

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC3233

Switching Regulator and High Voltage Switching Applications

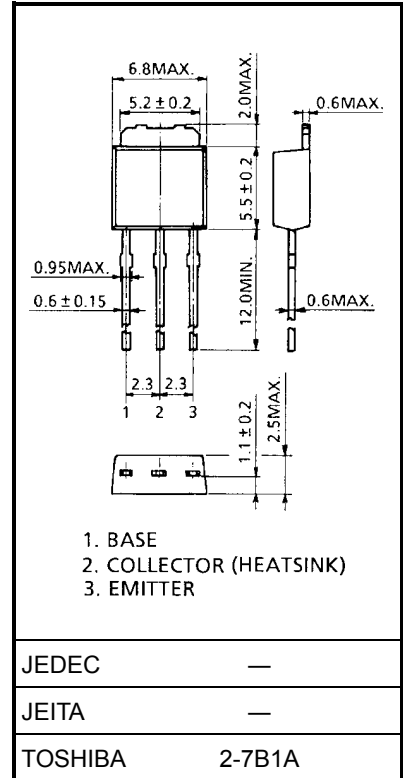
High Speed DC-DC Converter Applications

- Excellent switching times: $t_r = 1.0 \mu s$ (max)
 $t_f = 1.0 \mu s$ (max), ($I_C = 0.8 A$)
- High collector breakdown voltage: $V_{CEO} = 400 V$

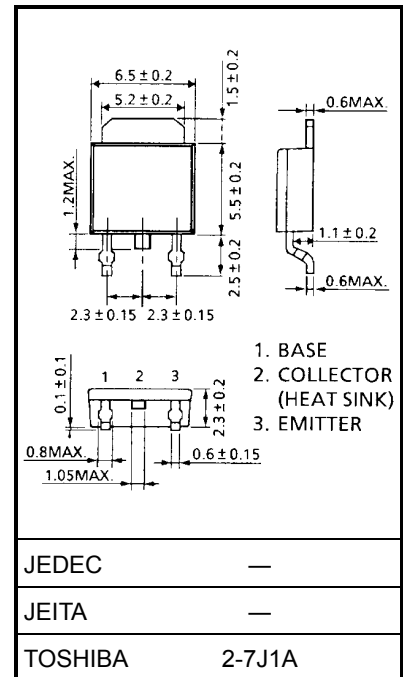
Maximum Ratings ($T_a = 25^\circ C$)

Characteristics S	symbol	Rating	Unit
Collector-base voltage	V_{CBO}	500	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	2	A
Base current	I_{B0}	5	A
Collector power dissipation	$T_a = 25^\circ C$	1.0	W
	$T_c = 25^\circ C$	20	
Junction temperature	T_j 150		$^\circ C$
Storage temperature range	T_{stg}	-55 to 150	$^\circ C$

Unit: mm

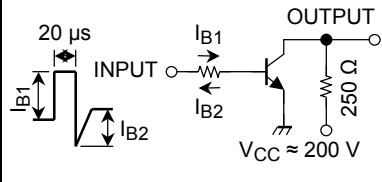


Weight: 0.36 g (typ.)

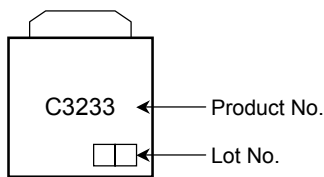


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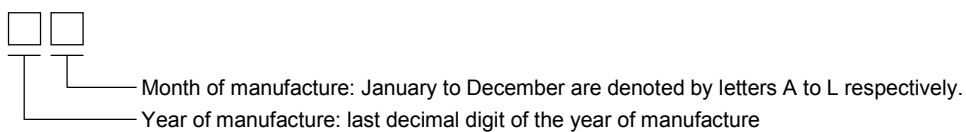
Electrical Characteristics (Ta = 25°C)

