

TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SA2184

High Voltage Switching Applications

- High voltage: $V_{CE0} = -550\text{ V}$
- High speed: $t_f = 40\text{ ns (typ.)}$ ($I_C = -0.5\text{ A}$)

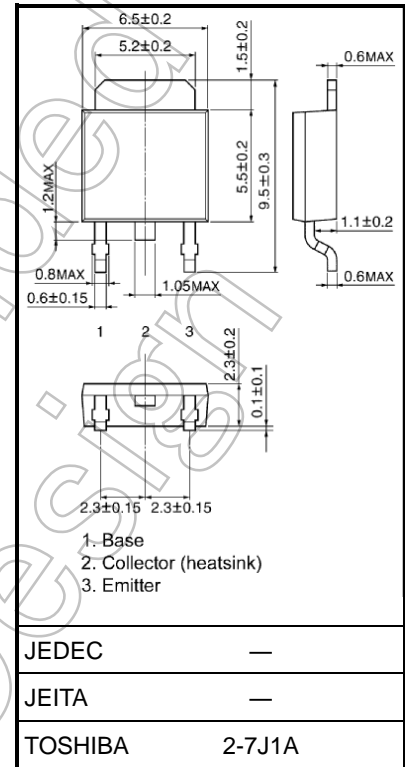
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	-550	V
Collector-emitter voltage		V_{CEO}	-550	V
Emitter-base voltage		V_{EBO}	-7	V
Collector current	DC	I_C	-1	A
	Pulse	I_{CP}	-2	
Base current		I_B	-1	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1	W
	$T_c = 25^\circ\text{C}$		20	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

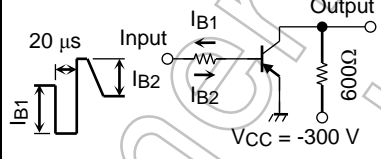
Unit: mm



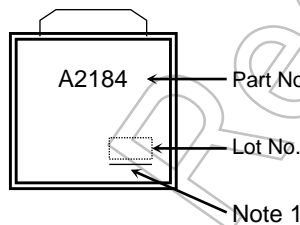
Weight: 0.36 g (typ.)

Start of commercial production
2005-09

Electrical Characteristics (Ta = 25°C)

