

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5548

High Voltage Switching Applications

Switching Regulator Applications

DC-DC Converter Applications

Unit: mm

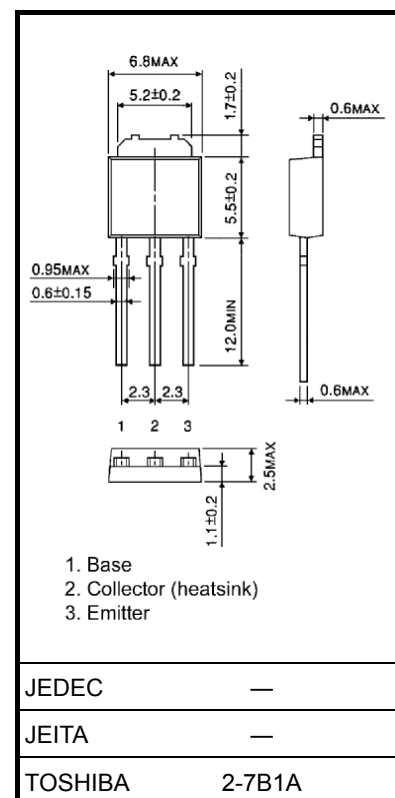
- High speed switching: $t_r = 0.5 \mu s$ (max), $t_f = 0.3 \mu s$ (max) ($I_C = 0.8 A$)
- High collector breakdown voltage: $V_{CEO} = 370 V$
- High DC current gain: $h_{FE} = 60$ (min) ($I_C = 0.2 A$)

Absolute Maximum Ratings ($T_a = 25^\circ C$)

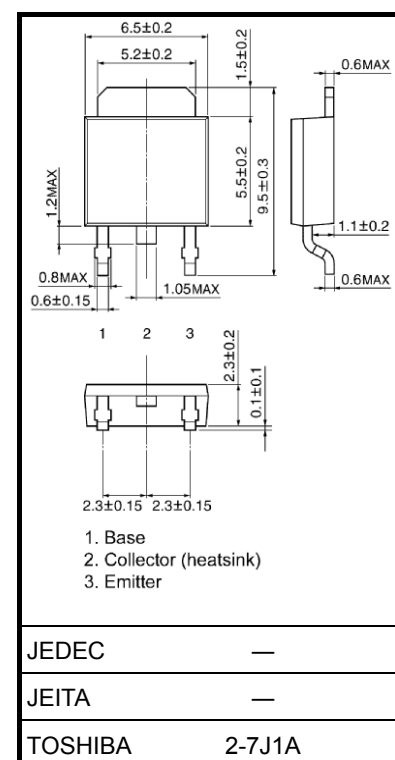
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	600	V
Collector-emitter voltage		V_{CEO}	370	V
Emitter-base voltage		V_{EBO}	7	V
Collector current	DC	I_C	2	A
	Pulse	I_{CP}	4	
Base current		I_B	0.5	A
Collector power dissipation	$T_a = 25^\circ C$	P_C	1.0	W
	$T_c = 25^\circ C$		15	
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	-55 to 150	$^\circ C$

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).

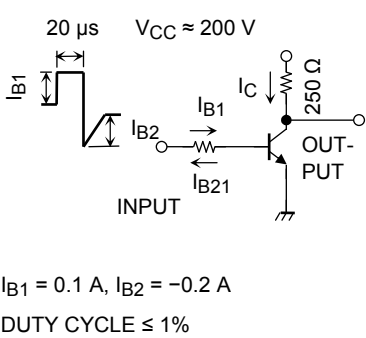


Weight: 0.36 g (typ.)

