SO16	(F)	-
TLP182		Low I_F	50	600	☆2	80	0.05	-55	125	3750	4pin SO6	(D)	-
TLP292-4 (Note1)			50	600	☆4	80	0.05	-55	125	3750	SO16	(F)	-
TLP292			50	600	☆2	80	0.05	-55	125	3750	SO4	(E)	-
TLP620M			50	600	☆2	80	0.05	-55	125	5000	DIP4	(E)	✓
TLP187	DC	Darlington	1000	-	-	300	0.15	-55	110	3750	4pin SO6	(G)	-
TLP387			1000	-	-	300	0.15	-55	110	5000	4pin SO6L	(G)	-
TLP627M			1000	-	-	300	0.15	-55	110	5000	DIP4	(H)	✓
TLP295-4 (Note1)		Low I_F / High Speed	100	700	-	80	0.05	-55	125	3750	SO16	(I)	-
TLP294-4 (Note1)	AC		100	700	-	80	0.05	-55	125	3750	SO16	(I)	-

Current Transfer Ratio Rank

Rank		Selectable Rank										General
		Y	GR	GB	BL	YH	GRL	GRH	BLL	LA	LGB	Blank
Current Transfer Ratio (%)	min	50	100	100	200	75	100	150	200	50	100	50
	max	150	300	600	600 (Note2)	150	200	300	400	600	600	600 (Note2)
Relevant Part	☆1	○	○	○	○	○	○	○	○			○
	☆2	○	○	○	○							○
	☆3			○								○
	☆4			○						○	○	○
Marking of Classification (Note3)		YE, Y+	GR, G, G+	GB, GR, G, G+, BL, B	BL, B	Y+	G	G+	B	LA, LB	LB	Blank, YE, Y+, GR, GB, G, G+, BL, B

Note1: 4-Channel version
Note2: 400 % (max); TLP290-4, TLP291-4
Note3: Depend on the product variety, the package is not marked some characters in this table.

Pin Configuration

(A)	(B)	(C)	(D)	(E)
				
(F)	(G)	(H)	(I)	
				

1-2 Digital Isolators

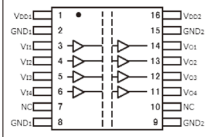
1-2-1 Standard Digital Isolators

Part Number	Number of channels Forward: Reverse	Default output logic	Enabled / Disabled control	Propagation Delay t_{pLH} / t_{pHL} (Note1)	Supply Voltage Operating Range V_{DD} (Note2)		Operating Temperature T_{opr}		Withstand Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
				max (ns)	min (V)	max (V)	min (°C)	max (°C)	BV_S min (Vrms)			
DCL540C01 ☆	4:0	Low	-	21	2.25	5.5	-40	110	5000	SOIC16-W	(A)	-
DCL540D01 ☆	4:0	High	-	21	2.25	5.5	-40	110	5000	SOIC16-W	(A)	-
DCL540L01 ☆	4:0	Low	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(B)	-
DCL540H01 ☆	4:0	High	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(B)	-
DCL541A01 ☆	3:1	Low	Input Disable	21	2.25	5.5	-40	110	5000	SOIC16-W	(C)	-
DCL541B01 ☆	3:1	High	Input Disable	21	2.25	5.5	-40	110	5000	SOIC16-W	(C)	-
DCL541L01 ☆	3:1	Low	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(D)	-
DCL541H01 ☆	3:1	High	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(D)	-
DCL542L01 ☆	2:2	Low	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(E)	-
DCL542H01 ☆	2:2	High	Output Enable	21	2.25	5.5	-40	110	5000	SOIC16-W	(E)	-
DCL520C00 ★	2:0	Low	-	21	2.25	5.5	-40	110	3000	SOIC8-N	(F)	-
DCL520D00 ★	2:0	High	-	21	2.25	5.5	-40	110	3000	SOIC8-N	(F)	-
DCL521C00 ★	1:1	Low	-	21	2.25	5.5	-40	110	3000	SOIC8-N	(G)	-
DCL521D00 ★	1:1	High	-	21	2.25	5.5	-40	110	3000	SOIC8-N	(G)	-

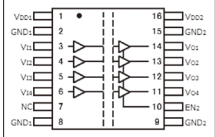
☆ New Products
★ Under Development (The specification is subject to change without notice.)
Note1: V_{DD} = 2.25 to 2.75 V, T_{opr} = -40 to 110 °C
Note2: Recommended Operating Condition

Pin Configuration

(A)



(B)



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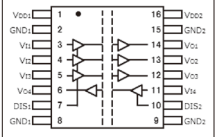

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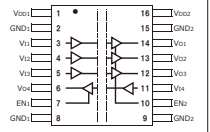
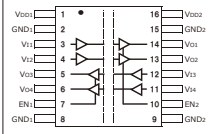
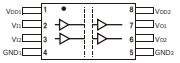


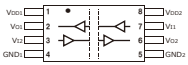
(E)



(F)



(G)



2. Solid State Relays

2-1 Photorelays

MOSFET Output 1-Form-A

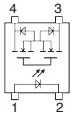
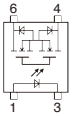
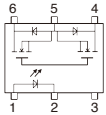
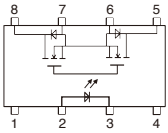
Part Number	OFF-state Output Terminal Voltage V_{OFF} max (V)	ON-state Current I_{ON} max (A)	Terminal Capacitance C_{OFF} typ. (pF)	ON-state Resistance R_{ON} max (Ω)	Trigger LED Current I_{FT} max (mA)	Turn-on time t_{ON} max (ms)	Turn-off time t_{OFF} max (ms)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configu-ration	Lead Form Option
TLP3146	30	3.3	450	0.05	3	2	1	-40	110	1500	2.54SOP4	(A)	-
TLP3553A	30	4	450	0.05	3	3	1	-40	110	2500	DIP4	(A)	✓
TLP3106A	30	4.5	1200	0.03	3	2	0.5	-40	110	1500	2.54SOP6	(C)	-
TLP3543A	30	5	1100	0.04	3	5	0.5	-40	110	2500	DIP6	(C)	✓
TLP3123	40	1	300	0.13	3	3	0.5	-40	85	1500	2.54SOP4	(A)	-
TLP241A	40	2	300	0.15	3	5	1	-40	85	5000	DIP4	(A)	✓
TLP175A	60	0.1	10	50	1	5	5	-40	85	3750	4pin SO6	(B)	-
TLP170A	60	0.4	130	2	1	8	3	-40	85	1500	2.54SOP4	(A)	-
TLP171A	60	0.4	130	2	0.2	10	5	-40	85	1500	2.54SOP4	(A)	-
TLP240A	60	0.5	130	2	3	3	1	-40	85	5000	DIP4	(A)	✓
TLP170AM	60	0.7	100	0.3	1	6	1	-40	85	3750	4pin SO6	(B)	-
TLP176AM	60	0.7	100	2	3	3	0.5	-40	110	3750	4pin SO6	(B)	-
TLP3122A	60	1.4	100	0.25	3	3	1	-40	110	3750	4pin SO6	(B)	-
TLP3127	60	1.7	250	0.13	3	3	0.5	-40	85	1500	2.54SOP4	(A)	-
TLP3147	60	2.5	240	0.1	3	2	0.5	-40	110	1500	2.54SOP4	(A)	-
TLP3555A	60	3	250	0.1	3	2	1	-40	110	2500	DIP4	(A)	✓
TLP3545A	60	4	640	0.06	3	5	0.5	-40	110	2500	DIP6	(C)	✓
TLP3107A	60	4	750	0.04	3	2	0.5	-40	110	1500	2.54SOP6	(C)	-
TLP3547	60	5	850	0.05	5	5	1	-40	85	2500	DIP8	(D)	✓
TLP241BP*	80	1.4	130	0.28	3	1.4	0.5	-40	110	5000	DIP4	(A)	✓
TLP3149	100	1.5	160	0.2	3	2	0.5	-40	110	1500	2.54SOP4	(A)	-
TLP3556A	100	2	110	0.2	3	2	0.5	-40	110	2500	DIP4	(A)	✓
TLP241B	100	2	300	0.2	3	3	0.5	-40	110	5000	DIP4	(A)	✓
TLP3109A	100	3	460	0.065	3	2	0.5	-40	110	1500	2.54SOP6	(C)	-
TLP3823	100	3	720	0.15	5	5	1	-40	110	2500	DIP8	(D)	✓
TLP3546A	100	3.5	450	0.08	3	5	0.5	-40	110	2500	DIP6	(C)	✓
TLP170D	200	0.2	90	8	1	8	3	-40	85	1500	2.54SOP4	(A)	-
TLP171D	200	0.2	90	8	0.2	10	5	-40	85	1500	2.54SOP4	(A)	-

*Protect Function : Over Temperature Protection 145°C (typ.), Over Voltage Protection

MOSFET Output 1-Form-A

Part Number	OFF-state Output Terminal Voltage V_{OFF} max (V)	ON-state Current I_{ON} max (A)	Terminal Capacitance C_{OFF} typ. (pF)	ON-state Resistance R_{ON} max (Ω)	Trigger LED Current I_{FT} max (mA)	Turn-on time t_{ON} max (ms)	Turn-off time t_{OFF} max (ms)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configuration	Lead Form Option
TLP176D	200	0.2	100	8	3	1.5	1	-40	85	1500	2.54SOP4	(A)	-
TLP240D	200	0.25	80	8	3	3	1	-40	85	5000	DIP4	(A)	✓
TLP3145	200	0.4	100	2	3	0.5	0.5	-40	110	1500	2.54SOP4	(A)	-
TLP3558A	200	0.7	110	2	3	1	0.5	-40	110	2500	DIP4	(A)	✓
TLP3825	200	1.5	400	0.5	5	5	1	-40	110	2500	DIP8	(D)	✓
TLP240G	350	0.1	30	50	3	2	1	-40	85	5000	DIP4	(A)	✓
TLP170G	350	0.1	35	50	1	5	3	-40	85	1500	2.54SOP4	(A)	-
TLP170GM	350	0.11	30	50	1	2	1	-40	85	3750	4pin SO6	(B)	-
TLP172GM	350	0.11	30	50	3	1	0.5	-40	110	3750	4pin SO6	(B)	-
TLP171GA	400	0.1	70	35	0.2	10	5	-40	85	1500	2.54SOP4	(A)	-
TLP172GAM	400	0.11	30	65	3	1	0.5	-40	110	3750	4pin SO6	(B)	-
TLP176GA	400	0.12	70	35	3	1	1	-40	85	1500	2.54SOP4	(A)	-
TLP223GA	400	0.12	53	35	2	1	0.5	-40	110	5000	DIP4	(A)	✓
TLP240GA	400	0.12	80	35	3	2	1	-40	85	5000	DIP4	(A)	✓
TLP3548	400	0.4	410	5	1	1	1	-40	85	2500	DIP8	(D)	✓
TLP171J	600	0.07	75	60	0.2	10	5	-40	85	1500	2.54SOP4	(A)	-
TLP170J	600	0.09	75	60	1	8	3	-40	85	1500	2.54SOP4	(A)	-
TLP223J	600	0.09	53	60	2	0.5	0.2	-40	110	5000	DIP4	(A)	✓
TLP240J	600	0.09	75	60	3	2	1	-40	85	5000	DIP4	(A)	✓
TLP3549	600	0.6	4300	2	5	3	1	-40	85	2500	DIP8	(D)	✓

Pin Configuration

(A)	(B)	(C)	(D)
			