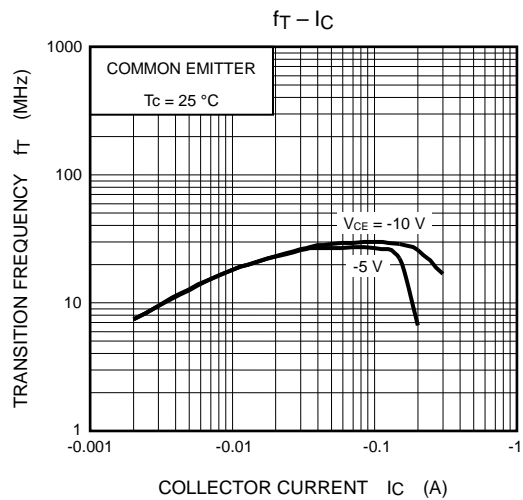
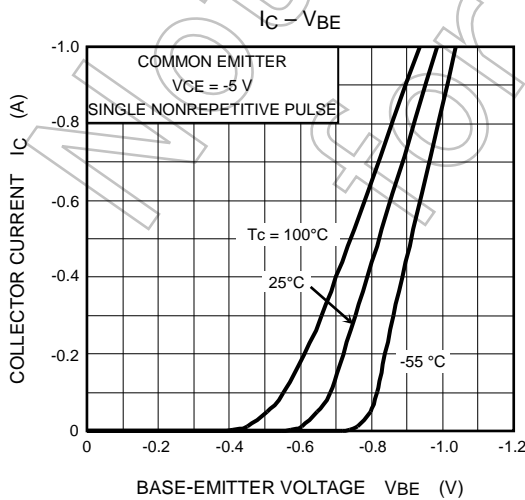
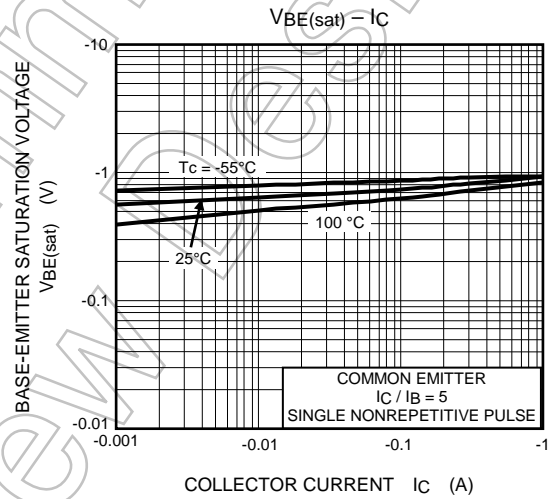
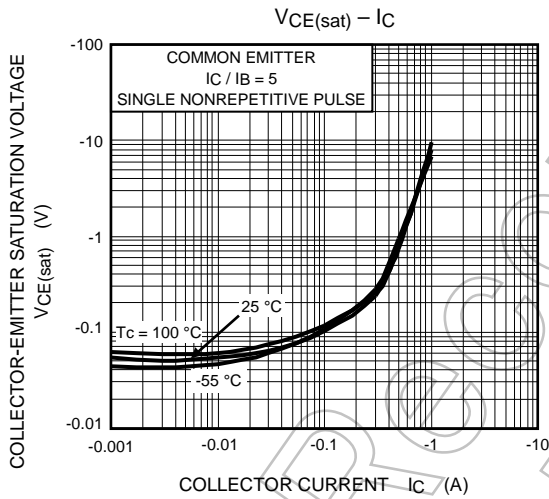
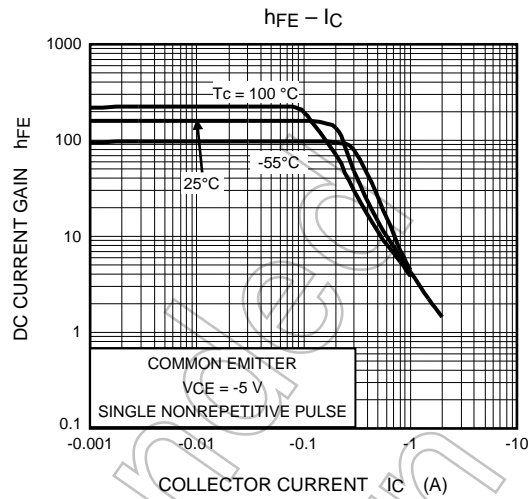
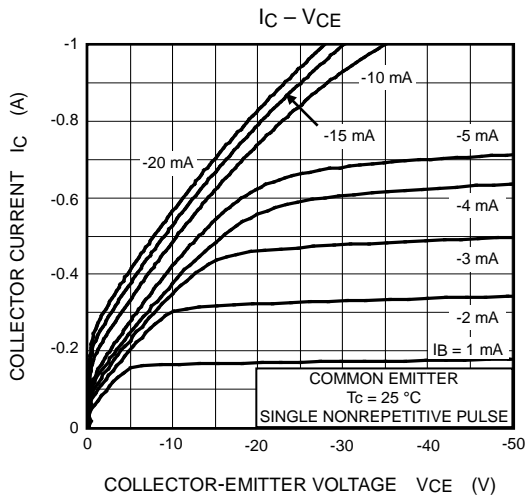
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = -550 V, I _E = 0 A	—	—	-10	μA
Emitter cut-off current		IEBO	V _{EB} = -7 V, I _C = 0 A	—	—	-1	μA
Collector-emitter breakdown voltage		V _{(BR)CEO}	I _C = -10 mA, I _B = 0 A	-550	—	—	V
DC current gain		hFE(1)	V _{CE} = -5 V, I _C = -100 mA	80	—	300	—
		hFE(2)	V _{CE} = -5 V, I _C = -500 mA	5	—	—	
Collector emitter saturation voltage		V _{CE(sat)}	I _C = -300 mA, I _B = -60 mA	—	—	-0.7	V
Base-emitter saturation voltage		V _{BE(sat)}	I _C = -300 mA, I _B = -60 mA	—	—	-1.2	V
Transition frequency		f _T	V _{CE} = -5 V, I _C = -50 mA	—	27	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = -10 V, I _E = 0 A, f = 1 MHz	—	30	—	pF
Switching time	Rise time	t _r		—	0.1	—	μs
	Storage time	t _{stg}		—	1.6	—	
	Fall time	t _f		I _{B1} = 100 mA, I _{B2} = 200 mA Duty cycle ≤ 1%	—	40	

