

TOSHIBA Transistor Silicon NPN Triple Diffused Type

# 2SC5549

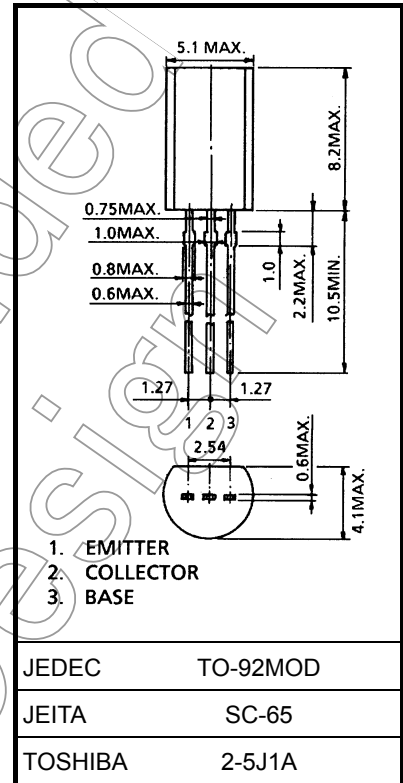
High-Speed Switching Application for Inverter Lighting System

Unit: mm

- Suitable for RCC circuits. (guaranteed small current  $h_{FE}$ )  
:  $h_{FE} = 13$  (min) ( $I_C = 1$  mA)
- High speed:  $t_r = 0.5$   $\mu$ s (max),  $t_f = 0.3$   $\mu$ s (max) ( $I_C = 0.24$  A)
- High breakdown voltage:  $V_{CEO} = 400$  V

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

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	$I_C$	1	A
	Pulse	$I_{CP}$	2	
Base current		$I_B$	0.5	A
Collector power dissipation		$P_C$	0.9	W
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$



Weight: 0.36 g (typ.)

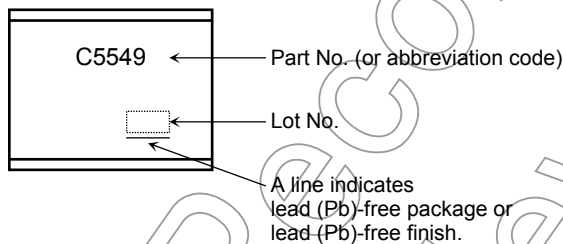
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