MOSFET Output 1-Form-A

Part Number	OFF-state Output Terminal Voltage	ON-state Current	Terminal Capacitance	ON-state Resistance	Trigger LED Current	Turn-on time	Turn-off time	Operating Temperature		Isolation Voltage	Toshiba Package	Pin Configuration	Lead Form Option
								T_{opr}					
	V_{OFF} max (V)	I_{ON} max (A)	C_{OFF} typ. (pF)	R_{ON} max (Ω)	I_{FT} max (mA)	t_{ON} max (ms)	t_{OFF} max (ms)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP3330	20	0.16	1	8	3	0.2	0.3	-40	85	1000	USOP4	(A)	-
TLP3350	20	0.2	0.8	5	3	0.2	0.2	-40	85	1000	USOP4	(A)	-
TLP3450	20	0.2	0.8	5	3	0.2	0.2	-40	110	500	VSON4	(A)	-
TLP3431	20	0.45	5	1.2	3	0.4	0.4	-40	110	500	VSON4	(A)	-
TLP3303	20	0.9	40	0.22	3	2	1	-40	85	1000	USOP4	(A)	-
TLP3403	20	1	40	0.22	3	2	1	-40	110	500	VSON4	(A)	-
TLP3406S	30	1.5	120	0.2	3	2	1	-40	110	500	S-VSON4	(A)	-
TLP3480	30	4.5	450	0.05	3	5	1	-40	110	500	P-SON4	(A)	-
TLP3342	40	0.1	0.3	20	3	0.2	0.2	-40	85	1000	USOP4	(A)	-
TLP3442	40	0.1	0.3	20	3	0.2	0.2	-40	110	500	VSON4	(A)	-
TLP3340	40	0.12	0.45	14	3	0.2	0.3	-40	85	1000	USOP4	(A)	-
TLP3440S	40	0.12	0.45	14	3	0.2	0.3	-40	110	500	S-VSON4T	(A)	-
TLP3440	40	0.12	0.45	14	3	0.2	0.3	-40	110	500	VSON4	(A)	-
TLP3341	40	0.14	0.7	10	3	0.2	0.2	-40	85	1000	USOP4	(A)	-
TLP3441	40	0.14	0.7	10	3	0.2	0.2	-40	110	500	VSON4	(A)	-
TLP3414	40	0.25	5	3	3	0.3	0.3	-40	110	500	VSON4	(A)	-
TLP3315	40	0.3	10	1.5	3	0.5	0.3	-40	85	1000	USOP4	(A)	-
TLP3375	50	0.3	12	1.5	3	0.5	0.4	-40	85	1000	USOP4	(A)	-
TLP3475	50	0.3	12	1.5	3	0.5	0.4	-40	110	500	VSON4	(A)	-
TLP3351	60	0.12	0.7	15	3	0.2	0.2	-40	85	1000	USOP4	(A)	-
TLP3451	60	0.12	0.7	15	3	0.2	0.2	-40	110	500	VSON4	(A)	-
TLP3475S	60	0.4	12	1.5	3	0.5	0.3	-40	110	500	S-VSON4	(A)	-
TLP3476S	60	0.4	12	1.5	3	0.25	0.2	-40	110	500	S-VSON4T	(A)	-
TLP3312	60	0.4	20	1.5	3	0.5	0.5	-40	85	1000	USOP4	(A)	-
TLP3412	60	0.4	20	1.5	3	0.5	0.5	-40	110	500	VSON4	(A)	-
TLP3407S	60	1	80	0.3	3	2	0.3	-40	110	500	S-VSON4	(A)	-
TLP3481	60	3	250	0.1	3	5	1	-40	110	500	P-SON4	(A)	-
TLP3475W ☆	60	0.4	12	1.5	3	0.25	0.2	-40	110	300	WSON4	(A)	-
TLP3306	75	0.4	30	1.5	3	2	1	-40	85	1000	USOP4	(A)	-
TLP3317	80	0.12	5	12	3	0.5	0.2	-40	85	1000	USOP4	(A)	-
TLP3417	80	0.12	5	12	3	0.5	0.2	-40	110	500	VSON4	(A)	-
TLP3319	80	0.2	6.5	8	3	0.4	0.4	-40	85	1000	USOP4	(A)	-
TLP3419	80	0.2	6.5	8	3	0.4	0.4	-40	110	500	VSON4	(A)	-

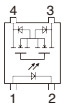
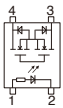
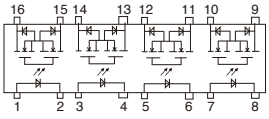
☆ New Products

MOSFET Output 1-Form-A

Part Number	OFF-state Output Terminal Voltage	ON-state Current	Terminal Capacitance	ON-state Resistance	Trigger LED Current	Turn-on time	Turn-off time	Operating Temperature		Isolation Voltage	Toshiba Package	Pin Configuration	Lead Form Option
								T_{opr}					
	V_{OFF} max (V)	I_{ON} max (A)	C_{OFF} typ. (pF)	R_{ON} max (Ω)	I_{FT} max (mA)	t_{ON} max (ms)	t_{OFF} max (ms)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP3320	100	0.1	6	14	3	0.3	0.3	-40	85	1000	USOP4	(A)	-
TLP3420	100	0.1	6	14	3	0.3	0.3	-40	110	500	VSON4	(A)	-
TLP3409S	100	0.65	50	0.6	3	2	0.3	-40	110	500	S-VSON4	(A)	-
TLP3482	100	2	170	0.2	3	3	1	-40	110	500	P-SON4	(A)	-
TLP3483	200	0.35	75	8	3	1	1	-40	110	500	P-SON4	(A)	-
TLP3484	400	0.18	60	35	3	1	1	-40	110	500	P-SON4	(A)	-

Part Number	OFF-state Output Terminal Voltage	ON-state Current	Terminal Capacitance	ON-state Resistance	Operating Voltage	Turn-on time	Turn-off time	Operating Temperature		Isolation Voltage	Toshiba Package	Pin Configuration	Lead Form Option
								T_{opr}					
	V_{OFF} max (V)	I_{ON} max (A)	C_{OFF} typ. (pF)	R_{ON} max (Ω)	V_{FON} max (V)	t_{ON} max (ms)	t_{OFF} max (ms)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP3403R	20	1	40	0.22	3	2	1	-40	110	500	VSONR4	(B)	-
TLP3403SRHA	20	1.5	120	0.2	3	2	0.2	-40	125	500	S-VSON4T	(B)	-
TLP3406SRH4	30	0.9	120	0.2	3	2	0.2	-40	110	300	S-VSON16T	(C)	-
TLP3406SRL	30	1.5	120	0.2	1.6	2	0.2	-40	110	500	S-VSON4T	(B)	-
TLP3406SRH	30	1.5	120	0.2	3	2	0.2	-40	110	500	S-VSON4T	(B)	-
TLP3406SRHA	30	1.5	120	0.2	3	2	0.2	-40	125	500	S-VSON4T	(B)	-
TLP3475R	50	0.3	12	1.5	3	0.5	0.4	-40	110	500	VSONR4	(B)	-
TLP3475SRHA4	60	0.25	20 (max)	1.5	3	0.5	0.2	-40	125	300	S-VSON16T	(C)	-
TLP3412SRHA4	60	0.25	20 (max)	1.5	3	0.5	0.2	-40	125	300	S-VSON16T	(C)	-
TLP3475SRHA	60	0.4	12	1.5	3	0.5	0.2	-40	125	500	S-VSON4T	(B)	-
TLP3412R	60	0.4	20	1.5	3	0.5	0.5	-40	110	500	VSONR4	(B)	-
TLP3412SRA	60	0.4	20 (max)	1.5	3	1	0.5	-40	125	500	S-VSON4T	(B)	-
TLP3412SRLA	60	0.4	20 (max)	1.5	1.6	0.35	0.15	-40	125	500	S-VSON4T	(B)	-
TLP3412SRH	60	0.4	20 (max)	1.5	3	0.5	0.2	-40	110	500	S-VSON4T	(B)	-
TLP3412SRHA	60	0.4	20 (max)	1.5	3	0.5	0.2	-40	125	500	S-VSON4T	(B)	-
TLP3407SRA4	60	0.6	80	0.3	3	20	1	-40	125	300	S-VSON16T	(C)	-
TLP3407SRA	60	1	80	0.3	3	20	1	-40	125	500	S-VSON4T	(B)	-
TLP3407SRH	60	1	80	0.3	3	2	0.2	-40	110	500	S-VSON4T	(B)	-
TLP3407SRL	60	1	80	0.3	1.6	1	0.2	-40	110	500	S-VSON4T	(B)	-
TLP3407SR	60	1	80	0.3	3	20	1	-40	110	500	S-VSON4T	(B)	-

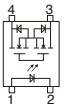
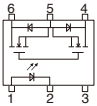
Pin Configuration

(A)	(B)	(C)
		

MOSFET Output 1-Form-B

Part Number	OFF-state Output Terminal Voltage	ON-state Current	Terminal Capacitance	ON-state Resistance	Trigger LED Current	Turn-on time	Turn-off time	Operating Temperature		Isolation Voltage	Toshiba Package	Pin Configu-ration	Lead Form Option
								T_{opr}					
	V_{OFF} max (V)	I_{ON} max (A)	C_{OFF} typ. (pF)	R_{ON} max (Ω)	I_{FC} max (mA)	t_{ON} max (ms)	t_{OFF} max (ms)	min (°C)	max (°C)	BV_S min (Vrms)			
TLP4176A	60	0.5	100	2.5	3	1	3	-40	105	1500	2.54SOP4	(A)	-
TLP4590A	60	1.2	550	0.6	2	2	3	-40	110	5000	DIP6	(B)	✓
TLP4176G	350	0.12	65	25	3	1	3	-40	85	1500	2.54SOP4	(A)	-

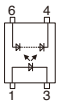
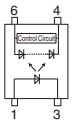
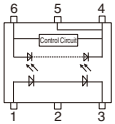
Pin Configuration

(A)	(B)
	

2-2 Photovoltaic Output

Part Number	Feature	Short-circuit current I_{SC} min (μA)	Open voltage V_{OC} min (V)	Turn-on time t_{on} max (ms)	Turn-off time t_{off} max (ms)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configuration	Lead Form Option
TLP3905	Without internal shunt resistor	12	7	-	-	-40	125	3750	4pin SO6	(A)	-
TLP3906	Built-in discharging circuit	12	7	1	1	-40	125	3750	4pin SO6	(B)	-
TLP3910	Built-in discharging circuit	12	14	1	0.5	-40	125	5000	SO6L	(C)	-

Pin Configuration

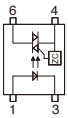
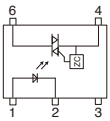
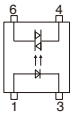
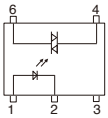
(A)	(B)	(C)
		

2-3 Triac Output

Part Number	Output Type (Note1)	Trigger LED Current I_{FT} max (mA)	Off-state Output Terminal Voltage V_{DRM} max (V)	On-state RMS Current $I_{T(RMS)}$ max (mA)	Inhibit Voltage V_{IH} max (V)	Peak on-state Voltage V_{TM} max (V)	Operating Temperature T_{opr} min (°C)	Operating Temperature T_{opr} max (°C)	Isolation Voltage BV_S min (Vrms)	Toshiba Package	Pin Configuration	Lead Form Option
TLP266J	ZC	10	600	70	30	2.8	-40	100	3750	4pin SO6	(A)	-
TLP268J	ZC	3	600	70	30	2.8	-40	100	3750	4pin SO6	(A)	-
TLP3062A	ZC	10	600	100	20	3	-40	100	5000	5pin DIP6	(B)	✓
TLP3083	ZC	5	800	100	20	3	-40	100	5000	5pin DIP6	(B)	✓
TLP265J	NZC	10	600	70	-	2.8	-40	100	3750	4pin SO6	(C)	-
TLP267J	NZC	3	600	70	-	2.8	-40	100	3750	4pin SO6	(C)	-
TLP3052A	NZC	10	600	100	-	3	-40	100	5000	5pin DIP6	(D)	✓
TLP3073	NZC	5	800	100	-	3	-40	100	5000	5pin DIP6	(D)	✓

Note1: ZC: Zero crossing functionary, NZC: Non zero crossing functionary

Pin Configuration

(A)	(B)	(C)	(D)
			

3. Automotive Devices

Photocouplers

IC Output

High speed Logic Couplers (Open-collector)

Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{CC} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	AEC-Q101
	(Mbps)	I_{FHL} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLX9304	1	5	550	400	4.5	20	1.3	+/-15	-40	125	3750	5pin SO6	(A)	#
TLX9378	10	5	100	100	4.5	5.5	1.3	+/-15	-40	125	3750	5pin SO6	(C)	#

High speed Logic Coupler (Totem-pole (Buffer))

Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{DD} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	AEC-Q101
	(Mbps)	I_{FLH} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{DD} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLX9310	5	1	250	250	2.7	5.5	0.3	+/-25	-40	105	3750	5pin SO6	(D)	#

High speed Logic Coupler (Totem-pole (Inverter))

Part Number	Data Rate	Threshold LED Input Current	Propagation Delay Time		Supply Voltage Operating Range V_{CC} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	AEC-Q101
	(Mbps)	I_{FHL} max (mA)	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLX9376	20	4	35	35	4.5	5.5	1.7	+/-15	-40	125	3750	5pin SO6	(C)	#

Logic Coupler (Open-collector)