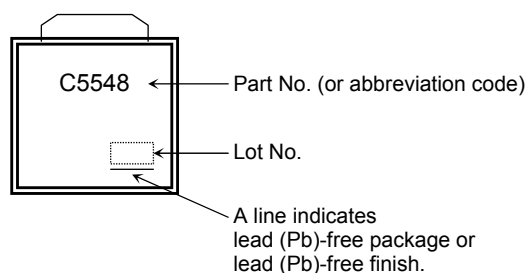


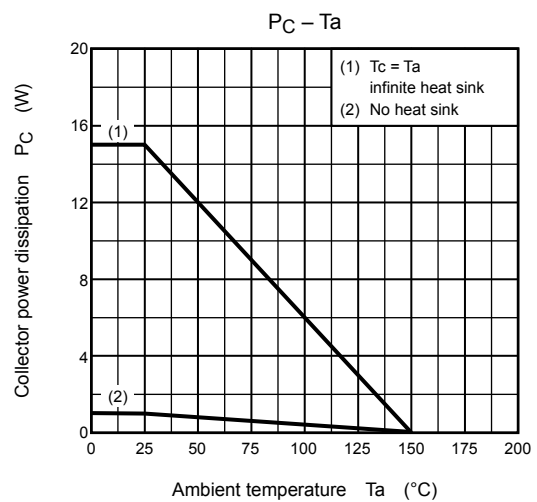
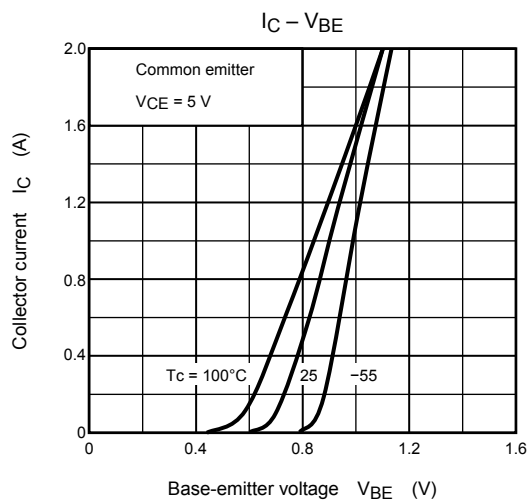
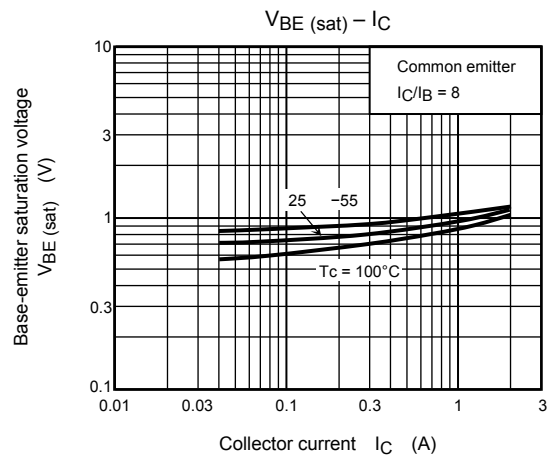
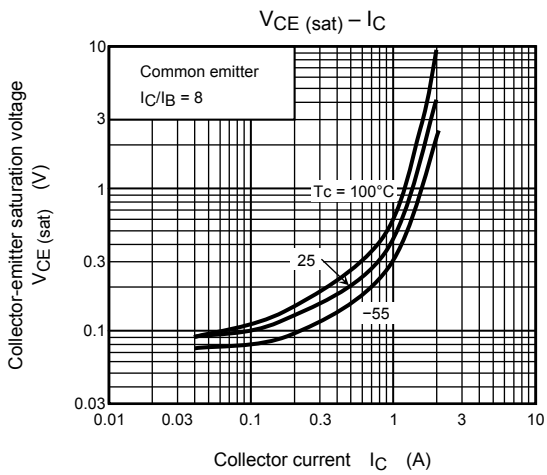
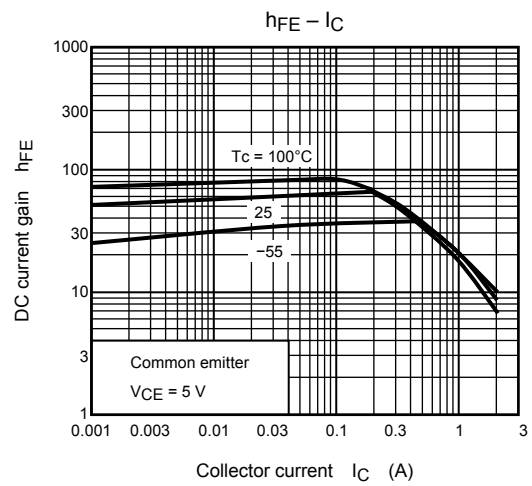
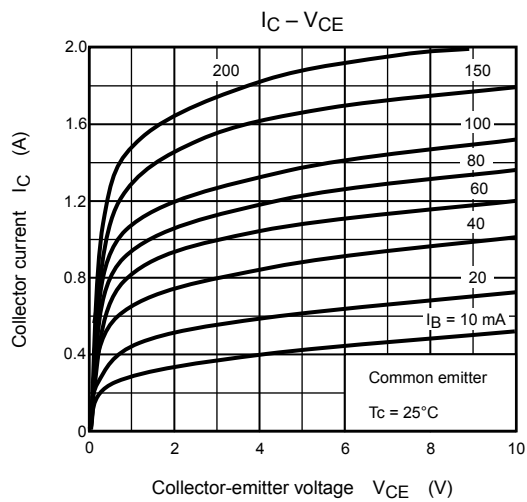
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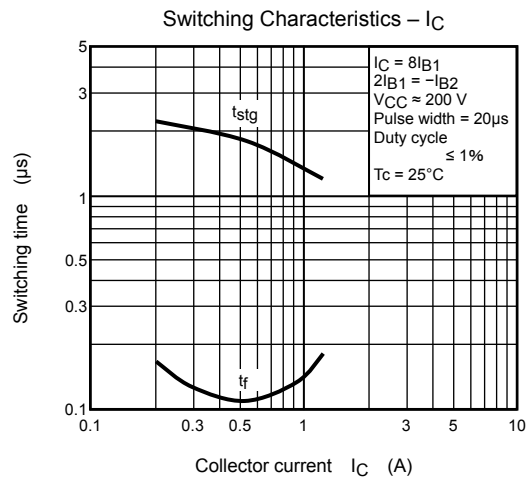
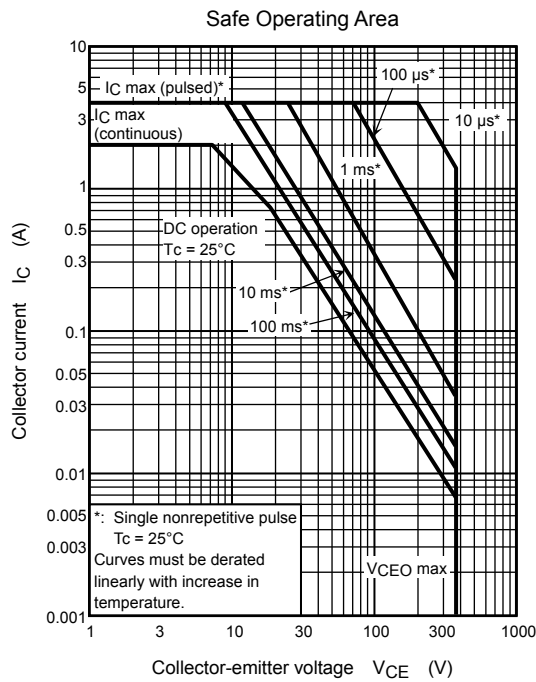
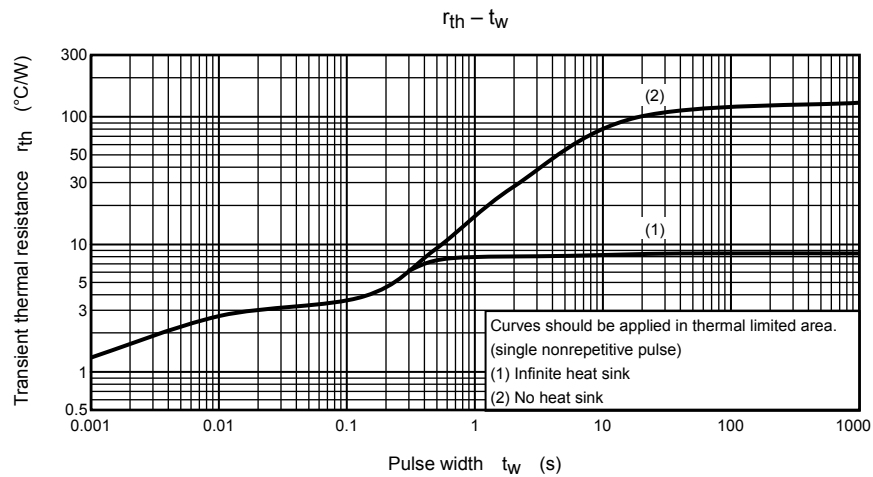
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 480 \text{ V}, I_E = 0$	—	—	20	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 7 \text{ V}, I_C = 0$	—	—	10	μA
Collector-base breakdown voltage		$V_{(BR) CBO}$	$I_C = 1 \text{ mA}, I_E = 0$	600	—	—	V
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	370	—	—	V
DC current gain	$h_{FE} (1)$		$V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$	50	—	120	
	$h_{FE} (2)$		$V_{CE} = 5 \text{ V}, I_C = 0.2 \text{ A}$	60	—	120	
Collector emitter saturation voltage		$V_{CE(sat)}$	$I_C = 0.8 \text{ A}, I_B = 0.1 \text{ A}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 0.8 \text{ A}, I_B = 0.1 \text{ A}$	—	—	1.3	V
Switching time	Rise time	t_r	 $I_{B1} = 0.1 \text{ A}, I_{B2} = -0.2 \text{ A}$ DUTY CYCLE $\leq 1\%$	—	—	0.5	μs
	Storage time	t_{stg}		—	—	3.0	
	Fall time	t_f		—	—	0.3	

Marking







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20070701-EN

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