

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC3307

High-Speed and High-Voltage Switching Applications
 Switching Regulator Applications
 High-Speed DC-DC Converter Applications

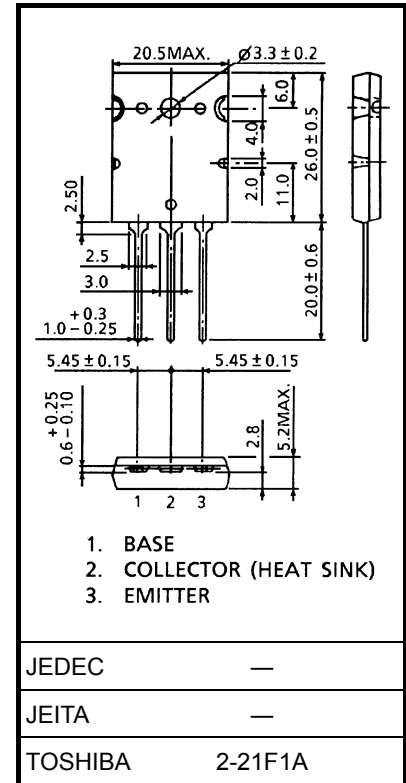
- Excellent switching times: $t_r = 1.0 \mu s$ (max), $t_f = 1.0 \mu s$ (max)
 ($I_C = 5 A$)
- High collector breakdown voltage: $V_{CEO} = 800 V$

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	900	V
Collector-emitter voltage	V_{CEO}	800	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	DC	I_C	10
	Pulse	I_{CP}	15
Base current	I_B	3	A
Collector power dissipation ($T_c = 25^\circ C$)	P_C	150	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature range	T_{stg}	-55 to 150	$^\circ C$

Industrial Applications

Unit: mm



Weight: 9.75 g (typ.)

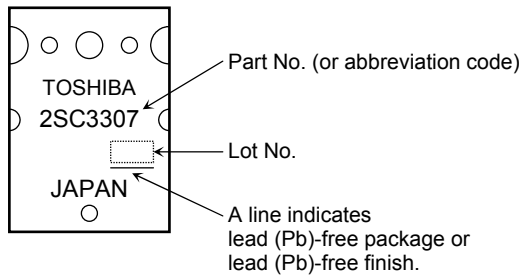
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

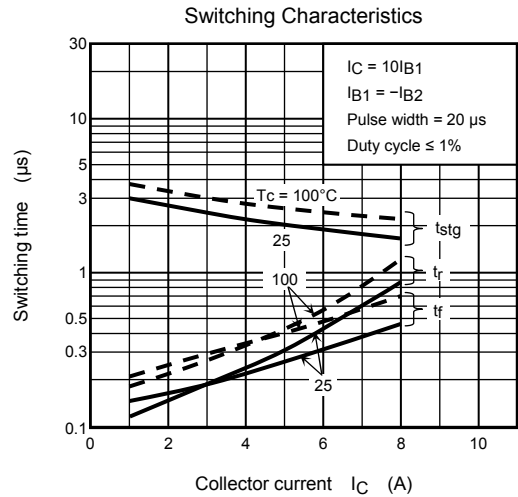
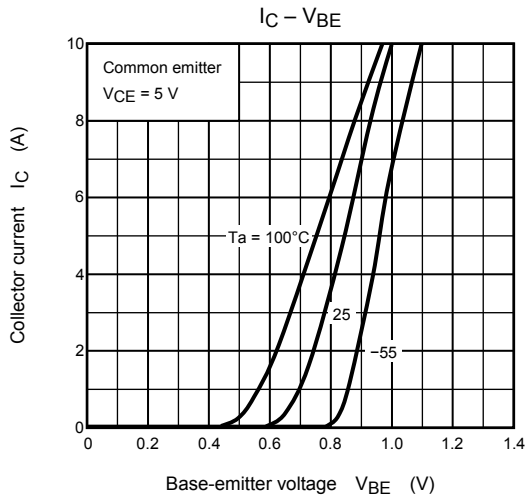
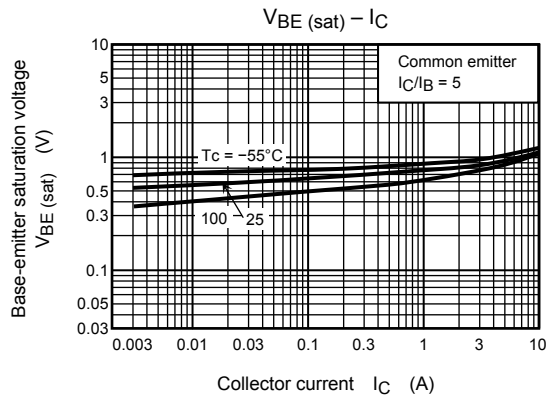
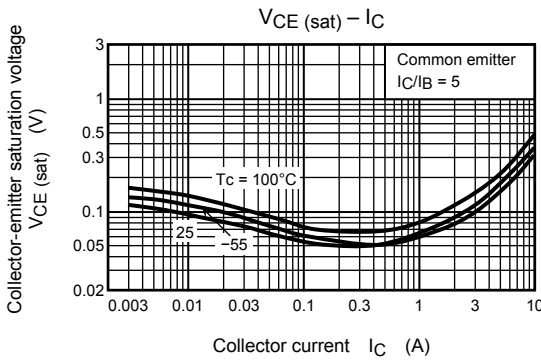
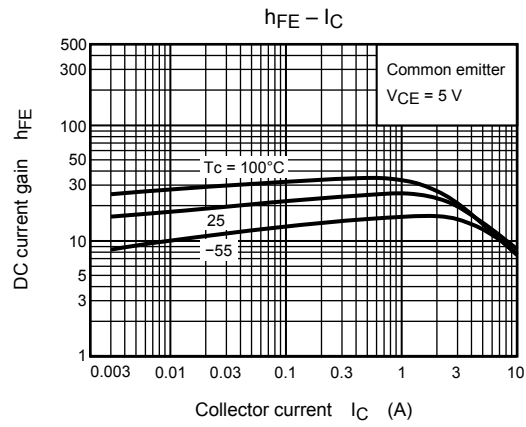
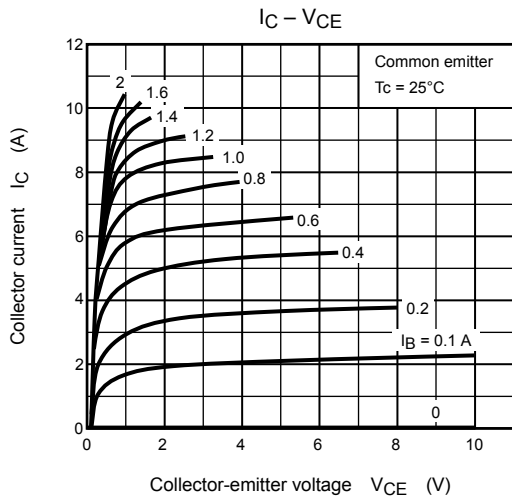
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

