

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5307

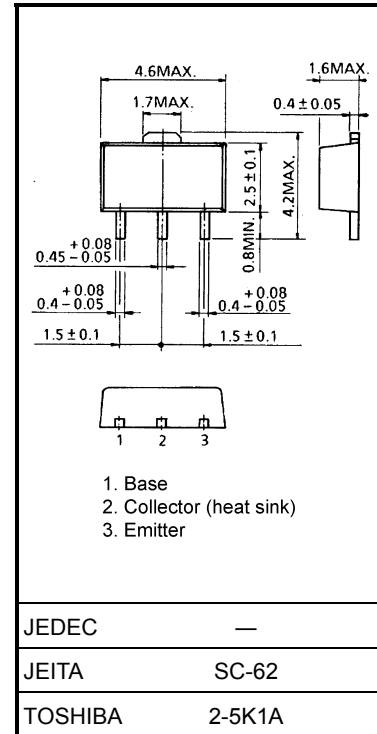
High Voltage Switching Applications

Unit: mm

- High breakdown voltage: $V_{CEO} = 400\text{ V}$
- Low saturation voltage: $V_{CE(sat)} = 0.4\text{ V (typ.)}$
($I_C = 20\text{ mA}$, $I_B = 0.5\text{ mA}$)

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	400	V
Collector-emitter voltage		V_{CEO}	400	V
Emitter-base voltage		V_{EBO}	7	V
Collector current	DC	I_C	50	mA
	Pulse	I_{CP}	100	
Base current		I_B	25	mA
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	500	mW
	$T_a = 25^\circ\text{C}$ (Note)		1000	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

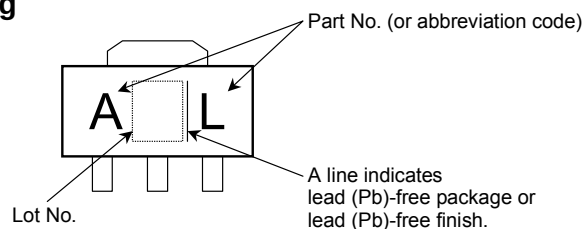
Note: Mounted on a ceramic substrate ($250\text{ mm}^2 \times 0.8\text{ t}$)

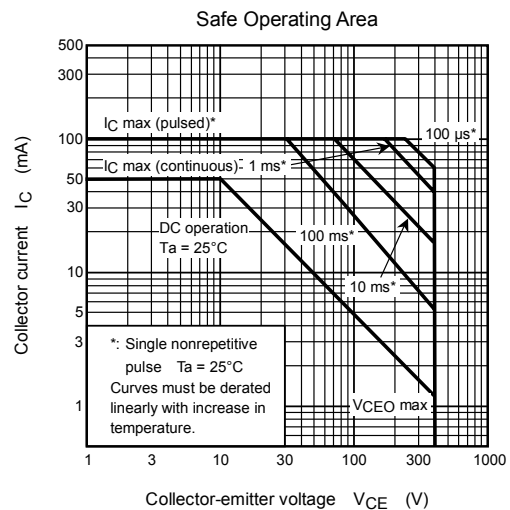
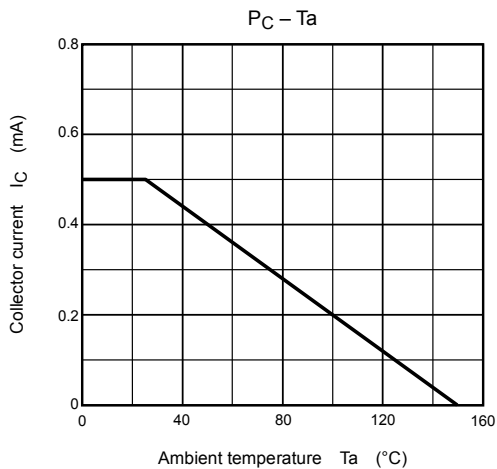
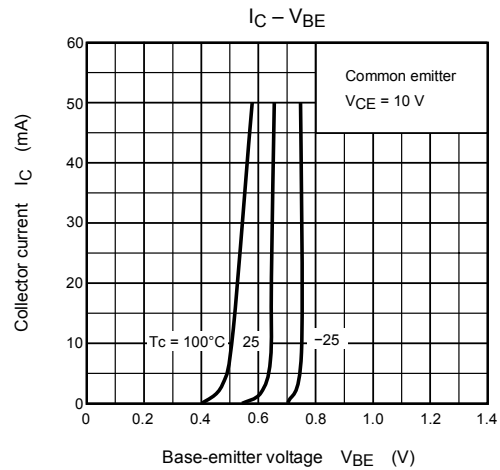
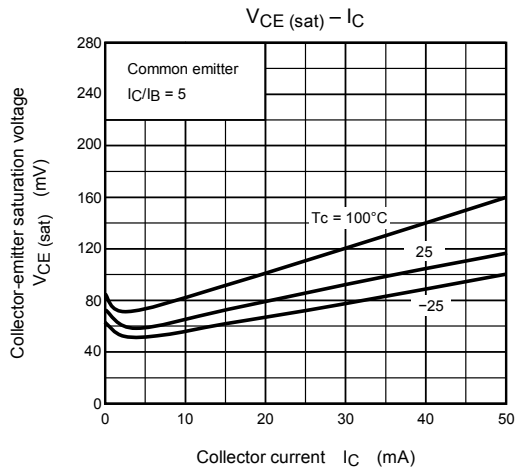
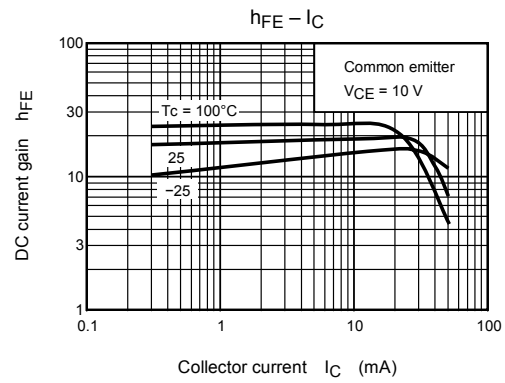
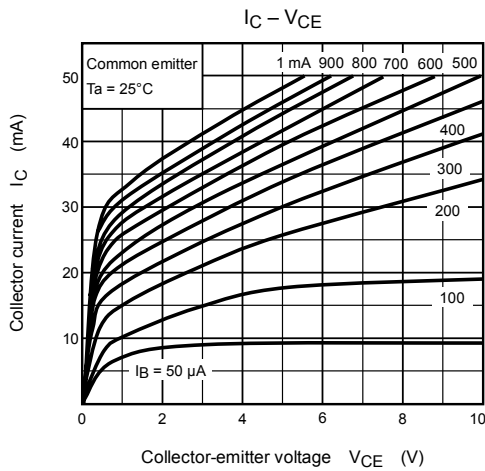
Weight: 0.05 g (typ.)

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 400\text{ V}$, $I_E = 0$	—	—	1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7\text{ V}$, $I_C = 0$	—	—	1	μA
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 1\text{ mA}$, $I_B = 0$	400	—	—	V
DC current gain	$h_{FE(1)}$	$V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$	80	—	—	
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}$, $I_C = 20\text{ mA}$	100	—	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20\text{ mA}$, $I_B = 0.5\text{ mA}$	—	0.4	1.0	V
Base-emitter saturation voltage	V_{BE}	$V_{CE} = 5\text{ V}$, $I_C = 20\text{ mA}$	—	0.7	0.85	V
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	—	4.0	—	pF

Marking





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