

TOSHIBA Transistor Silicon PNP Epitaxial Type

2SB1016A

Power Amplifier Applications

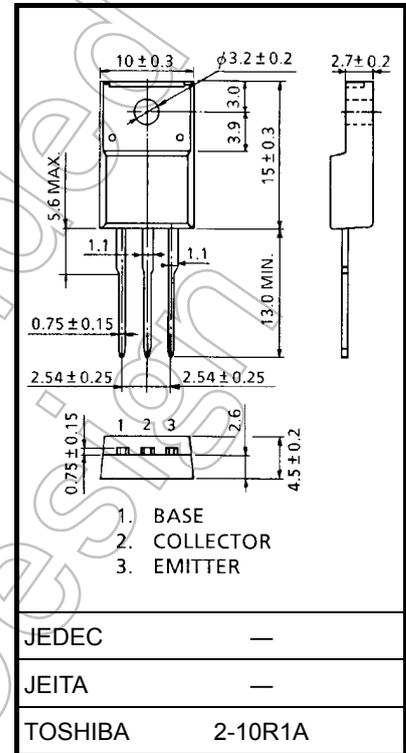
- High breakdown voltage: $V_{CE0} = -100\text{ V}$
- Low collector-emitter saturation voltage: $V_{CE(sat)} = -2.0\text{ V (max)}$
- Complementary to 2SD1407A

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-100	V
Collector-emitter voltage	V_{CE0}	-100	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-5	A
Base current	I_B	-0.5	A
Collector power dissipation ($T_c = 25^\circ\text{C}$)	P_C	30	W
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



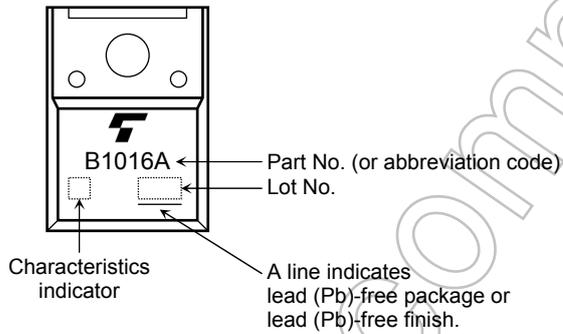
Weight: 1.7 g (typ.)

