

TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

2SC5356

High Voltage Switching Applications

Switching Regulator Applications

DC-DC Converter Applications

- Excellent switching times: $t_f = 0.5 \mu s$ (max) ($I_C = 1.2 A$)
- High collectors breakdown voltage: $V_{CEO} = 800 V$
- High DC current gain: $h_{FE} = 15$ (min) ($I_C = 0.15 A$)

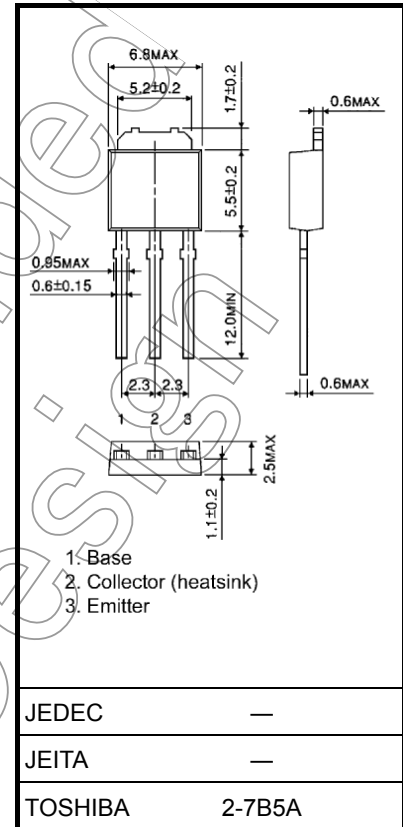
Absolute Maximum Ratings ($T_a = 25^\circ C$)

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	3	A
	Pulse	I_{CP}	5	
Base current		I_B	1	A
Collector power dissipation	$T_a = 25^\circ C$	P_C	1.5	W
	$T_c = 25^\circ C$		25	
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	-55 to 150	$^\circ C$

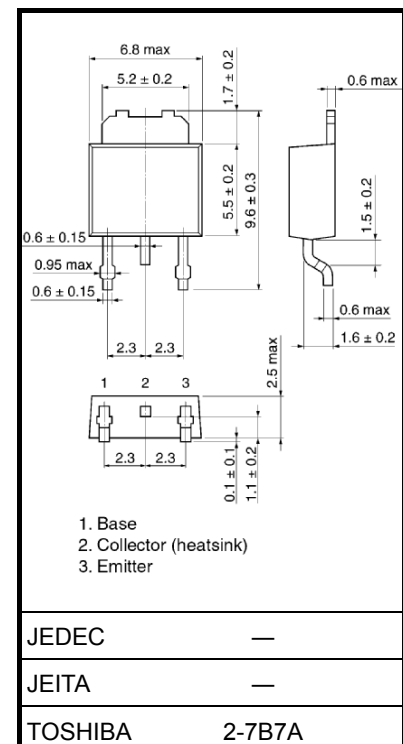
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

Unit: mm

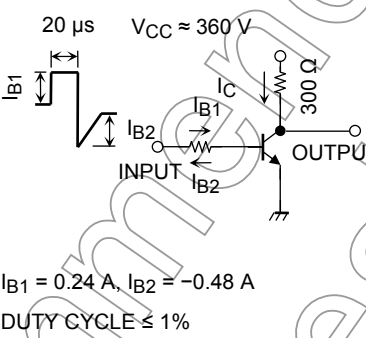


Weight: 0.36 g (typ.)

