

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC3225

Switching Applications

Solenoid Drive Applications

Industrial Applications

Unit: mm

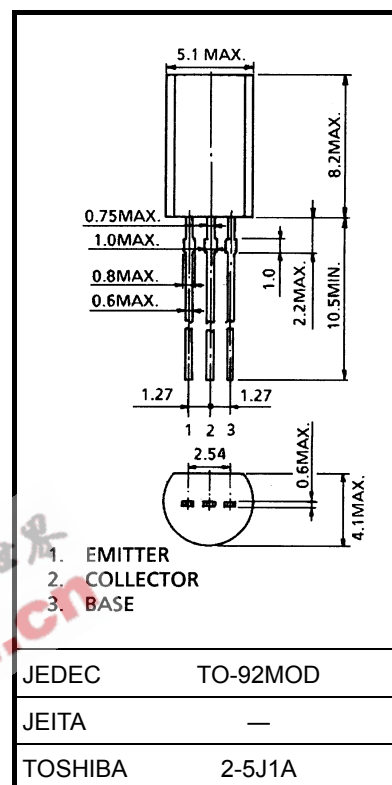
- High DC current gain: $h_{FE} = 500$ (min) ($I_C = 400$ mA)
- Low collector-emitter saturation voltage: $V_{CE(sat)} = 0.5$ V (max)
($I_C = 300$ mA)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	2	A
Base current	I_B	0.5	A
Collector power dissipation	P_C	900	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C

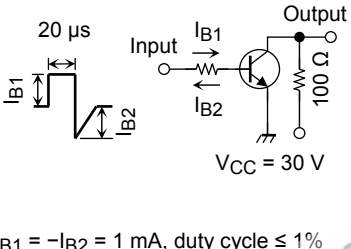
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