Part Number	Data Rate	Current Transfer Ratio	Propagation Delay Time		Supply Voltage Operating Range V_{CC} (Note1)		High / Low -level Supply Current	Common Mode Transient Immunity	Operating Temperature T_{opr}		Isolation Voltage	Toshiba Package	Pin Configu-ration	AEC-Q101
	(Mbps)	CTR min (%) @Ta = 25 °C	t_{pLH} max (ns)	t_{pHL} max (ns)	min (V)	max (V)	I_{CC} max (mA)	CM min (kV / µs)	min (°C)	max (°C)	BV_S min (Vrms)			
TLX9309	1	15 (@I_F = 7 mA)	1000	800	-	30	-	+/-10	-40	125	3750	5pin SO6	(B)	#

Note1: Recommended Operating Condition
AEC-Q101 qualified

Transistor Output

Part Number	Input Type	Current Transfer Ratio CTR (IC / IF) @Ta = 25 °C			Collector -Emitter Voltage	Collector Current	Operating Temperature Topr		Isolation Voltage	Toshiba Package	Pin Configu-ration	AEC-Q101
		min (%)	max (%)	Relevant Part	VCEO max (V)	IC max (A)	min (°C)	max (°C)	BVS min (Vrms)			
TLX9291A	DC	50	600	☆1	80	0.05	-40	125	3750	SO4	(E)	#
TLX9185A	DC	50	600	☆1	80	0.05	-40	125	3750	4pin SO6	(E)	#
TLX9188	DC	50	600	☆1	200	0.05	-40	125	3750	4pin SO6	(E)	#
TLX9000	DC	100	900	-	40	0.05	-40	125	3750	SO4	(F)	#
TLX9300	DC	100	900	-	40	0.05	-40	125	3750	4pin SO6	(F)	#

Current Transfer Ratio Rank

Rank	Current Transfer Ratio (%)		Relevant Part	Marking of Classification
	min	max		
Blank	50	600	☆1	Blank, GB
GB	100	600	☆1	GB

Photovoltaic Output

Part Number	Short-circuit Current ISC min (μA) @Ta = 25 °C	Open Voltage VOC min (V) @Ta = 25 °C	Operating Temperature Topr		Isolation Voltage BVS min (Vrms)	Toshiba Package	Pin Configu-ration	AEC-Q101
			min (°C)	max (°C)				
TLX9905	12	7	-40	125	3750	4pin SO6	(G)	#
TLX9906	12	7	-40	125	3750	4pin SO6	(H)	#
TLX9910	8	13.5	-40	125	3750	4pin SO6	(H)	#

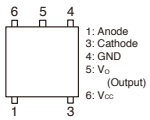
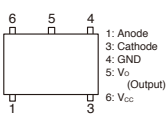
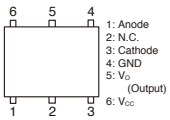
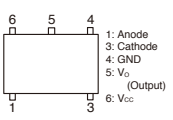
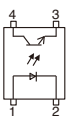
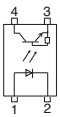
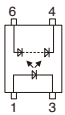
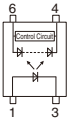
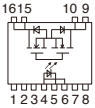
Photorelays

MOSFET Output 1-Form-A

Part Number	OFF-state Output Terminal Voltage VOFF max (V)	ON-state Current ION max (A)	Terminal Capacitance COFF typ. (pF)	ON-state Resistance RON max (Ω)	Trigger LED Current IFT max (mA)	Operating Temperature Topr		Isolation Voltage BVS min (Vrms)	Toshiba Package	Pin Configu-ration	AEC-Q101
						min (°C)	max (°C)				
TLX9175J	600	0.015	8	335	3	-55	105	3750	4pin SO6	(I)	#
TLX9160T	1500	0.05	100	250	3	-40	125	5000	SO16L-T	(J)	#

AEC-Q101 qualified

Pin Configuration

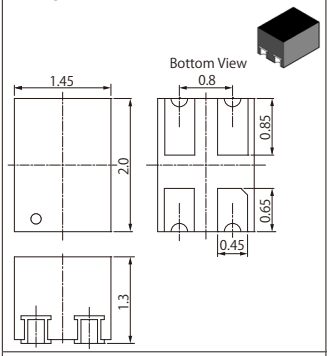
(A)	(B)	(C)	(D)	(E)
				
(F)	(G)	(H)	(I)	(J)
				

4. Device Packages

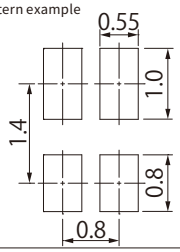
Dimensional Out Line (Surface Mount Type)

S-VSON4T (1.45 x 2.0)

Package dimension unit : mm

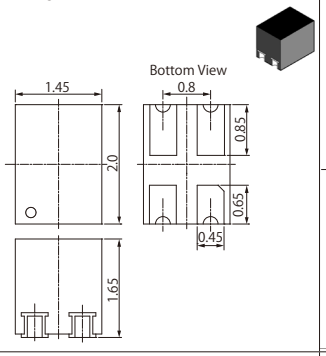


Land pattern example unit : mm

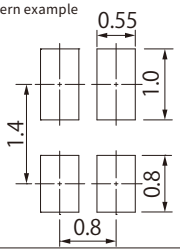


S-VSON4 (1.45 x 2.0)

Package dimension unit : mm

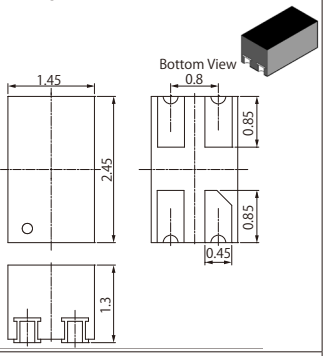


Land pattern example unit : mm

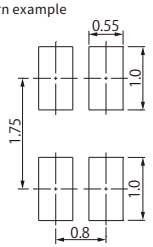


VSON4 (1.45 x 2.45)

Package dimension unit : mm

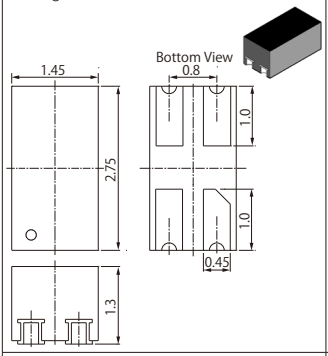


Land pattern example unit : mm

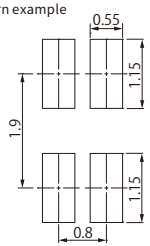


VSONR4 (1.45 x 2.75)

Package dimension unit : mm

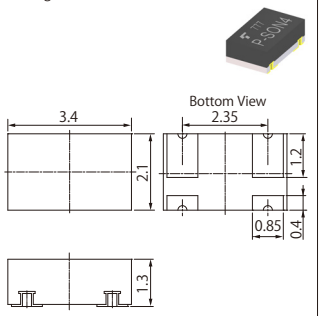


Land pattern example unit : mm

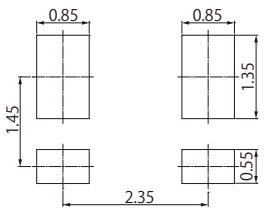


P-SON4 (3.4 x 2.1)

Package dimension unit : mm

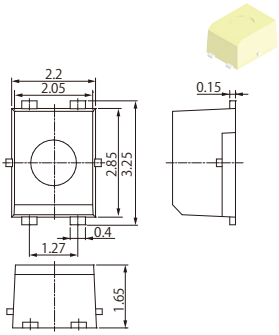


Land pattern example unit : mm

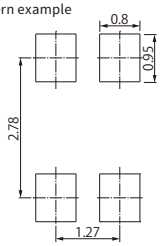


USOP4 (2.2 x 3.25)

Package dimension unit : mm

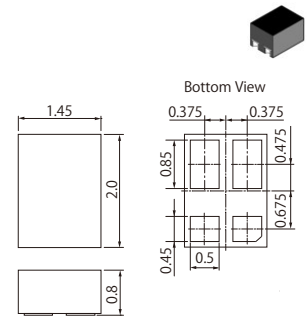


Land pattern example unit : mm

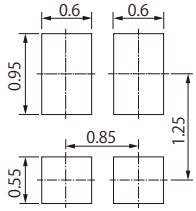


WSON4 (1.45 x 2.0)

Package dimension unit : mm

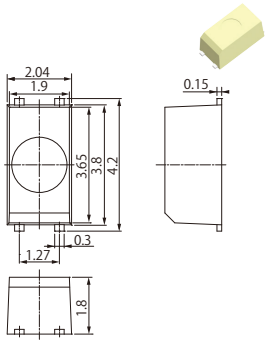


Land pattern example unit : mm

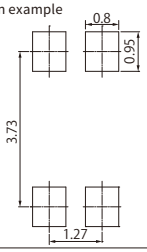


SSOP4 (2.04 x 4.2)

Package dimension unit : mm

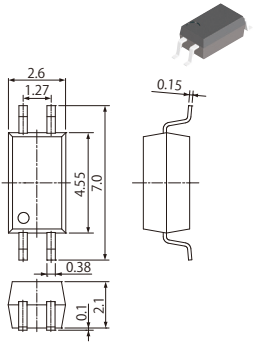


Land pattern example unit : mm

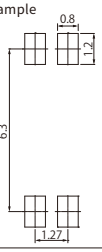


SO4 (2.6 x 7.0)

Package dimension unit : mm

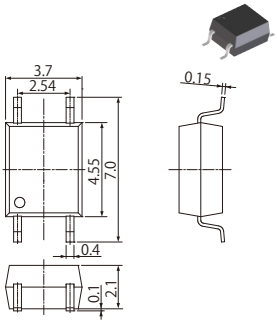


Land pattern example unit : mm

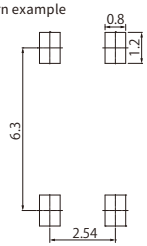


4pin SO6 (3.7 x 7.0)

Package dimension unit : mm

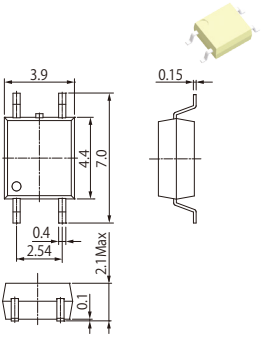


Land pattern example unit : mm

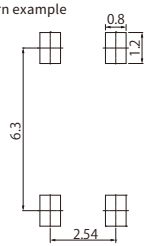


2.54SOP4 (3.9 x 7.0)

Package dimension unit : mm

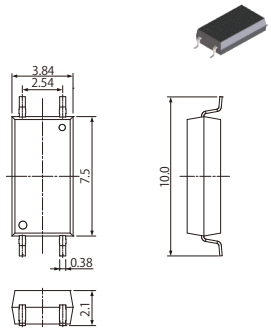


Land pattern example unit : mm

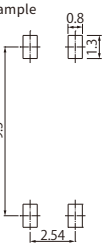


4pin SO6L (3.84 x 10.0)

Package dimension unit : mm

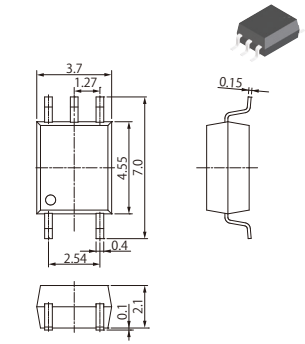


Land pattern example unit : mm

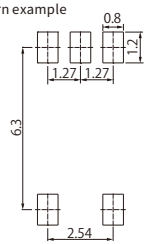


5pin SO6 (3.7 x 7.0)

Package dimension unit : mm

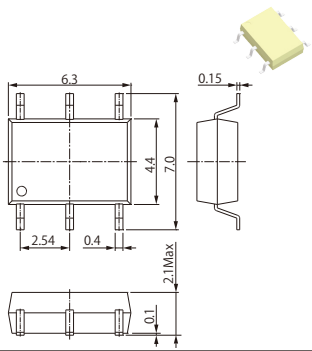


Land pattern example unit : mm

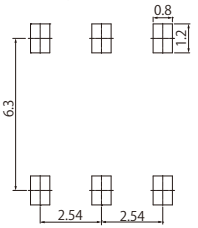


2.54SOP6 (6.3 x 7.0)

Package dimension unit : mm

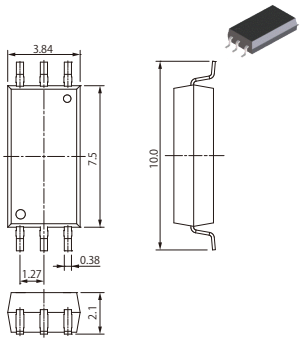


Land pattern example unit : mm



SO6L (3.84 x 10.0)