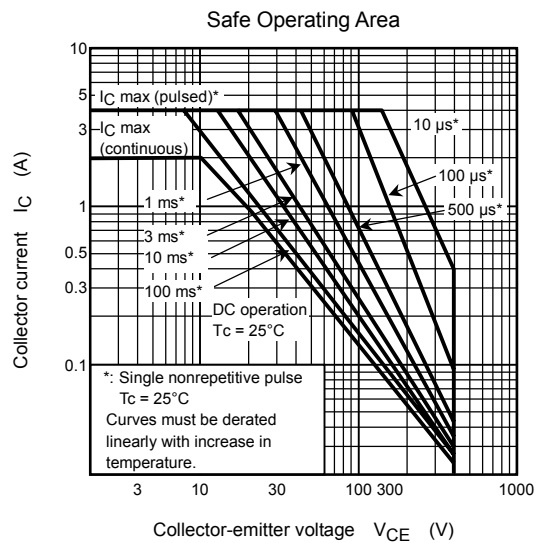
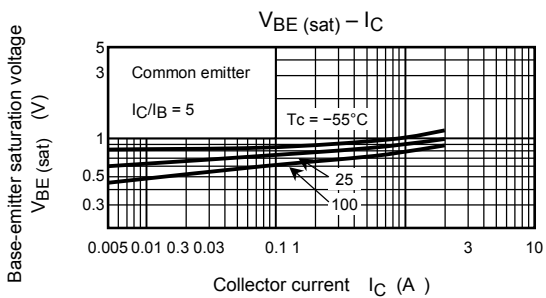
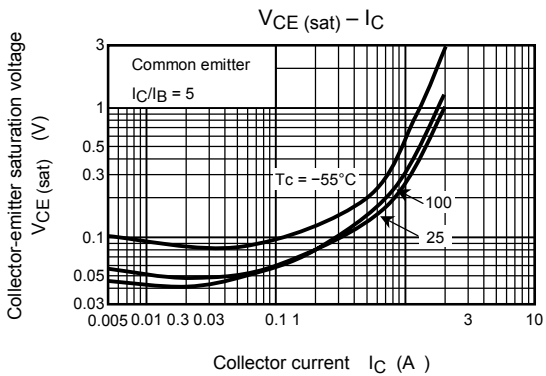
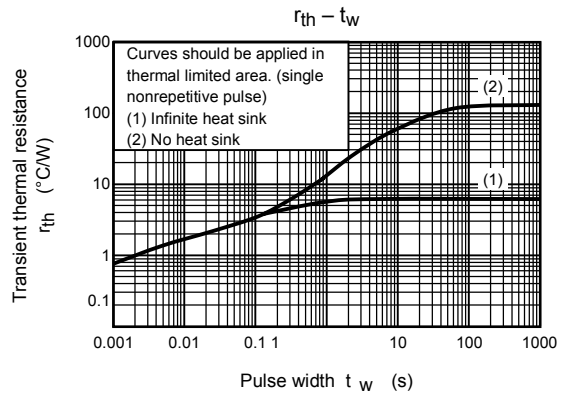
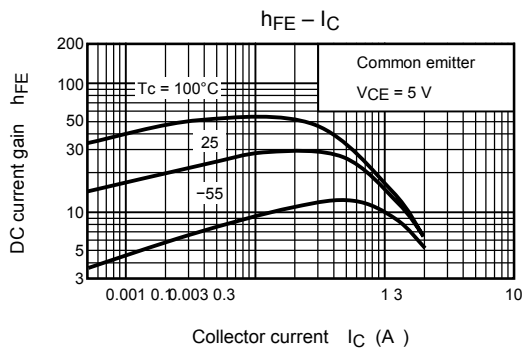
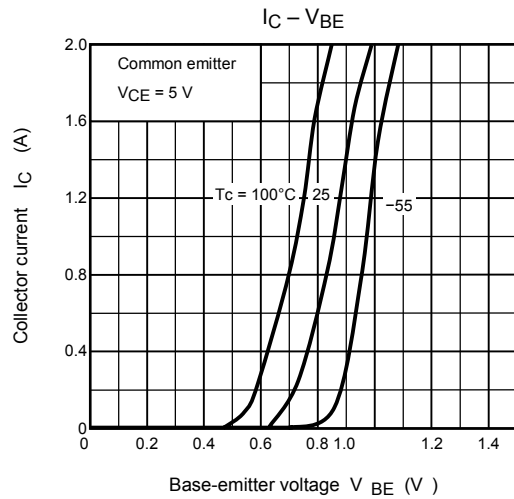
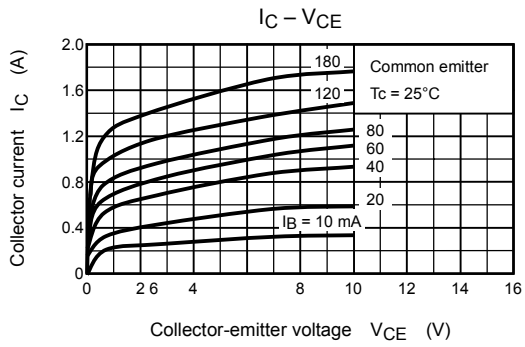
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 400\text{ V}, I_E = 0$	—	—	100	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	mA
Collector-base breakdown voltage		$V_{(BR) CBO}$	$I_C = 1\text{ mA}, I_E = 0$	500	—	—	V
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	400	—	—	V
DC current gain		h_{FE}	$V_{CE} = 5\text{ V}, I_C = 0.1\text{ A}$	20	—	—	
			$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	8	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 1\text{ A}, I_B = 0.2\text{ A}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 1\text{ A}, I_B = 0.2\text{ A}$	—	—	1.5	V
Switching time	Rise time	t_r		—	—	1.0	μs
	Storage time	t_{stg}		—	—	2.5	
	Fall time	t_f		$I_{B1} = -I_{B2} = 0.08\text{ A}$ DUTY CYCLE $\leq 1\%$	—	—	

Marking



Explanation of Lot No.





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