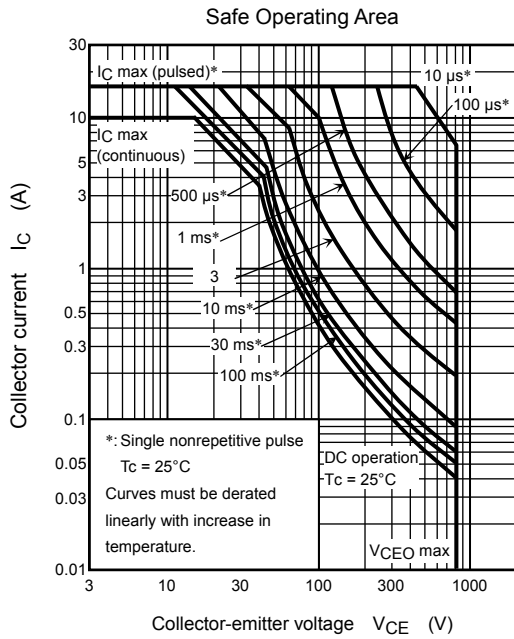
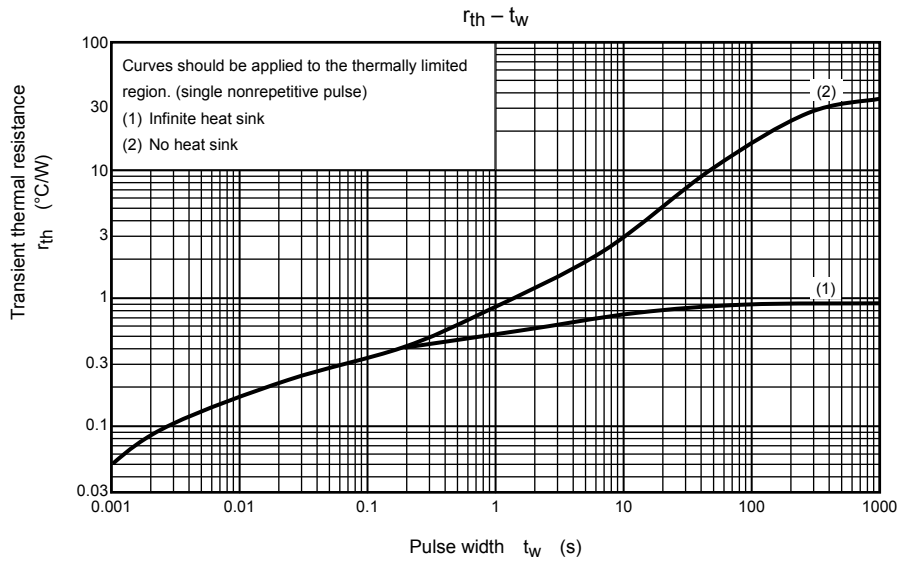
Electrical Characteristics (Tc = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 800\text{ V}, I_E = 0$	—	—	100	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	mA
Collector-base breakdown voltage		$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_E = 0$	900	—	—	V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	800	—	—	V
DC current gain		$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	10	—	—	
		$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 5\text{ A}$	10	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 5\text{ A}, I_B = 1\text{ A}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 5\text{ A}, I_B = 1\text{ A}$	—	—	1.5	V
Switching time	Rise time	t_r	<p>$I_{B1} = -I_{B2} = 0.4\text{ A}, \text{duty cycle} \leq 1\%$</p>	—	—	1.0	μs
	Storage time	t_{stg}		—	—	3.0	
	Fall time	t_f		—	—	1.0	

Marking







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20070701-EN

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