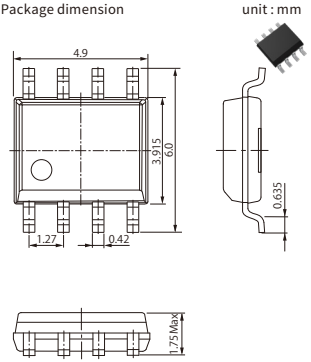
Package dimension unit : mm



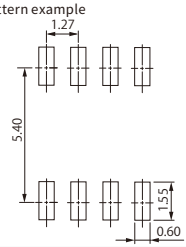
Land pattern example unit : mm

SOIC8-N (4.9 x 6.0)

Package dimension unit : mm

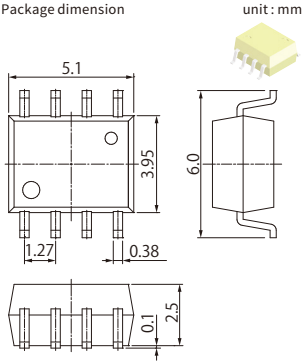


Land pattern example unit : mm

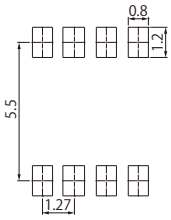


SO8 (5.1 x 6.0)

Package dimension unit : mm

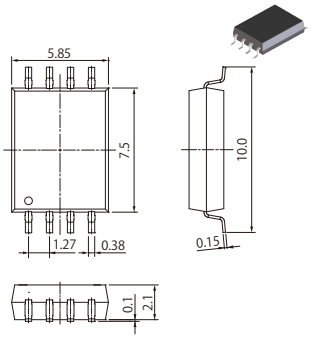


Land pattern example unit : mm

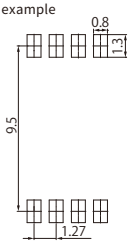


SO8L (5.85 x 10.0)

Package dimension unit : mm

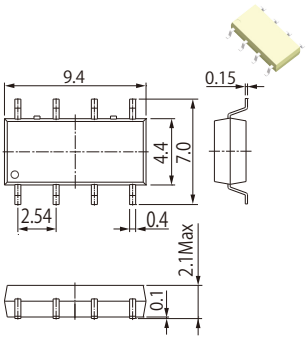


Land pattern example unit : mm

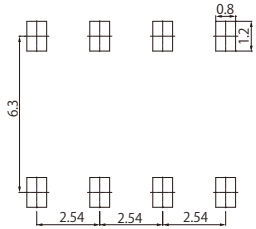


2.54SOP8 (9.4 x 7.0)

Package dimension unit : mm

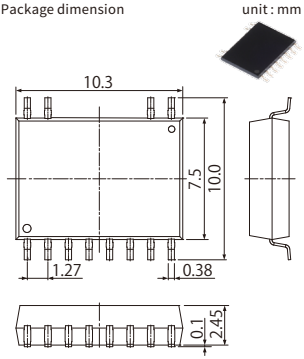


Land pattern example unit : mm

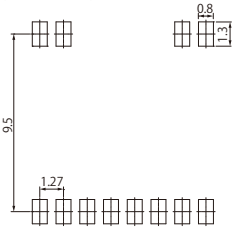


SO16L-T (10.3 x 10.0)

Package dimension unit : mm

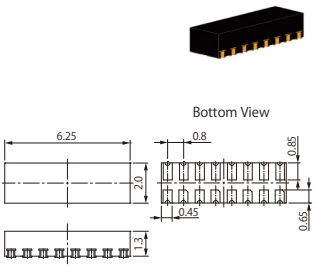


Land pattern example unit : mm

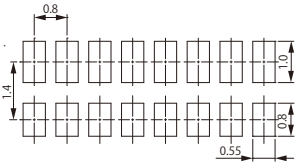


S-VSON16T (6.25 x 2.0)

Package dimension unit : mm

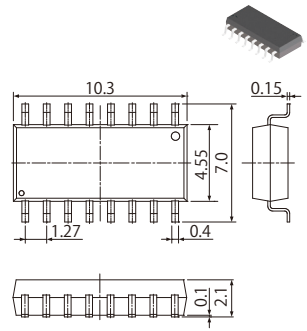


Land pattern example unit : mm

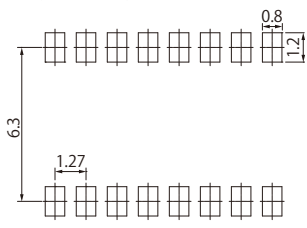


SO16 (10.3 x 7.0)

Package dimension unit : mm

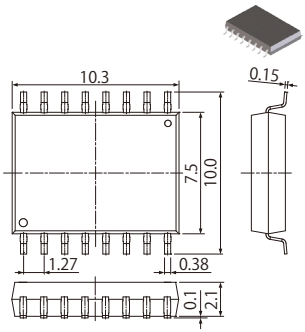


Land pattern example unit : mm

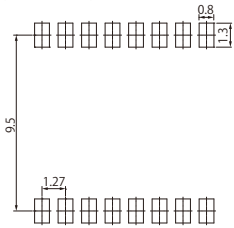


SO16L (10.3 x 10.0)

Package dimension unit : mm

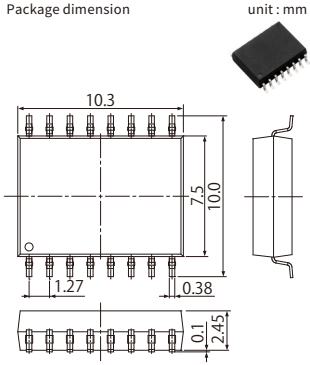


Land pattern example unit : mm

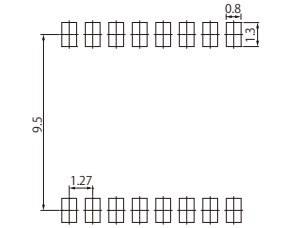


SOIC16-W (10.3 x 10.0)

Package dimension unit : mm



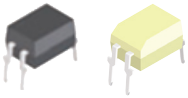
Land pattern example unit : mm

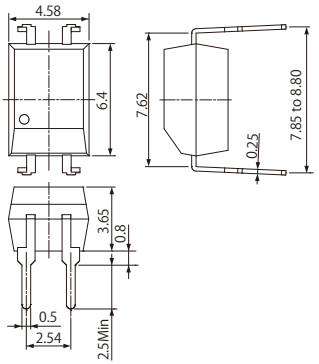


Dimensional Out Line (Through Hole Type)

DIP4 (4.58 x 7.62)

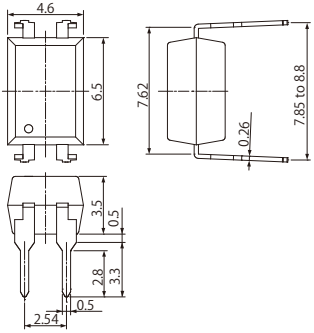
Package dimension unit : mm





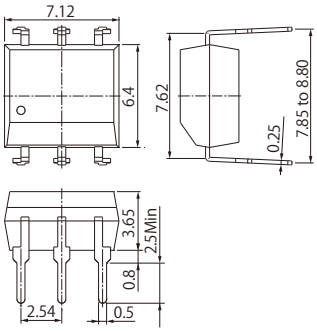
DIP4(TLP785) (4.6 x 7.62)

Package dimension unit : mm



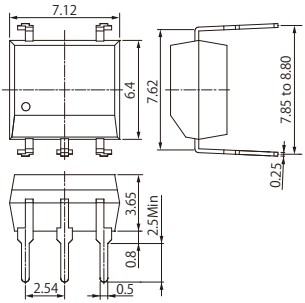
DIP6 (7.12 x 7.62)

Package dimension unit : mm



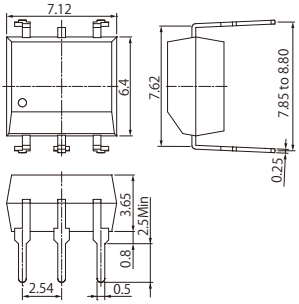
5pin DIP6 (7.12 x 7.62)

Package dimension unit : mm



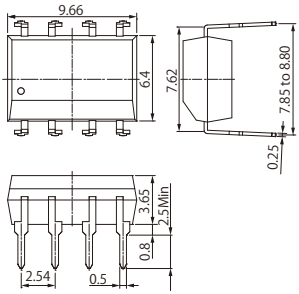
5pin DIP6(cut) (7.12 x 7.62)

Package dimension unit : mm



DIP8 (9.66 x 7.62)

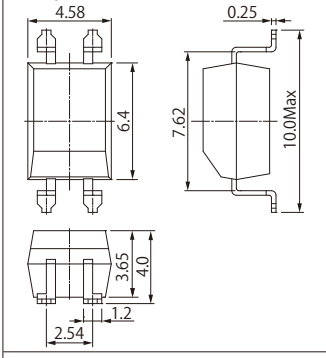
Package dimension unit : mm



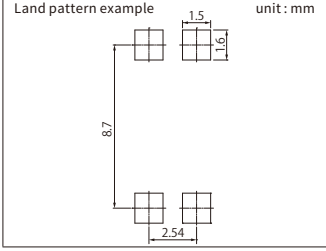
Lead Form Options

DIP4(LF1) / (TP1) (4.58 x 10.0)

Package dimension unit : mm

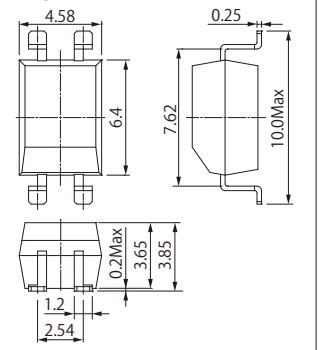


Land pattern example unit : mm

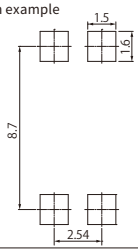


DIP4(LF5) / (TP5) (4.58 x 10.0)

Package dimension unit : mm

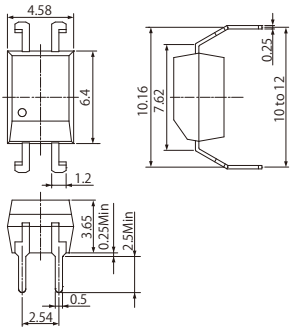


Land pattern example unit : mm



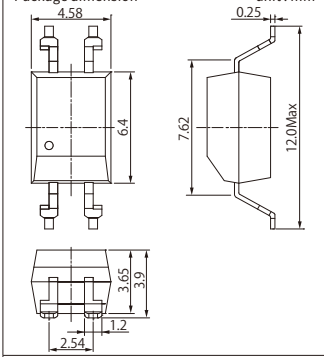
DIP4(LF2) (4.58 x 10.16)

Package dimension (DIP4 F type) unit : mm

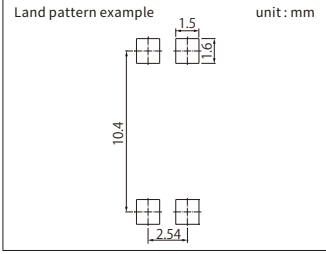


DIP4(LF4) / (TP4) (4.58 x 12.0)

Package dimension unit : mm

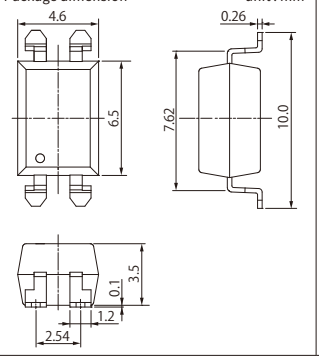


Land pattern example unit : mm

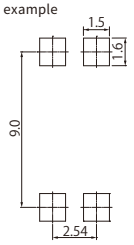


DIP4(TLP785) (LF6) / (TP6) (4.6 x 10.0)

Package dimension unit : mm

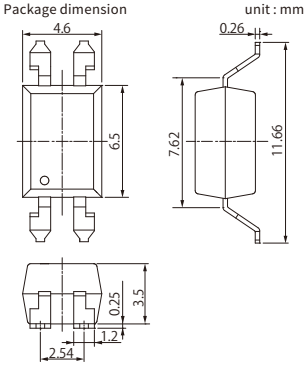


Land pattern example unit : mm

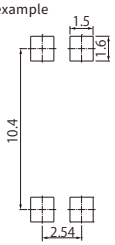


DIP4(TLP785F) (LF7) / (TP7) (4.6 x 11.66)