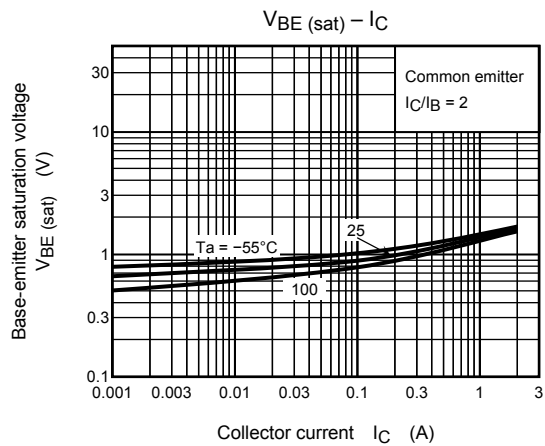
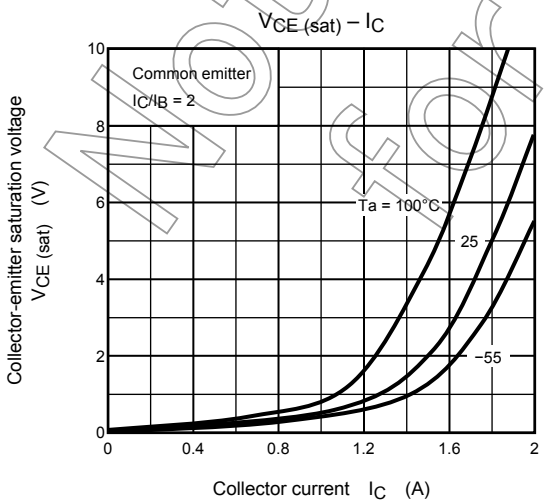
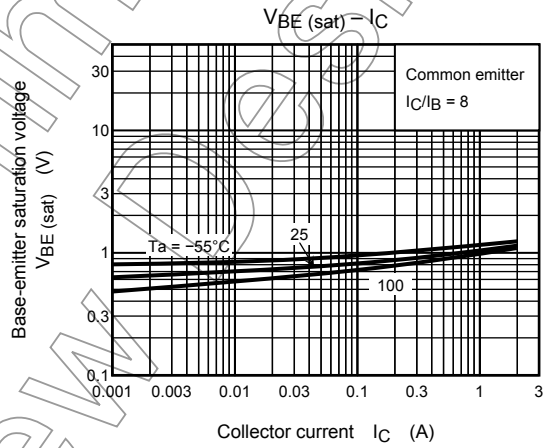
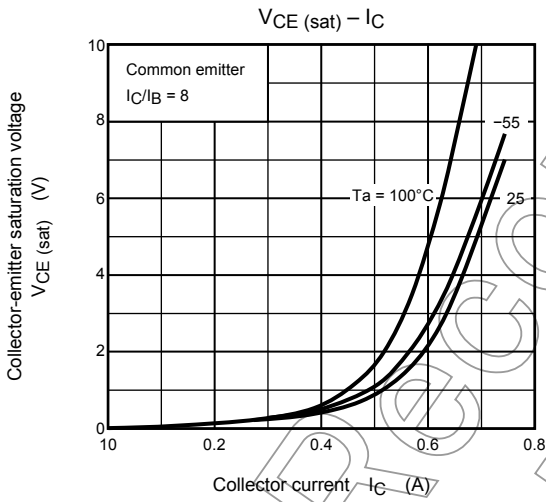
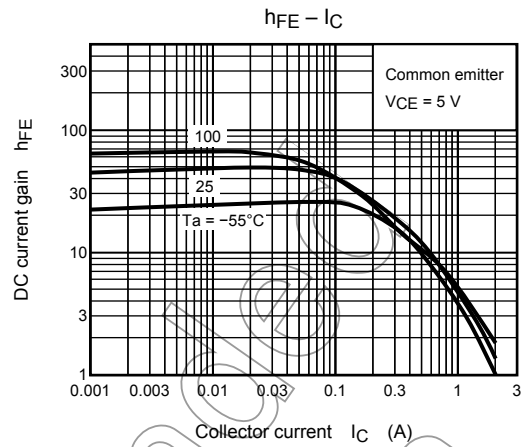
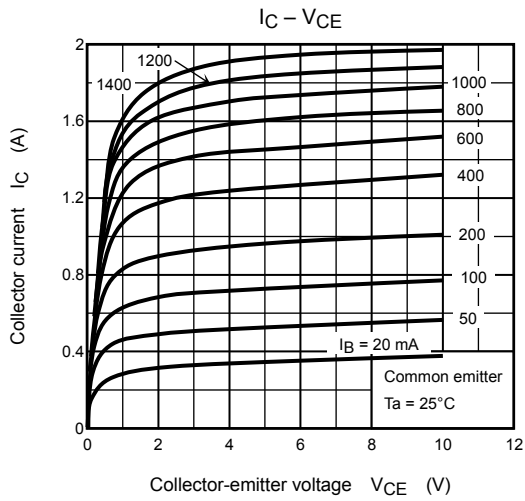
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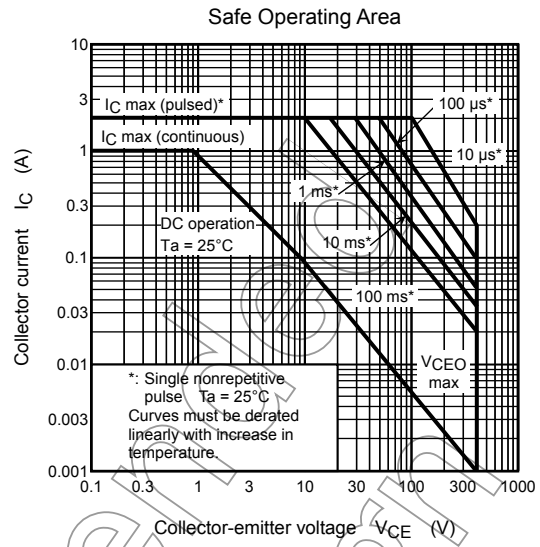
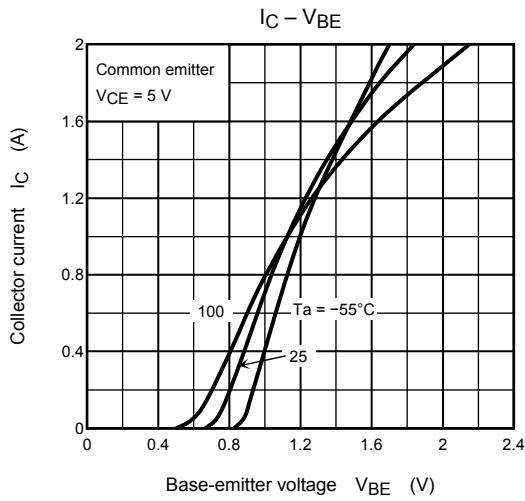
## Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		$I_{CBO}$	$V_{CB} = 320\text{ V}, I_E = 0$	—	—	100	$\mu\text{A}$
Emitter cut-off current		$I_{EBO}$	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	100	$\mu\text{A}$
Collector-base breakdown voltage		$V_{(BR)CBO}$	$I_C = 1\text{ mA}, I_E = 0$	400	—	—	V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	400	—	—	V
DC current gain		$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	13	—	—	
		$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 0.04\text{ A}$	20	—	65	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 0.2\text{ A}, I_B = 25\text{ mA}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 0.2\text{ A}, I_B = 25\text{ mA}$	—	—	1.3	V
Switching time	Rise time	$t_r$	<p><math>V_{CC} \approx 200\text{ V}</math>  <math>I_C \approx 10\text{ mA}</math>  <math>833\ \Omega</math>  <math>20\ \mu\text{s}</math>  <math>I_{B1}</math>  <math>I_{B2}</math>  <math>I_{B1} = 0.03\text{ A}, I_{B2} = -0.06\text{ A}</math>                      Duty cycle <math>\leq 1\%</math></p>	—	—	0.5	$\mu\text{s}$
	Storage time	$t_{stg}$		—	—	5.0	
	Fall time	$t_f$		—	—	0.3	

## Marking







Not Recommended for New Designs

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