

TOSHIBA Transistor Silicon NPN Triple Diffused Type

# 2SC5307

## High Voltage Switching Applications

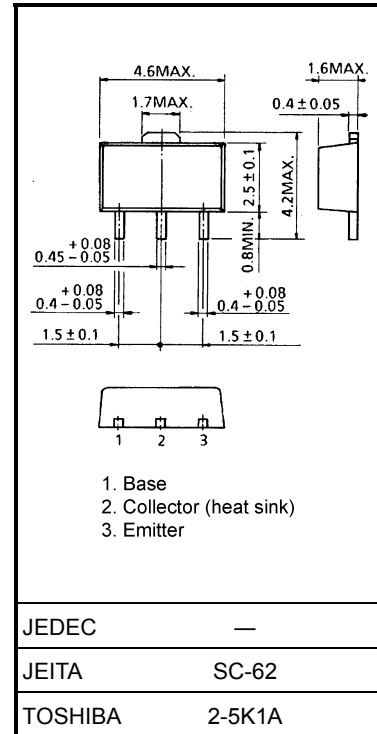
- High breakdown voltage:  $V_{CEO} = 400\text{ V}$
- Low saturation voltage:  $V_{CE(sat)} = 0.4\text{ V (typ.)}$   
( $I_C = 20\text{ mA}$ ,  $I_B = 0.5\text{ mA}$ )

## 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 ( $250\text{ mm}^2 \times 0.8\text{ t}$ )

Unit: mm

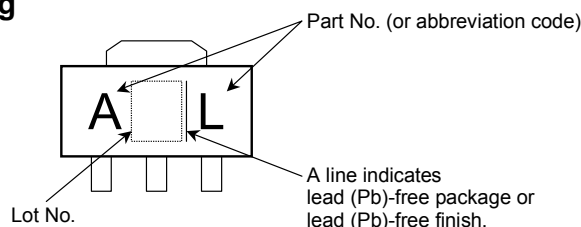


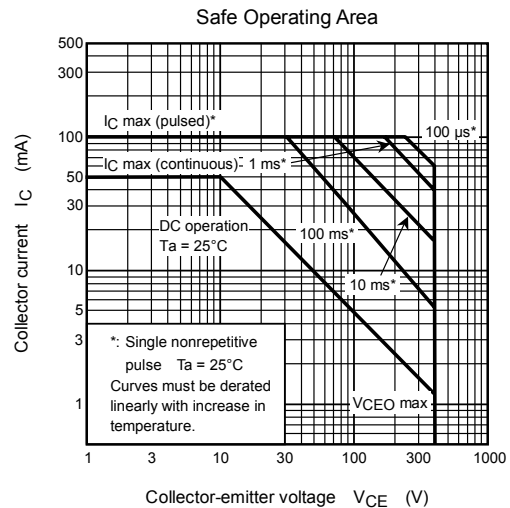
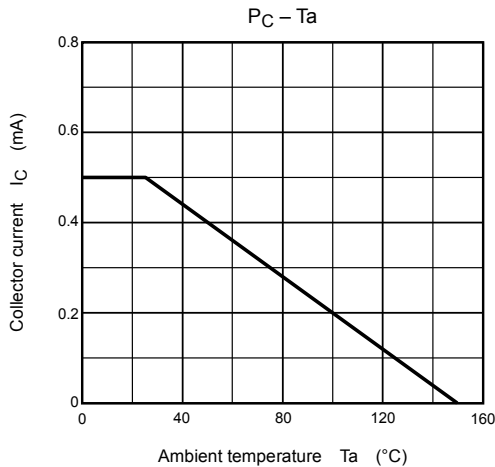
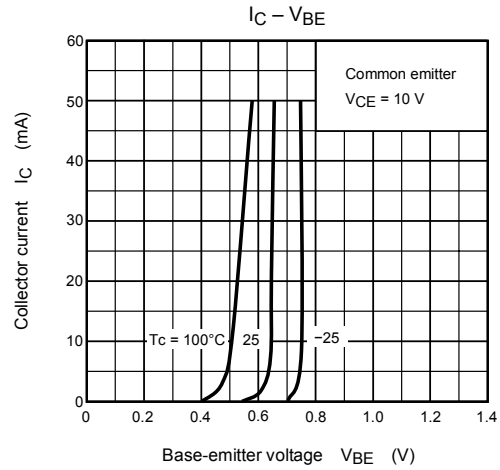
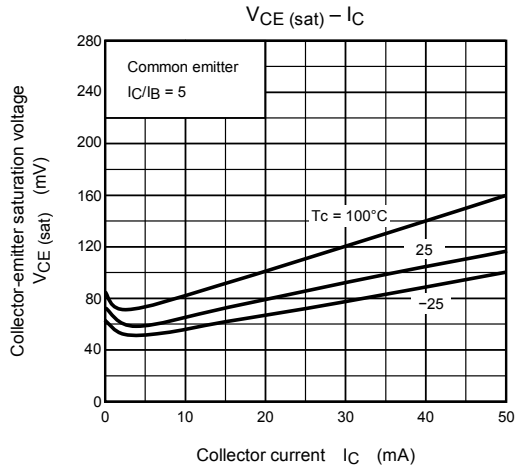
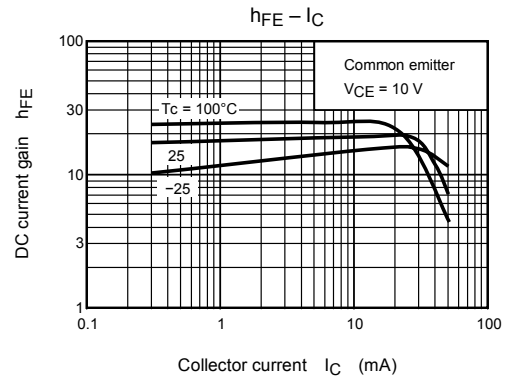
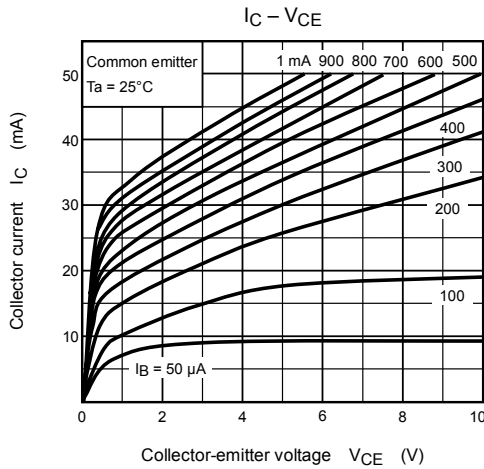
Weight: 0.05 g (typ.)

## 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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 7\text{ V}$ , $I_C = 0$	—	—	1	$\mu\text{A}$
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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