Package dimension unit : mm

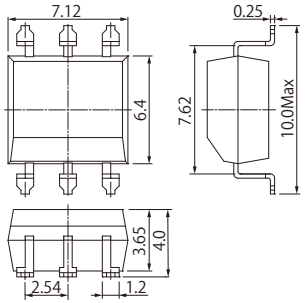


Land pattern example unit : mm

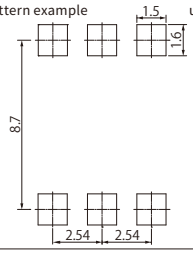


DIP6(LF1) / (TP1) (7.12 x 10.0)

Package dimension unit : mm

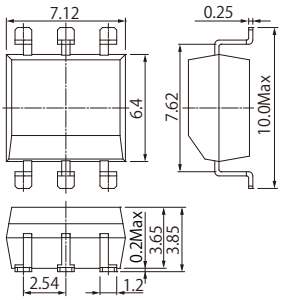


Land pattern example unit : mm

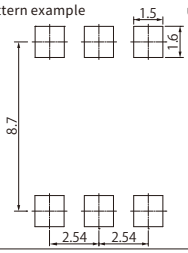


DIP6(LF5) / (TP5) (7.12 x 10.0)

Package dimension unit : mm

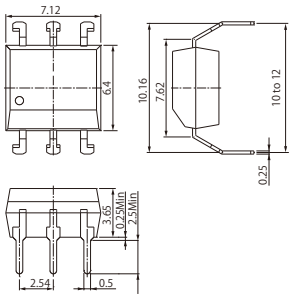


Land pattern example unit : mm



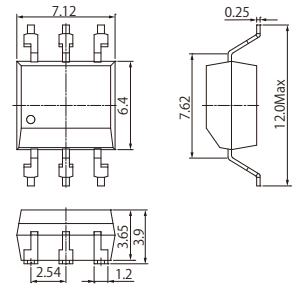
DIP6(LF2) (7.12 x 10.16)

Package dimension (DIP6 F type) unit : mm

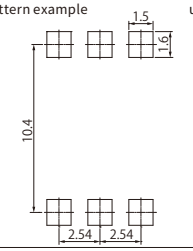


DIP6(LF4) / (TP4) (7.12 x 12.0)

Package dimension unit : mm

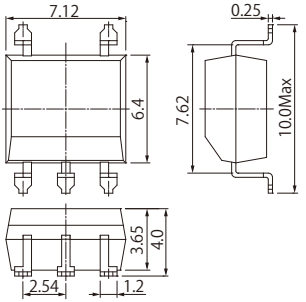


Land pattern example unit : mm

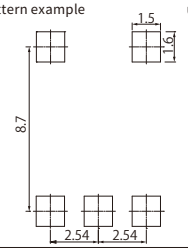


5pin DIP6(LF1) / (TP1) (7.12 x 10.0)

Package dimension unit : mm

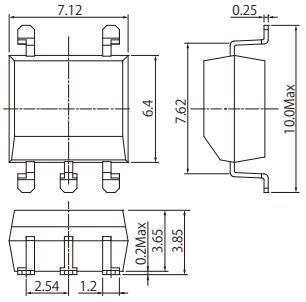


Land pattern example unit : mm

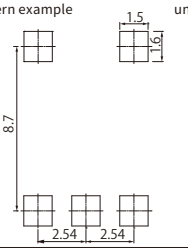


5pin DIP6(LF5) / (TP5) (7.12 x 10.0)

Package dimension unit : mm

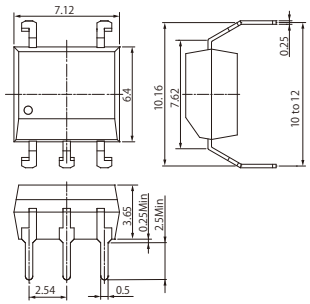


Land pattern example unit : mm

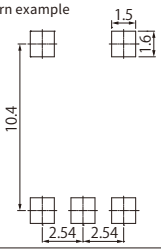


5pin DIP6(LF2) (7.12 x 10.16)

Package dimension (5pin DIP6 F type) unit : mm

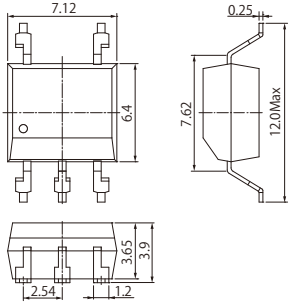


Land pattern example unit : mm



5pin DIP6(LF4) / (TP4) (7.12 x 12.0)

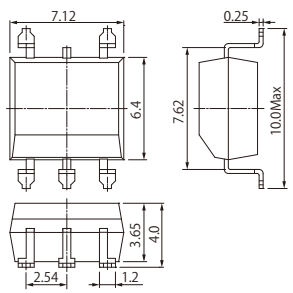
Package dimension unit : mm



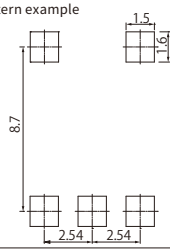
Land pattern example unit : mm

5pin DIP6(cut)(LF1) / (TP1) (7.12 x 10.0)

Package dimension unit : mm

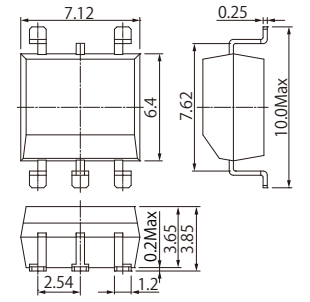


Land pattern example unit : mm

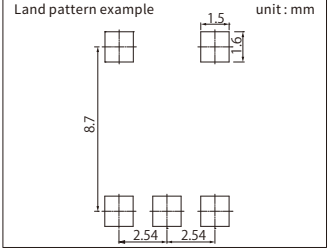


5pin DIP6(cut)(LF5) / (TP5) (7.12 x 10.0)

Package dimension unit : mm

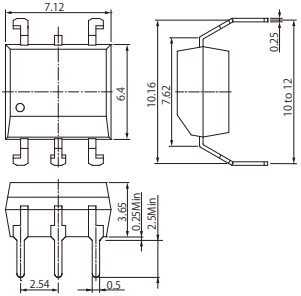


Land pattern example unit : mm



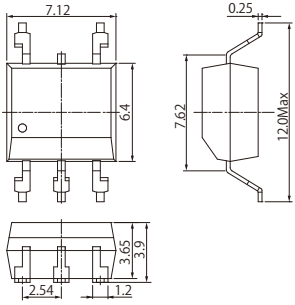
5pin DIP6(cut)(LF2) (7.12 x 10.16)

Package dimension unit : mm
(5pin DIP6(cut) F type)

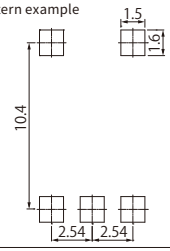


5pin DIP6(cut)(LF4) / (TP4) (7.12 x 12.0)

Package dimension unit : mm

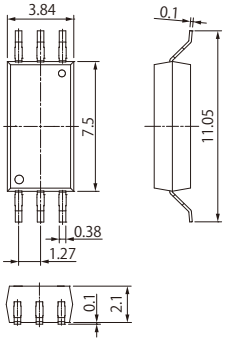


Land pattern example unit : mm



SO6L(LF4) (3.84 x 11.05)

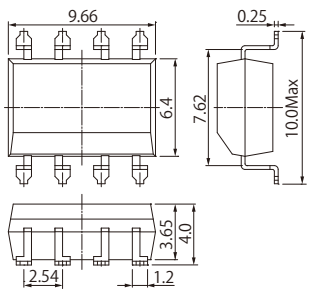
Package dimension unit : mm



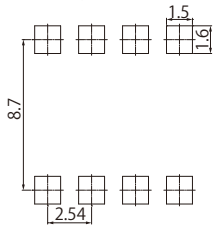
Land pattern example unit : mm

DIP8(LF1) / (TP1) (9.66 x 10.0)

Package dimension unit : mm

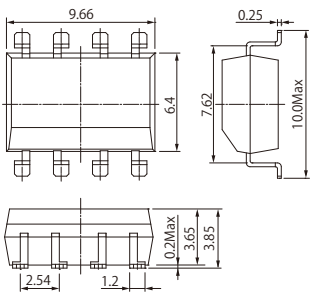


Land pattern example unit : mm

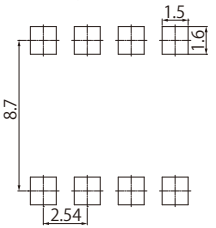


DIP8(LF5) / (TP5) (9.66 x 10.0)

Package dimension unit : mm

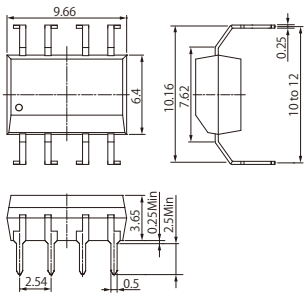


Land pattern example unit : mm



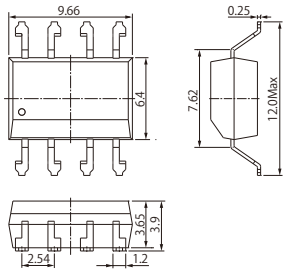
DIP8(LF2) (9.66 x 10.16)

Package dimension (DIP8 F type) unit : mm

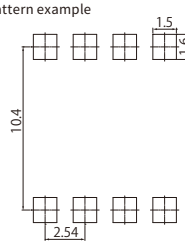


DIP8(LF4) / (TP4) (9.66 x 12.0)

Package dimension unit : mm

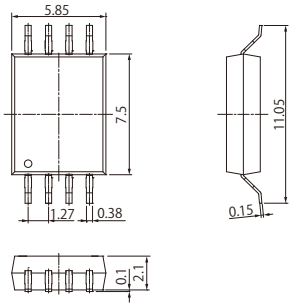


Land pattern example unit : mm

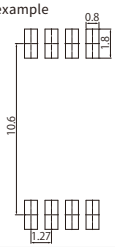


SO8L(LF4) (5.85 x 11.05)

Package dimension unit : mm



Land pattern example unit : mm



5. Cross Reference

IGBT / MOSFET Driver Photocouplers

Manufacturer	Competitor's Product	Toshiba			
	Part Number	Part Number	Compatible Level **(Note:1)**	Peak Current	Package
BROADCOM	ACNW3130	TLP5752H	3	2.5 A	SO6L
	ACNW3190	TLP5754H	4	4 A	SO6L
	ACPL-3130	TLP5752H	4	2.5 A	SO6L
	ACPL-330J	TLP5214A	2	4 A	SO16L
		TLP5212		2.5 A	
	ACPL-331J	TLP5214A	2	4 A	SO16L
		TLP5212		2.5 A	
	ACPL-332J	TLP5214A	1	4 A	SO16L
		TLP5212		2.5 A	
	ACPL-333J	TLP5222 ☆	1	2.5 A	SO16L
	ACPL-339J	TLP5231	1	2 A	SO16L
	ACPL-H312	TLP5832	1	2.5 A	SO8L
	ACPL-H342	TLP5772	3	2.5 A	SO6L
	ACPL-J313	TLP5752H	4	2.5 A	SO6L
	ACPL-K312	TLP5832	2	2.5 A	SO8L
	ACPL-K342	TLP5772(LF4)	3	2.5 A	SO6L(LF4)
	ACPL-P302	TLP5701	2	0.6 A	SO6L
	ACPL-P314	TLP5701	2	0.6 A	SO6L
	ACPL-P340	TLP5751	1	1 A	SO6L
	ACPL-P341	TLP5754	1	4 A	SO6L
	ACPL-P343	TLP5754	1	4 A	SO6L
	ACPL-P345	TLP5751	1	1 A	SO6L
	ACPL-P346	TLP5752	1	2.5 A	SO6L
	ACPL-P347	TLP5751	2	1 A	SO6L
	ACPL-P349	TLP5752	2	2.5 A	SO6L
	ACPL-T350	TLP5752H	4	2.5 A	SO6L
	ACPL-W302	TLP5701(LF4)	2	0.6 A	SO6L(LF4)
	ACPL-W314	TLP5701(LF4)	2	0.6 A	SO6L(LF4)
	ACPL-W340	TLP5751(LF4)	1	1 A	SO6L(LF4)
	ACPL-W341	TLP5754(LF4)	1	4 A	SO6L(LF4)
	ACPL-W343	TLP5754(LF4)	1	4 A	SO6L(LF4)
	ACPL-W345	TLP5751(LF4)	1	1 A	SO6L(LF4)
	ACPL-W346	TLP5752(LF4)	1	2.5 A	SO6L(LF4)
	ACPL-W347	TLP5751(LF4)	2	1 A	SO6L(LF4)
	ACPL-W349	TLP5752(LF4)	2	2.5 A	SO6L(LF4)
	HCNW3120	TLP5752H	3	2.5 A	SO6L
	HCPL-0302	TLP151A	3	0.6 A	5pin SO6
	HCPL-0314	TLP151A	3	0.6 A	5pin SO6
	HCPL-3020	TLP5771H	4	1 A	SO6L
	HCPL-3120	TLP5752H	4	2.5 A	SO6L
	HCPL-3140	TLP5771H	4	1 A	SO6L
	HCPL-314J	TLP5701 x 2 pcs	4	0.6 A	SO6L
	HCPL-3150	TLP5771H	4	1 A	SO6L
	HCPL-315J	TLP5701 x 2 pcs	4	0.6 A	SO6L
	HCPL-316J	TLP5214A	2	4 A	SO16L
		TLP5212		2.5 A	
	HCPL-3180	TLP5752H	3	2.5 A	SO6L
	HCPL-J312	TLP5752H	4	2.5 A	SO6L
	HCPL-J314	TLP5771H	4	1 A	SO6L
	HCPL-T250	TLP5752H	4	2.5 A	SO6L