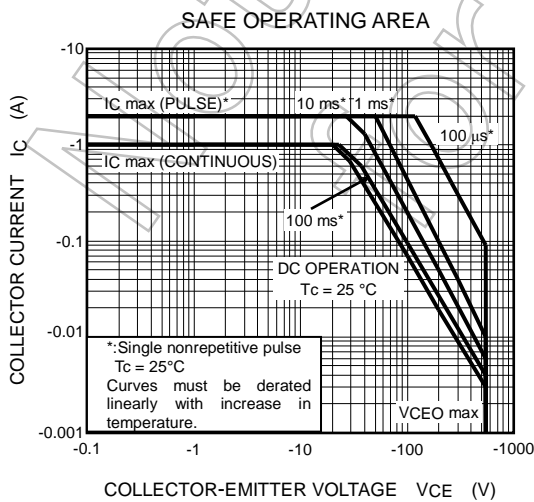
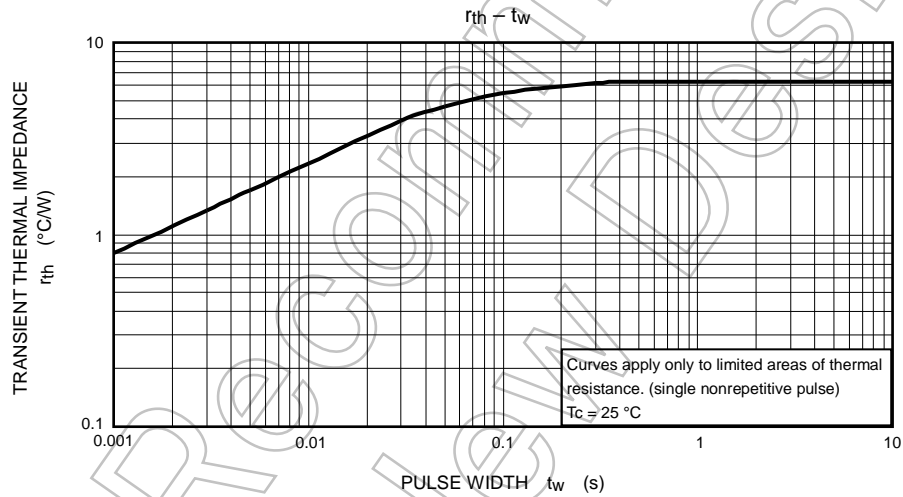
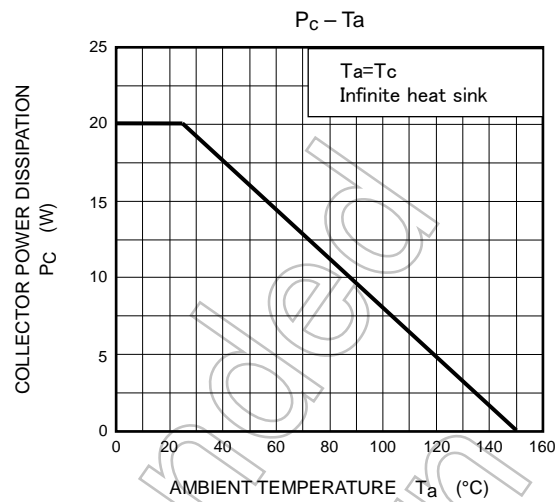
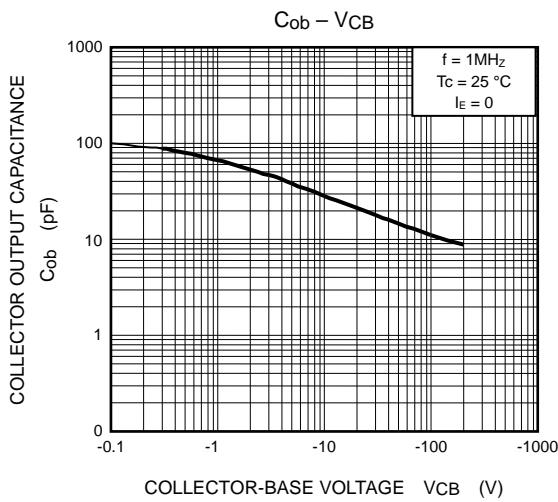
Marking



Note 1: A line under a Lot No. identifies the indication of product Labels [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment





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