

TOSHIBA Transistor Silicon NPN Epitaxial Type

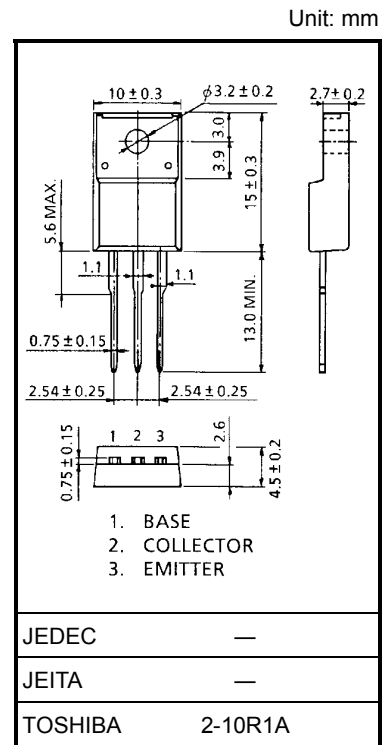
2SC5000

Power Amplifier Applications

- Low collector saturation voltage: $V_{CE(sat)} = 0.4\text{ V (max)}$ ($I_C = 5\text{ A}$)

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	80	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	10	A
Base current	I_B	1	A
Collector power dissipation	P_C	25	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

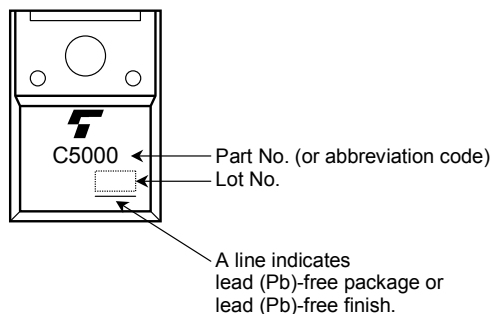


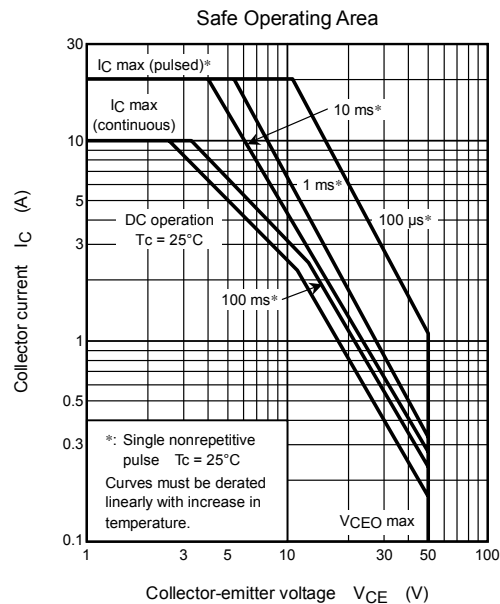
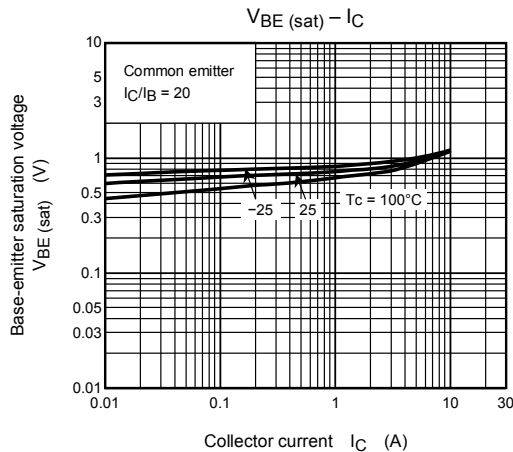
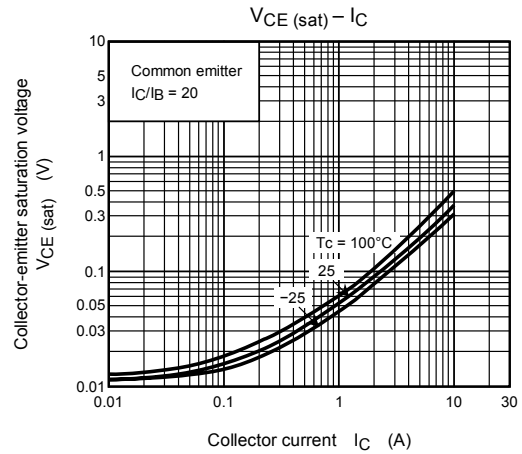
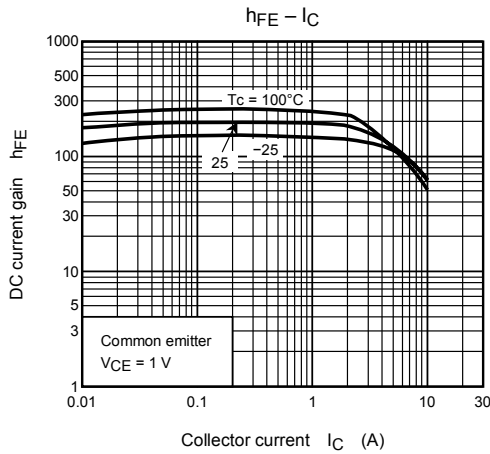
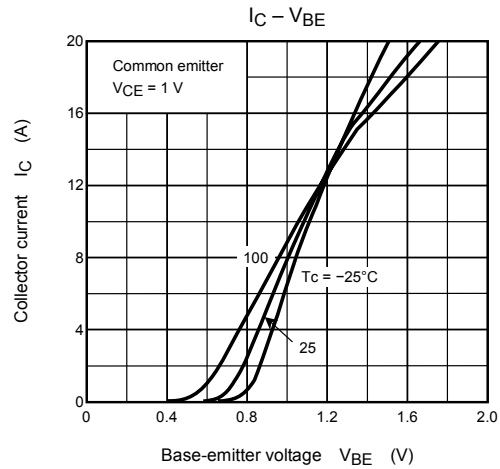
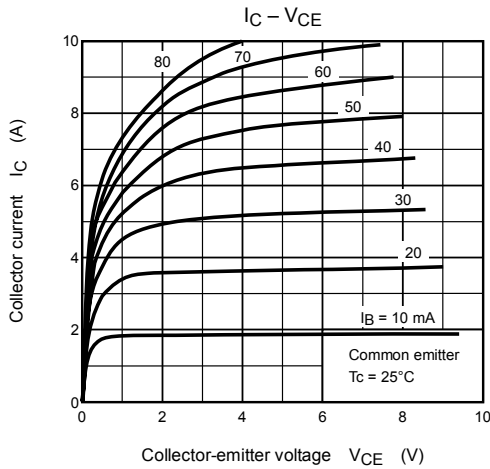
Weight: 1.7 g (typ.)

Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CB0}	$V_{CB} = 70\text{ V}, I_E = 0$	—	—	1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	50	—	—	V
DC current gain	$h_{FE(1)}$	$V_{CE} = 1\text{ V}, I_C = 1\text{ A}$	120	—	400	
Saturation voltage	Collector-emitter	$V_{CE(sat)}$	—	0.19	0.4	V
	Base-emitter	$V_{BE(sat)}$	—	0.96	1.4	
Transition frequency	f_T	$V_{CE} = 1\text{ V}, I_C = 1\text{ A}$	—	90	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	90	—	pF

Marking





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