☆ New Products

Note:1

1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

Manufacturer	Competitor's Product	Toshiba			
	Part Number	Part Number	Compatible Level **(Note:1)**	Peak Current	Package
Fairchild	FOD3120	TLP5752H	4	2.5 A	SO6L
	FOD3150	TLP5771	4	1 A	SO6L
	FOD3182	TLP5774	4	4 A	SO6L
	FOD8314	TLP5772	2	2.5 A	SO6L
	FOD8332	TLP5214A	1	4 A	SO16L
		TLP5212		2.5 A	
Renesas	PS9301L	TLP5701	1	0.6 A	SO6L
	PS9302L	TLP5832	2	2.5 A	SO8L
	PS9305L	TLP5832	1	2.5 A	SO8L
	PS9307L	TLP5701	1	0.6 A	SO6L
	PS9308L	TLP5702	2	2.5 A	SO6L
	PS9331L	TLP5702	2	2.5 A	SO6L
	PS9402	TLP5214A	2	4 A	SO16L
		TLP5212		2.5 A	
	PS9505	TLP5752H	4	2.5 A	SO6L
	PS9506	TLP5771H	4	1 A	SO6L
	PS9531	TLP5752H	4	2.5 A	SO6L
	PS9552	TLP5752H	4	2.5 A	SO6L
	PS9553	TLP5771H	4	1 A	SO6L
	PS9801	TLP151A	3	0.6 A	5pin SO6
SHARP	PC923	TLP5771H	4	1 A	SO6L
	PC924	TLP5771H	4	1 A	SO6L
	PC925	TLP5752H	4	2.5 A	SO6L
	PC928	TLP5214A	4	4 A	SO16L
		TLP5212		2.5 A	
	PC929	TLP5214A	4	4 A	SO16L
		TLP5212		2.5 A	
TI	UCC23525CDWYR	TLP5754H	1	4 A	SO6L
	UCC23513DWYR	TLP5754H	1	4 A	SO6L
	UCC23513BDWYR	TLP5774H	1	4 A	SO6L
	UCC23313DWYR	TLP5754H	1	4 A	SO6L
	UCC23313BDWYR	TLP5774H	1	4 A	SO6L
	UCC23113DWYR	TLP5754H	1	4 A	SO6L
	UCC23511DWYR	TLP5752H	1	2.5 A	SO6L
	UCC23511BDWYR	TLP5772H	1	2.5 A	SO6L
Novosense	NSI6801B-DSWFR	TLP5774H	1	4 A	SO6L
	NSI6801B-DSPR	TLP5774H	3	4 A	SO6L
	NSI6801C-DSWFR	TLP5754H	1	4 A	SO6L
	NSI6801C-DSPR	TLP5754H	3	4 A	SO6L
	NSI6801TB-DDBR	TLP5774H	3	4 A	SO6L
	NSI6801TC-DDBR	TLP5754H	3	4 A	SO6L
	NSI6801LC-DDBR	TLP5754H	3	4 A	SO6L
	NSI68515LC	TLP5214A	1	4 A	SO16L
	NSI68515AC	TLP5222	2	2.5 A	SO16L
	NSI68515RC	TLP5212	1	2.5 A	SO16L
	NSI68515UC	TLP5214A	4	4 A	SO16L

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

High Speed and IPM Driver Photocouplers

Manufacturer	Competitor's Product	Toshiba			
	Part Number	Part Number	Compatible Level **(Note:1)**	Data Rate (typ.)	Package
BROADCOM	ACPL-071L	TLP2366	3	20 Mbps	5pin SO6
	ACPL-074L	TLP2261	3	15 Mbps	SO8L(LF4)
	ACPL-M21L	TLP2312	1	5 Mbps	5pin SO6
	ACPL-M483	TLP2348	1	10 Mbps	5pin SO6
	ACPL-M484	TLP2345	1	10 Mbps	5pin SO6
	ACPL-M60L	TLP2363	1	15 Mbps	5pin SO6
	ACPL-M61L	TLP2361	1	15 Mbps	5pin SO6
	ACPL-M62L	TLP2363	1	15 Mbps	5pin SO6
	ACPL-M75L	TLP2366	2	20 Mbps	5pin SO6
	ACPL-K24L	TLP2210	4	5 Mbps	SO8L(LF4)
	ACPL-P454	TLP2704	2	1 Mbps	SO6L
	ACPL-P456	TLP2704	1	1 Mbps	SO6L
	ACPL-P480	TLP2710	2	5 Mbps	SO6L
	ACPL-P481	TLP2710	2	5 Mbps	SO6L
	ACPL-P483	TLP2748	2	10 Mbps	SO6L
	ACPL-P484	TLP2745	2	10 Mbps	SO6L
	ACPL-P611	TLP2768A	2	20 Mbps	SO6L
	ACPL-W21L	TLP2710(LF4)	2	5 Mbps	SO6L(LF4)
	ACPL-W454	TLP2704(LF4)	2	1 Mbps	SO6L(LF4)
	ACPL-W456	TLP2704(LF4)	1	1 Mbps	SO6L(LF4)
	ACPL-W480	TLP2710(LF4)	2	5 Mbps	SO6L(LF4)
	ACPL-W481	TLP2710(LF4)	2	5 Mbps	SO6L(LF4)
	ACPL-W483	TLP2748(LF4)	2	10 Mbps	SO6L(LF4)
	ACPL-W484	TLP2745(LF4)	2	10 Mbps	SO6L(LF4)
	ACPL-W50L	TLP2719(LF4)	2	1 Mbps	SO6L(LF4)
	ACPL-W60L	TLP2768A(LF4)	1	20 Mbps	SO6L(LF4)
	ACPL-W611	TLP2768A(LF4)	2	20 Mbps	SO6L(LF4)
	ACPL-W61L	TLP2761(LF4)	1	15 Mbps	SO6L(LF4)
	ACPL-W70L	TLP2770	3	20 Mbps	SO6L
	HCPL-0201	TLP2355	4	5 Mbps	5pin SO6
	HCPL-0211	TLP2355	4	5 Mbps	5pin SO6
	HCPL-0454	TLP2304	4	1 Mbps	5pin SO6
	HCPL-0466	TLP2304	4	1 Mbps	5pin SO6
	HCPL-0600	TLP2368	4	20 Mbps	5pin SO6
	HCPL-0601	TLP2368	4	20 Mbps	5pin SO6
	HCPL-060L	TLP2368	4	20 Mbps	5pin SO6
	HCPL-0611	TLP2368	4	20 Mbps	5pin SO6
	HCPL-061A	TLP2368	4	20 Mbps	5pin SO6
	HCPL-061N	TLP2368	4	20 Mbps	5pin SO6
	HCPL-0630	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-0631	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-063A	TLP2261	2	15 Mbps	SO8L(LF4)
	HCPL-063L	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-063N	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-0661	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-0708	TLP2368	4	20 Mbps	5pin SO6
	HCPL-0738	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-2200	TLP2745	4	10 Mbps	SO6L
	HCPL-2201	TLP2745	4	10 Mbps	SO6L
	HCPL-2202	TLP2745	4	10 Mbps	SO6L
	HCPL-2211	TLP2745	4	10 Mbps	SO6L
	HCPL-2212	TLP2745	4	10 Mbps	SO6L
	HCPL-2219	TLP2745	4	10 Mbps	SO6L

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

Manufacturer	Competitor's Product	Toshiba			
	Part Number	Part Number	Compatible Level **(Note:1)**	Data Rate (typ.)	Package
BROADCOM	HCPL-2601	TLP2363	4	15 Mbps	5pin SO6
	HCPL-2611	TLP2363	4	15 Mbps	5pin SO6
	HCPL-2630	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-2631	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-4502	TLP2719	3	1 Mbps	SO6L
	HCPL-4503	TLP2719	3	1 Mbps	SO6L
	HCPL-4504	TLP2719	3	1 Mbps	SO6L
	HCPL-4506	TLP2704	4	1 Mbps	SO6L
	HCPL-4661	TLP2261	4	15 Mbps	SO8L(LF4)
	HCPL-M452	TLP2309	2	1 Mbps	5pin SO6
	HCPL-M453	TLP2309	1	1 Mbps	5pin SO6
	HCPL-M454	TLP2309	1	1 Mbps	5pin SO6
	HCPL-M456	TLP2304	1	1 Mbps	5pin SO6
	HCPL-M600	TLP2363	1	15 Mbps	5pin SO6
	HCPL-M601	TLP2363	1	15 Mbps	5pin SO6
	HCPL-M611	TLP2363	1	15 Mbps	5pin SO6
Renesas	PS8101	TLP2309	3	1 Mbps	5pin SO6
	PS8302L	TLP2704	2	1 Mbps	SO6L
	PS8501	TLP2719	3	1 Mbps	SO6L
	PS8502	TLP2719	3	1 Mbps	SO6L
	PS8601	TLP2719	3	1 Mbps	SO6L
	PS8602	TLP2719	3	1 Mbps	SO6L
	PS8701	TLP2309	2	1 Mbps	5pin SO6
	PS8802-2	TLP2210	4	5 Mbps	SO8L(LF4)
	PS9113	TLP2304	4	1 Mbps	5pin SO6
	PS9115	TLP2366	2	20 Mbps	5pin SO6
	PS9117A	TLP2361	2	15 Mbps	5pin SO6
	PS9121	TLP2368	2	20 Mbps	5pin SO6
	PS9122	TLP2362	2	10 Mbps	5pin SO6
	PS9123	TLP2366	2	20 Mbps	5pin SO6
	PS9124	TLP2362	2	10 Mbps	5pin SO6
	PS9151	TLP2366	1	20 Mbps	5pin SO6
	PS9213	TLP2304	4	1 Mbps	5pin SO6
	PS9214	TLP2362	4	10 Mbps	5pin SO6
	PS9303L	TLP2745	2	10 Mbps	SO6L
	PS9313L	TLP2704	2	1 Mbps	SO6L
	PS9317L	TLP2770	2	20 Mbps	SO6L
	PS9324L	TLP2768A	2	20 Mbps	SO6L
	PS9351L	TLP2770	1	20 Mbps	SO6L
	PS9513	TLP2704	3	1 Mbps	SO6L
	PS9587	TLP2363	4	15 Mbps	5pin SO6
	PS9617	TLP2363	4	15 Mbps	5pin SO6
	PS9817A-1	TLP2368	3	20 Mbps	5pin SO6
	PS9817A-2	TLP2261	3	15 Mbps	SO8L(LF4)
	PS9821-1	TLP2366	3	20 Mbps	5pin SO6
	PS9821-2	TLP2261	3	15 Mbps	SO8L(LF4)
	PS9822-1	TLP2304	3	1 Mbps	5pin SO6
	PS9822-2	TLP2210	4	5 Mbps	SO8L(LF4)
	PS9851-1	TLP2366	3	20 Mbps	5pin SO6
	PS9851-2	TLP2261	3	15 Mbps	SO8L(LF4)
SHARP	PC400T	TLP2358	4	100 kbps	5pin SO6
	PC410L	TLP2362	2	10 Mbps	5pin SO6
	PC410S	TLP2368	4	20 Mbps	5pin SO6
	PC411S	TLP2366	3	20 Mbps	5pin SO6
	PC456L	TLP2309	2	1 Mbps	5pin SO6
	PC457L	TLP2309	2	1 Mbps	5pin SO6
	PC4D10	TLP2261	4	15 Mbps	SO8L(LF4)
TI	ISOM8710	TLP2366	1	20 Mbps	5pin SO6
	ISOM8711	TLP2368B	1	20 Mbps	5pin SO6