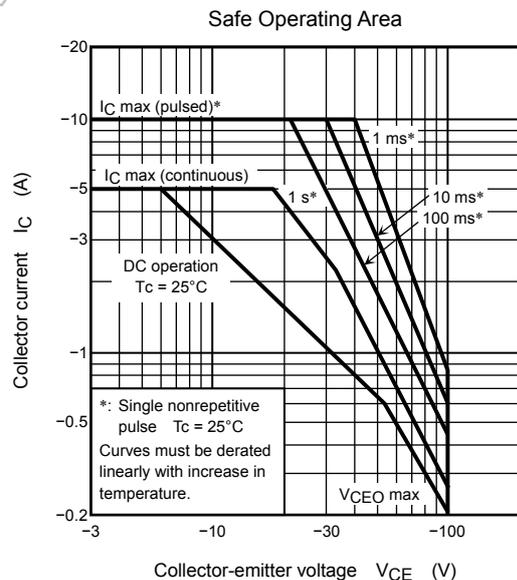
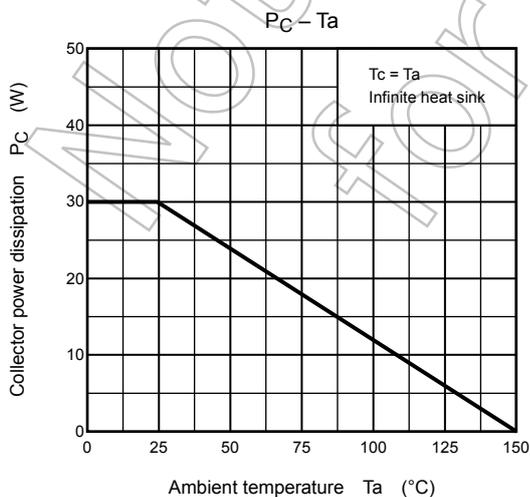
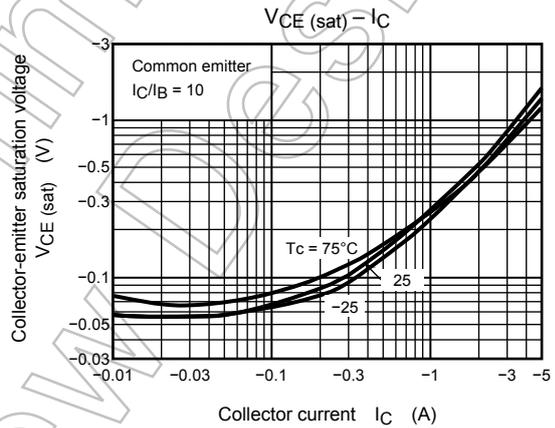
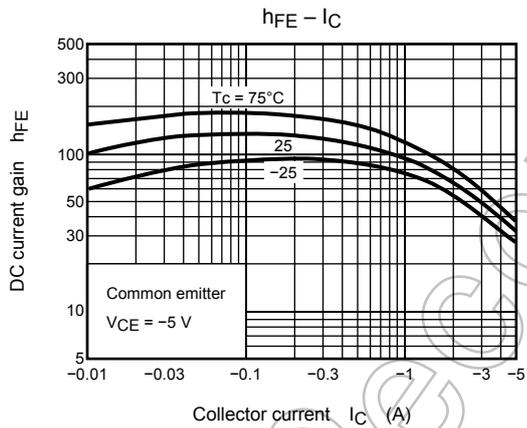
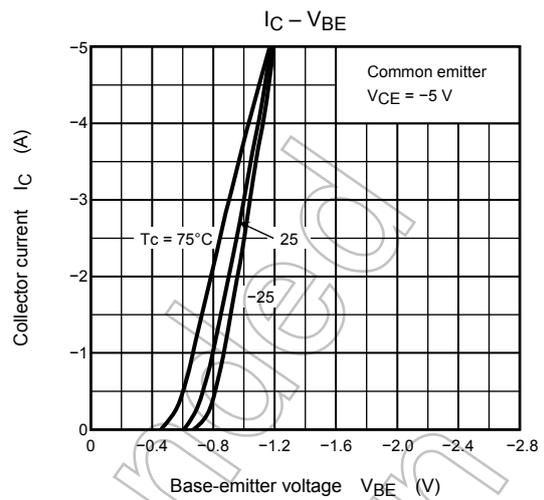
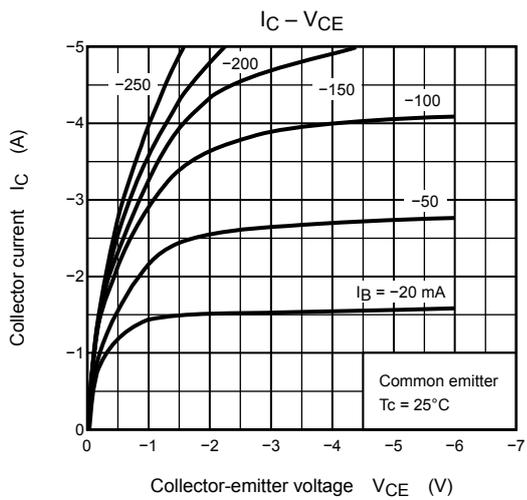
Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = -100\text{ V}, I_E = 0$	—	—	-100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1	mA
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = -50\text{ mA}, I_B = 0$	-100	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = -5\text{ V}, I_C = -1\text{ A}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = -5\text{ V}, I_C = -4\text{ A}$	20	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{ A}, I_B = -0.4\text{ A}$	—	—	-2.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = -5\text{ V}, I_C = -4\text{ A}$	—	—	-1.5	V
Transition frequency	f_T	$V_{CE} = -5\text{ V}, I_C = -1\text{ A}$	—	5	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	270	—	pF

Note: $h_{FE(1)}$ classification O: 70 to 140, Y: 120 to 240

Marking





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20070701-EN

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