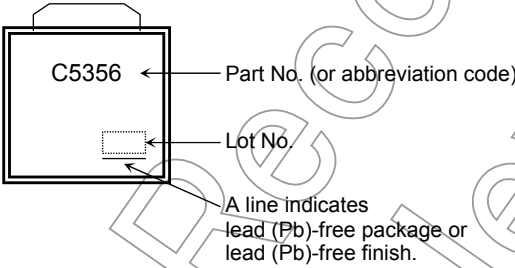


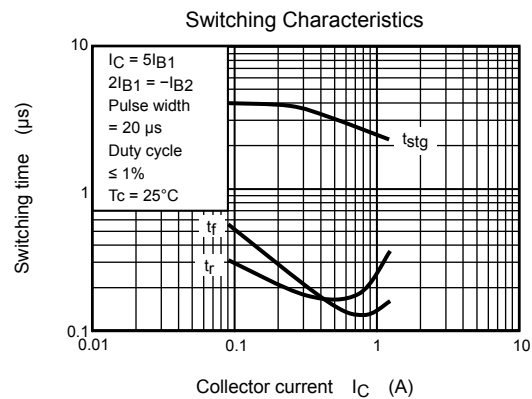
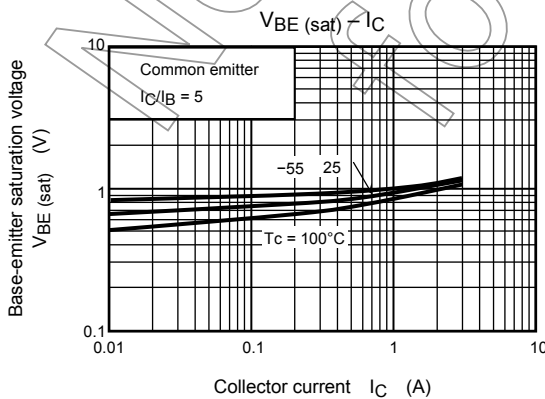
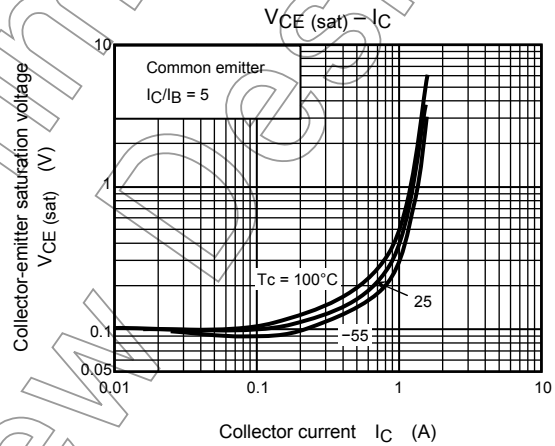
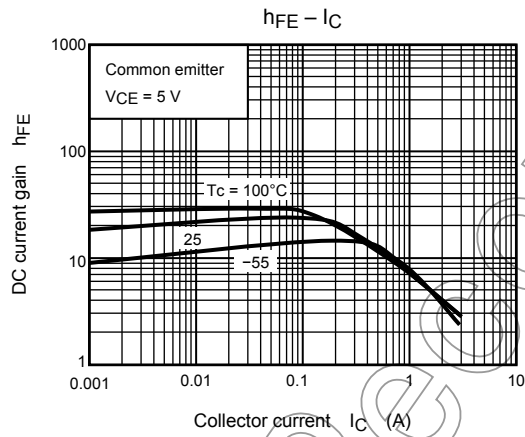
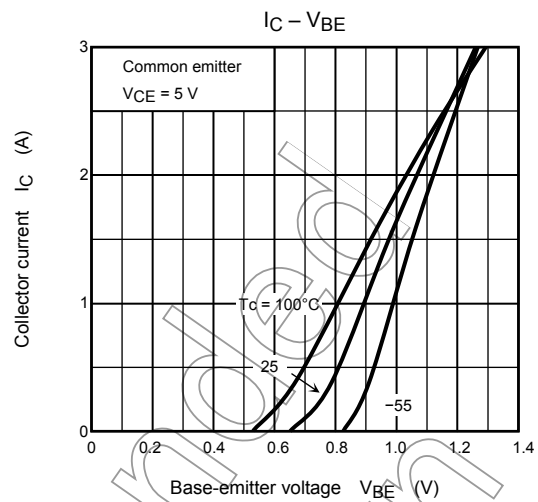
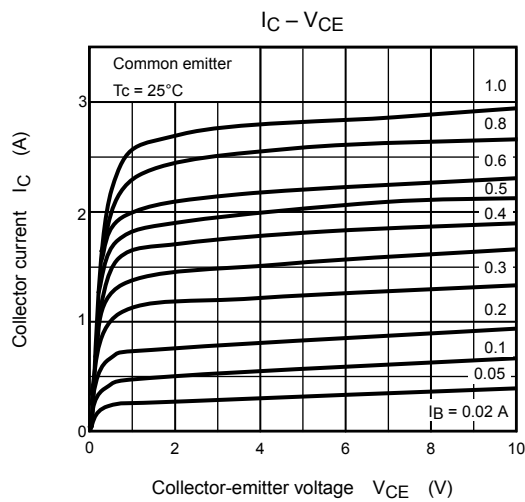
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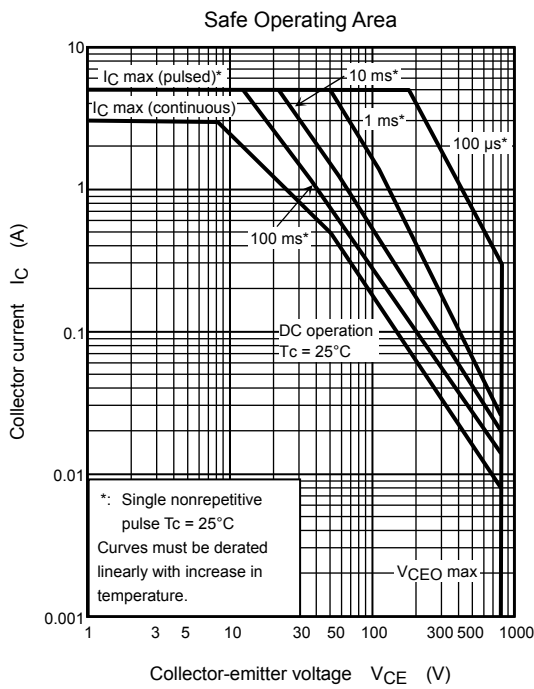
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 720 V, I _E = 0	—	—	100	μA
Emitter cut-off current		IEBO	V _{EB} = 7 V, I _C = 0	—	—	10	μA
Collector-base breakdown voltage		V _(BR) CBO	I _C = 1 mA, I _E = 0	900	—	—	V
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 10 mA, I _B = 0	800	—	—	V
DC current gain		h _{FE} (1)	V _{CE} = 5 V, I _C = 1 mA	10	—	—	
		h _{FE} (2)	V _{CE} = 5 V, I _C = 0.15 A	15	—	—	
Collector-emitter saturation voltage		V _{CE} (sat)	I _C = 1.2 A, I _B = 0.24 A	—	—	1.0	V
Base-emitter saturation voltage		V _{BE} (sat)	I _C = 1.2 A, I _B = 0.24 A	—	—	1.3	V
Switching time	Rise time	t _r	 20 μs V_{CC} ≈ 360 V I_{B1} I_{B2} I_C 300 Ω INPUT OUTPUT I_{B1} = 0.24 A, I_{B2} = -0.48 A DUTY CYCLE ≤ 1%	—	—	0.7	μs
	Storage time	t _{stg}		—	—	4.0	
	Fall time	t _f		—	—	0.5	

Marking







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