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

Isolation Amplifiers / Delta-Sigma Modulators

Manufacturer	Competitor's Product	Toshiba				
		Part Number	Compatible Level **(Note:1)**	Input Feature	Output Feature	Package
BROADCOM	HCPL-7800	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	HCPL-7800A	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	HCPL-7840	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-C790	TLP7820	1	differential	Analog, Differential	SO8L(LF4)
	ACPL-C79A	TLP7820	1	differential	Analog, Differential	SO8L(LF4)
	ACPL-C79B	TLP7820	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-7900	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-790A	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-790B	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-C784	TLP7820	1	differential	Analog, Differential	SO8L(LF4)
	ACPL-C780	TLP7820	1	differential	Analog, Differential	SO8L(LF4)
	ACPL-C78A	TLP7820	1	differential	Analog, Differential	SO8L(LF4)
	ACPL-C870	TLP7820	4	differential	Analog, Differential	SO8L(LF4)
	ACPL-C87A	TLP7820	2	differential	Analog, Differential	SO8L(LF4)
	ACPL-C87B	TLP7820	2	differential	Analog, Differential	SO8L(LF4)
	HCPL-7860	TLP7930	4	differential	Digital,Internal CLK	SO8L(LF4)
	HCPL-786J	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	ACPL-C797	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	ACPL-7970	TLP7930	4	differential	Digital,Internal CLK	SO8L(LF4)
	ACPL-796J	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	ACPL-798J	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
TI	AMC1100DWV	TLP7820	2	differential	Analog, Differential	SO8L(LF4)
	AMC1100DUB	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	AMC1200BDWV	TLP7820	2	differential	Analog, Differential	SO8L(LF4)
	AMC1200BDUB	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	AMC1203PSA	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1203DUB	TLP7930	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1203DW	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1203BPSA	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1203BDUB	TLP7930	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1203BDW	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1204DW	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1204BDWV	TLP7830	2	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1204BDW	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1301	TLP7820	2	differential	Analog, Differential	SO8L(LF4)
	AMC1304	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AMC1305	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
Analog Devices	AD7400A	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AD7401A	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
	AD7402	TLP7830	2	differential	Digital,Internal CLK	SO8L(LF4)
	AD7403	TLP7830	2	differential	Digital,Internal CLK	SO8L(LF4)
	AD7405	TLP7830	4	differential	Digital,Internal CLK	SO8L(LF4)
Renesas	PS8551A	TLP7920	4	differential	Analog, Differential	SO8L(LF4)
	PS9551A	TLP7930	4	differential	Digital,Internal CLK	SO8L(LF4)

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

High Speed Digital Isolators

Manufacturer	Competitor's Product	Toshiba							
	Part Number	Part Number	Compatible Level **(Note:1)**	Total Channels	Reverse Channels	Data Rate (Mbps)	Control signal	Default State	Package
Skyworks	Si8640BB-B-IS	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	Si8640BB-B-IS1	DCL540L01 ☆	3	4	0	150	output enable	L	SOIC16-W
	Si8640BC-B-IS1	DCL540L01 ☆	3	4	0	150	output enable	L	SOIC16-W
	Si8640BD-B-IS	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	Si8640BT-IS	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	Si8640BA-B-IU	DCL540L01 ☆	3	4	0	150	output enable	L	SOIC16-W
	Si8640BB-B-IU	DCL540L01 ☆	3	4	0	150	output enable	L	SOIC16-W
	Si8640BD-B-IS2	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	Si8640EC-B-IS1	DCL540H01 ☆	3	4	0	150	output enable	H	SOIC16-W
	Si8640ED-B-IS	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	Si8640ET-IS	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	Si8640EB-B-IU	DCL540H01 ☆	3	4	0	150	output enable	H	SOIC16-W
	Si8640ED-B-IS2	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	Si8641BA-B-IU	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	Si8641BA-C-IU	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	Si8641BB-B-IS	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	Si8641BB-B-IS1	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	Si8641BB-B-IU	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	Si8641BC-B-IS1	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	Si8641BD-B-IS	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	Si8641BT-IS	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	Si8641BD-B-IS2	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	Si8641EC-B-IS1	DCL541H01 ☆	3	4	1	150	input disable	H	SOIC16-W
	Si8641ED-B-IS	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	Si8641ET-IS	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	Si8641EB-B-IU	DCL541H01 ☆	3	4	1	150	input disable	H	SOIC16-W
	Si8642BB-B-IS	DCL542L01 ☆	1	4	2	150	output enable	L	SOIC16-W
	Si8642BD-B-IS	DCL542L01 ☆	1	4	2	150	output enable	L	SOIC16-W
	Si8642BD-B-IS2	DCL542L01 ☆	1	4	2	150	output enable	L	SOIC16-W
	Si8642BT-IS	DCL542L01 ☆	1	4	2	150	output enable	L	SOIC16-W
	Si8642ED-B-IS	DCL542H01 ☆	1	4	2	150	output enable	H	SOIC16-W
	Si8642ED-B-IS2	DCL542H01 ☆	1	4	2	150	output enable	H	SOIC16-W
	Si8642ET-IS	DCL542H01 ☆	1	4	2	150	output enable	H	SOIC16-W
	Si8641ED-B-IS2	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	Si8645BA-B-IU	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	Si8645BB-B-IS	DCL540C01 ☆	1	4	0	150	without	L	SOIC16-W
	Si8645BB-B-IS1	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	Si8645BC-B-IS1	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	Si8645BD-B-IS	DCL540C01 ☆	1	4	0	150	without	L	SOIC16-W
	Si8645BT-IS	DCL540C01 ☆	1	4	0	150	without	L	SOIC16-W
	Si8645BA-C-IU	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W

☆ New Products

Note:1
1: Package and characteristics are almost same
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3: Almost same characteristics but different package
4: Different package and similar characteristics

Manufacturer	Competitor's Product	Toshiba							
	Part Number	Part Number	Compatible Level (Note:1)	Total Channels	Reverse Channels	Data Rate (Mbps)	Control signal	Default State	Package
Skyworks	Si8645BB-B-IU	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	Si8645ET-IS	DCL540D01 ☆	1	4	0	150	without	H	SOIC16-W
TI	ISO7741FDW	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	ISO7741FBDW	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ISO7741FDBQ	DCL541L01 ☆	3	4	1	150	input disable	L	SOIC16-W
	ISO7641FC	DCL541A01 ☆	2	4	1	150	input disable	H	SOIC16-W
	ISO7641FM	DCL541A01 ☆	4	4	1	150	input disable	H	SOIC16-W
	ISO7241M	DCL541B01 ☆	2	4	1	150	input disable	H	SOIC16-W
	ISO7741DW	DCL541H01 ☆	3	4	1	150	input disable	H	SOIC16-W
	ISO7741BDW	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ISO7741DBQ	DCL541H01 ☆	3	4	1	150	input disable	H	SOIC16-W
	ISO7740FDW	DCL540H01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ISO7740FDBQ	DCL540H01 ☆	3	4	0	150	output enable	L	SOIC16-W
	ISO7240M	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ISO7640FM	DCL540H01 ☆	3	4	0	150	output enable	H	SOIC16-W
	ISO7740DW	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ISO7740DBQ	DCL540H01 ☆	3	4	0	150	output enable	H	SOIC16-W
ADI	ADuM141D0BRZ	DCL541A01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ADuM141E0BRZ	DCL541H01 ☆	2	4	1	150	input disable	L	SOIC16-W
	ADuM141D0BRWZ	DCL541A01 ☆	2	4	1	150	input disable	L	SOIC16-W
	ADuM141D0BRQZ	DCL541A01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ADuM141E0BRQZ	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ADuM241D0BRWZ	DCL541A01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ADuM241E0BRWZ	DCL541L01 ☆	1	4	1	150	input disable	L	SOIC16-W
	ADuM241D0BRIZ	DCL541A01 ☆	2	4	1	150	input disable	L	SOIC16-W
	ADuM241E0BRIZ	DCL541L01 ☆	2	4	1	150	input disable	L	SOIC16-W
	ADuM141D1BRZ	DCL541B01 ☆	3	4	1	150	input disable	H	SOIC16-W
	ADuM141E1BRZ	DCL541H01 ☆	4	4	1	150	input disable	H	SOIC16-W
	ADuM141D1BRWZ	DCL541B01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM141D1BRQZ	DCL541B01 ☆	2	4	1	150	input disable	H	SOIC16-W
	ADuM141E1BRWZ	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM141E1WBRWZ	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM141E0BRWZ	DCL541L01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM141E1BRQZ	DCL541H01 ☆	2	4	1	150	input disable	H	SOIC16-W
	ADuM141E1WBRQZ	DCL541H01 ☆	2	4	1	150	input disable	H	SOIC16-W
	ADuM241D1BRWZ	DCL541B01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM241E1BRWZ	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM241E1WBRWZ	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM241D1BRIZ	DCL541B01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM241E1BRIZ	DCL541H01 ☆	1	4	1	150	input disable	H	SOIC16-W
	ADuM140D0BRZ	DCL540C01 ☆	2	4	0	150	without	L	SOIC16-W
	ADuM140E0BRZ	DCL540L01 ☆	2	4	0	150	output enable	L	SOIC16-W

☆ New Products

Note:1
1: Package and characteristics are almost same
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3: Almost same characteristics but different package
4: Different package and similar characteristics

Manufacturer	Competitor's Product	Toshiba							
	Part Number	Part Number	Compatible Level **(Note:1)**	Total Channels	Reverse Channels	Data Rate (Mbps)	Control signal	Default State	Package
ADI	ADuM140D0BRWZ	DCL540C01 ☆	2	4	0	150	without	L	SOIC16-W
	ADuM140D0BRQZ	DCL540C01 ☆	2	4	0	150	without	L	SOIC16-W
	ADuM140E0BRWZ	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ADuM140E0BRQZ	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ADuM240D0BRWZ	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	ADuM240E0BRWZ	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ADuM240E0WBRWZ	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ADuM240D0BRIZ	DCL540C01 ☆	3	4	0	150	without	L	SOIC16-W
	ADuM240E0BRIZ	DCL540L01 ☆	1	4	0	150	output enable	L	SOIC16-W
	ADuM140D1BRZ	DCL540D01 ☆	2	4	0	150	without	H	SOIC16-W
	ADuM140E1BRZ	DCL540H01 ☆	2	4	0	150	output enable	H	SOIC16-W
	ADuM140D1BRWZ	DCL540H01 ☆	2	4	0	150	output enable	H	SOIC16-W
	ADuM140D1BRQZ	DCL540D01 ☆	2	4	0	150	without	H	SOIC16-W
	ADuM140E1BRWZ	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ADuM140E1WBRWZ	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ADuM140E1BRQZ	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ADuM240D1BRWZ	DCL540D01 ☆	3	4	0	150	without	H	SOIC16-W
	ADuM240E1BRWZ	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W
	ADuM240D1BRIZ	DCL540D01 ☆	3	4	0	150	without	H	SOIC16-W
	ADuM240E1BRIZ	DCL540H01 ☆	1	4	0	150	output enable	H	SOIC16-W

☆ New Products

Note:1
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4: Different package and similar characteristics

Photorelays (1-Form-A)

Manufacturer	Competitor's Product	Toshiba				
		Part Number	Compatible Level **(Note:1)**	OFF-state Output Terminal Voltage	ON-state Current	Package
Panasonic	AQV201	TLP241A	3	40 V	2 A	DIP4
	AQV202	TLP3545A	1	60 V	4 A	DIP6
	AQV204	TLP223GA	4	400 V	0.12 A	DIP4
	AQV210EH	TLP240G	4	350 V	0.10 A	DIP4
	AQV210S	TLP172GM	2	350 V	0.11 A	4pin SO6
	AQV212	TLP240A	3	60 V	0.5 A	DIP4
	AQV212S	TLP176AM	3	60 V	0.7 A	4pin SO6
	AQV214	TLP223GA	4	400 V	0.12 A	DIP4
	AQV214E	TLP223GA	4	400 V	0.12 A	DIP4
	AQV214EH	TLP223GA	4	400 V	0.12 A	DIP4
	AQV214H	TLP223GA	4	400 V	0.12 A	DIP4
	AQV214S	TLP172GAM	3	400 V	0.11 A	4pin SO6
	AQV215	TLP3546A	1	100 V	3.5 A	DIP6
	AQV215S	TLP3109A	1	100 V	3 A	2.54SOP6
	AQV216	TLP223J	4	600 V	0.09 A	DIP4
	AQV217S	TLP171D	3	200 V	0.2 A	2.54SOP4
	AQV251G	TLP3543A	1	30 V	5 A	DIP6
	AQV252	TLP3545A	1	60 V	4 A	DIP6
	AQV252G	TLP3545A	1	60 V	4 A	DIP6
	AQV252G2S	TLP3107A	1	60 V	4 A	2.54SOP6
	AQV252G3S	TLP3107A	1	60 V	4 A	2.54SOP6
	AQV254	TLP223GA	4	400 V	0.12 A	DIP4
	AQV254H	TLP223GA	4	400 V	0.12 A	DIP4
	AQV255	TLP3546A	1	100 V	3.5 A	DIP6
	AQV255GS	TLP3109A	1	100 V	3 A	2.54SOP6
	AQV255G3S	TLP3109A	1	100 V	3 A	2.54SOP6
	AQV258	TLX9160T	3	1500 V	0.05 A	SO16L-T
	AQY210S	TLP172GM	1	350 V	0.11 A	4pin SO6
	AQY211EH	TLP241A	1	40 V	2 A	DIP4
	AQY211G2S	TLP3127	1	60 V	1.7 A	2.54SOP4
	AQY212G2S	TLP3122A	1	60 V	1.4 A	4pin SO6
	AQY212GS	TLP3122A	1	60 V	1.4 A	4pin SO6
	AQY212S	TLP176AM	1	60 V	0.7 A	4pin SO6
	AQY214EH	TLP223GA	1	400 V	0.12 A	DIP4
	AQY214S	TLP172GAM	1	400 V	0.11 A	4pin SO6
	AQY216EH	TLP223J	1	600 V	0.09 A	DIP4
	AQY221N2S	TLP3440S	4	40 V	0.12 A	S-VSON4T
	AQY221N2V	TLP3440S	4	40 V	0.12 A	S-VSON4T
	AQY221R2S	TLP3475S	4	60 V	0.4 A	S-VSON4T
	AQY221R2V	TLP3414	4	40 V	0.25 A	VSON4
	AQY221R6T	TLP3406S	4	30 V	1.5 A	S-VSON4
	AQY222R2V	TLP3475S	4	60 V	0.4 A	S-VSON4T
	AQY225R1S	TLP3409S	4	100 V	0.65 A	S-VSON4
	AQY225R2S	TLP3419	4	80 V	0.2 A	VSON4
	AQY225R2V	TLP3417	4	80 V	0.12 A	VSON4
	AQY234S	TLP172GAM	1	400 V	0.11 A	4pin SO6
	AQY275	TLP241B	1	100 V	2 A	DIP4
IXYS	CPC1330	TLP223GA	1	400 V	0.12 A	DIP4
	CPC1393	TLP223J	1	600 V	0.09 A	DIP4
	LCA100	TLP223GA	3	400 V	0.12 A	DIP4
Renesas	PS7113-1A	TLP3546A	2	100 V	3.5 A	DIP6
	PS7141E-1A	TLP223GA	3	400 V	0.12 A	DIP4
	PS7160-1A	TLP223J	3	600 V	0.09 A	DIP4
	PS7206-1A	TLP176AM	1	60 V	0.7 A	4pin SO6
	PS7241E-1A	TLP172GAM	1	400 V	0.11 A	4pin SO6
	PS7341-1A	TLP223GA	3	400 V	0.12 A	DIP4
	PS7360-1A	TLP223J	3	600 V	0.09 A	DIP4
	PS7804-1A	TLP3475S	3	60 V	0.4 A	S-VSON4T

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

Photorelays (1-Form-A)

Manufacturer	Competitor's Product	Toshiba				
		Part Number	Compatible Level **(Note:1)**	OFF-state Output Terminal Voltage	ON-state Current	Package
TOWARD	AB21RS	TLP176AM	1	60 V	0.7 A	4pin SO6
	AB38S	TLP170J	1	600 V	0.09 A	2.54SOP4
	AB31S	TLP172GM	2	350 V	0.11 A	4pin SO6
	AB37S	TLP176AM	1	60 V	0.7 A	4pin SO6
	AB45S	TLP176AM	1	60 V	0.7 A	4pin SO6
	AB34S	TLP176D	1	200 V	0.2 A	2.54SOP4
	AB30S	TLP172GAM	1	400 V	0.11 A	4pin SO6
	AB37	TLP240A	1	60 V	0.5 A	DIP4
	AB45	TLP240A	1	60 V	0.5 A	DIP4
	AB34	TLP240D	1	200 V	0.25 A	DIP4
	AB31	TLP240G	2	350 V	0.1 A	DIP4
	AB30	TLP223GA	1	400 V	0.12 A	DIP4
	AB38	TLP223J	1	600 V	0.09 A	DIP4
	AB26	TLP241A	1	40 V	2 A	DIP4
	AB47	TLP3556A	2	100 V	2 A	DIP4
	AB48	TLP3556A	1	100 V	2 A	DIP4
BROADCOM	ASSR-601J	TLX9160T	1	1500 V	0.05 A	SO16L-T

Photorelays (2-Form-A)

Manufacturer	Competitor's Product	Toshiba				
		Part Number	Compatible Level **(Note:1)**	OFF-state Output Terminal Voltage	ON-state Current	Package
Panasonic	AQW210	TLP240G x 2 pcs	4	350 V	0.1 A	DIP4
	AQW210EH	TLP223GA x 2 pcs	4	400 V	0.12 A	DIP4
	AQW210S	TLP172GM x 2 pcs	3	350 V	0.11 A	4pin SO6
	AQW212	TLP240A x 2 pcs	4	60 V	0.5 A	DIP4
	AQW212EH	TLP240A x 2 pcs	4	60 V	0.5 A	DIP4
	AQW212S	TLP176AM x 2 pcs	3	60 V	0.7 A	4pin SO6
	AQW214	TLP223GA x 2 pcs	3	400 V	0.12 A	DIP4
	AQW214EH	TLP223GA x 2 pcs	3	400 V	0.12 A	DIP4
	AQW214S	TLP172GAM x 2 pcs	4	400 V	0.11 A	4pin SO6
	AQW215	TLP3556A x 2 pcs	3	100 V	2 A	DIP4
	AQW216	TLP223J x 2 pcs	3	600 V	0.09 A	DIP4
	AQW216EH	TLP223J x 2 pcs	3	600 V	0.09 A	DIP4
	AQW217	TLP240D x 2 pcs	3	200 V	0.25 A	DIP4
	AQW223R2S	TLP240G x 2 pcs	4	350 V	0.1 A	DIP4
	AQW227N	TLP240D x 2 pcs	3	200 V	0.25 A	DIP4
IXYS	CPC2014N	TLP176AM x 2 pcs	3	60 V	0.7 A	4pin SO6
	CPC2017N	TLP176AM x 2 pcs	3	60 V	0.7 A	4pin SO6
	CPC2025N	TLP172GAM x 2 pcs	4	400 V	0.11 A	4pin SO6
	CPC2030N	TLP172GM x 2 pcs	4	350 V	0.11 A	4pin SO6
Renesas	PS7241-2A	TLP172GAM x 2 pcs	3	400 V	0.11 A	4pin SO6

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

Photorelays (1-Form-B, 2-Form-B)

Manufacturer	Competitor's Product	Toshiba				
		Part Number	Compatible Level **(Note:1)**	OFF-state Output Terminal Voltage	ON-state Current	Package
Panasonic	AQY410S	TLP4176G	1	350 V	0.12 A	2.54SOP4
	AQY412S	TLP4176A	1	60 V	0.5 A	2.54SOP4
	AQY412SX	TLP4176A	1	60 V	0.5 A	2.54SOP4
	AQY412SZ	TLP4176A	1	60 V	0.5 A	2.54SOP4
	AQY414S	TLP4176G	2	350 V	0.12 A	2.54SOP4
IXYS	CPC1125N	TLP4176G	2	350 V	0.12 A	2.54SOP4
	CPC1130N	TLP4176G	1	350 V	0.12 A	2.54SOP4
	CPC1135N	TLP4176G	1	350 V	0.12 A	2.54SOP4
	CPC1150N	TLP4176G	1	350 V	0.12 A	2.54SOP4
	CPC1231N	TLP4176G	1	350 V	0.12 A	2.54SOP4
	LCB710	TLP4590A	1	60 V	1.2 A	DIP6

Note:1
1: Package and characteristics are almost same
2: Almost same package but similar characteristics
3: Almost same characteristics but different package
4: Different package and similar characteristics

6. Part Naming Conventions

3-Digit Part Numbering Example (Except Alphabetical Characters)

Example of Photocouplers

TLP 1 76 A
① ② ③ ④

① Photocoupler
② Package Type
1: SO6 / SOP
2: SO4 / SOP / SOP16 / DIP (2500 Vrms / 5000 Vrms)
3: SO6L / DIP (5000 Vrms)
4: DIP4 (5000 Vrms)
5: DIP (2500 Vrms)
6: DIP (5000 Vrms)
7: DIP (4000 Vrms)
③ Output Type
00 to 09: IC Output, Photorelay
10 to 19: IC Output
20 to 29: 4 / 8 / 16-pin multi-channel Photocoupler
30 to 39: 6 pin
40 to 49: Thyristor Output, Photorelay
50 to 59: IC Output
60 to 69: Triac Output
70 to 79: Photorelay
80 to 89: Transistor Output / Darlington Transistor Output
90 to 99: Transistor Output, Photorelay, Photovoltaic Output
④ Suffix
Withstand Voltage Level

(a) Photorelay	(b) Triac Output, Thyristor Output
A: 40 V, 60 V	G: 400 V
D: 200 V	J: 600 V
G: 350 V	L: 800 V
GA: 400 V	
J: 600 V	

4-Digit Part Numbering Example (Except Alphabetical Characters)

Example of Photocouplers

TLP 2 7 61 A
① ② ③ ④ ⑤

① Photocoupler
② Product category
2: IC Output (logic, IPM Drivers)
3: Photorelay (1-form-A) / Triac Output / Photovoltaic Output
4: Photorelay (except 1-form-A)
5: IC Output (Power Device Driver / Smart Gate Driver)
7: Isolation Amplifier
③ Package category

Number	Package Type		Product Category
	IC Output / Isolation Amplifier	Photorelay	Triac Output / Photovoltaic Output
0	SO4 / MFSOP6	-	Triac Output
1	SO8 (Dual ch.)	SOP	-
2	SO8L (Dual ch.), SO16L	SSOP	-
3	SO6	USOP	-
4	SO8 (Single ch.)	VSON, P-SON	-
5	-	DIP	-
6	DIP8 (Dual ch.)	-	-
7	SO6L	-	Triac Output
8	SO8L (Single ch.)	-	-
9	DIP8 (Single ch.)	-	Photovoltaic Output

④ Serial Number
⑤ Suffix

Part Naming Example for Digital Isolators

■**Standard Digital Isolators**

Example of Standard Digital Isolators

DC L 5 4 0 C 0 1
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Digital Isolators
② Output Type
L: Logic
③ Data rate
1: to 1 Mbps
2: to 10 Mbps
3: to 50 Mbps
4: to 100 Mbps
5: to 200 Mbps
④ Total Channel
2: 2 channel
4: 4 channel
⑤ Reverse channel
0: None
1: 1 channel
⑥ Control-pin (Default output)
L: Enable (Low)
H: Enable (High)
A: Disable (Low)
B: Disable (High)
C: None (Low)
D: None (High)
⑦ Option
0: None
⑧ Package Type
0: SOIC8-N
1: SOIC16-W

Part Naming Example for Automotive Devices

■**Photocouplers (Output: Transistor, IC, Photovoltaic)**

Example of Photocoupler

TLX 9 304
① ② ③

① Photocoupler (For Automotive Device)
② 9: For Automotive Device
③ Serial Number

■**Photorelays**

Example of Photorelay

TLX 9 175 J
① ② ③ ④

① Photorelay (For Automotive Device)
② 9: For Automotive Device
③ Serial Number
④ Withstand Voltage Level
J: 600 V
T: 1500 V

Note: For those parts which do not follow the part naming convention shown above, see the appropriate datasheet.

7. Part Number Index

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