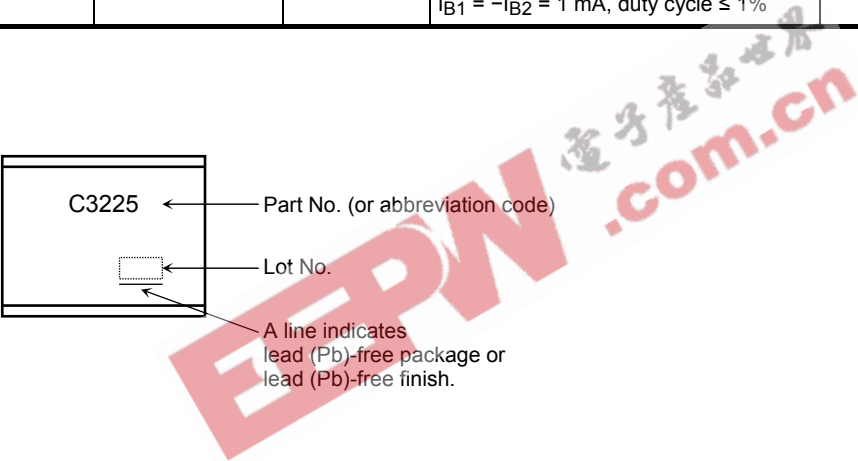


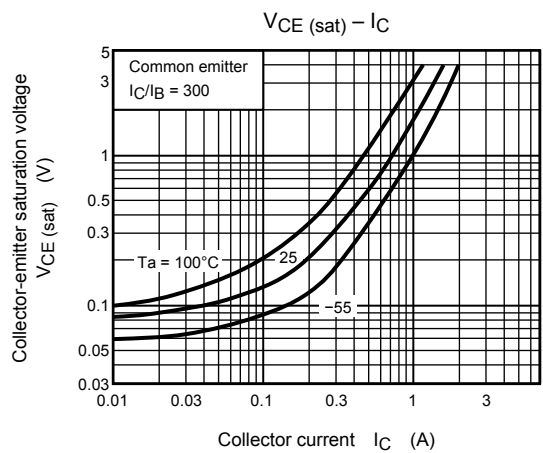
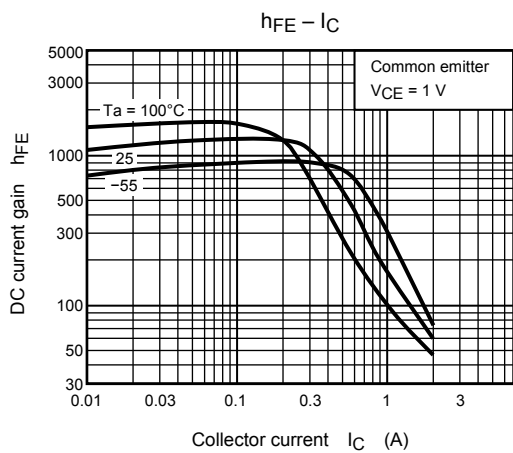
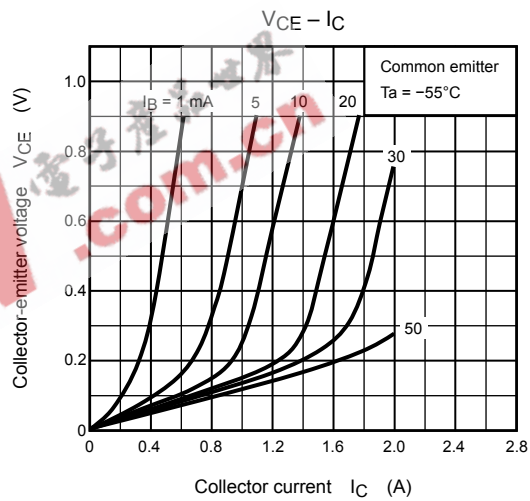
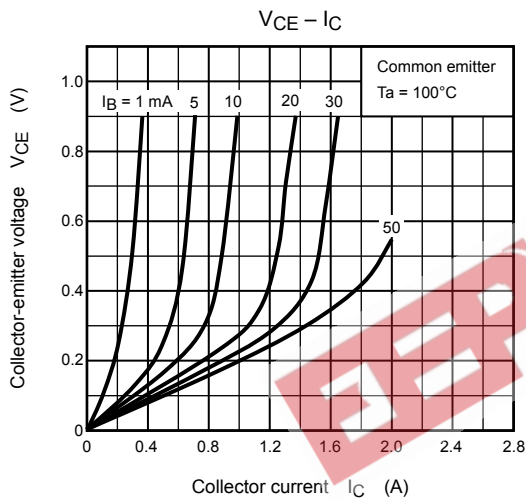
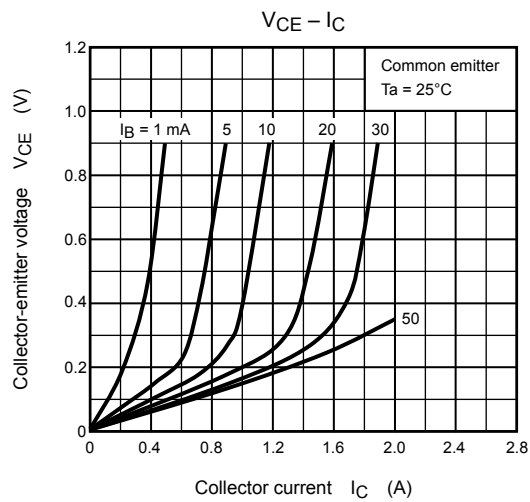
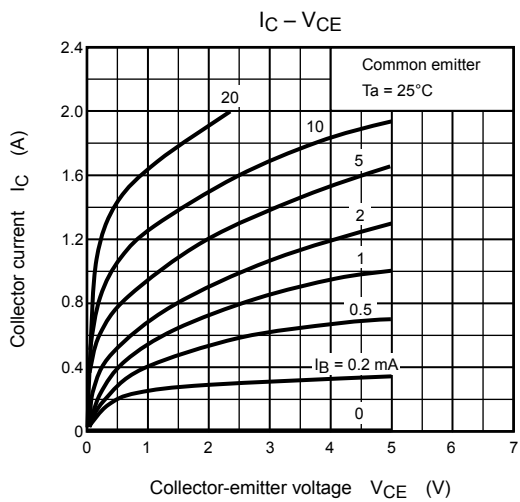
Weight: 0.36 g (typ.)

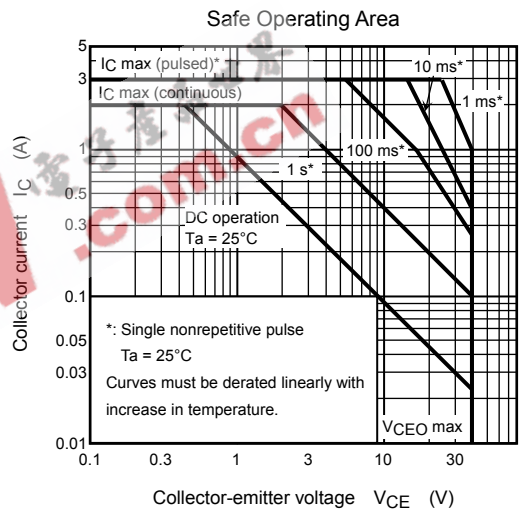
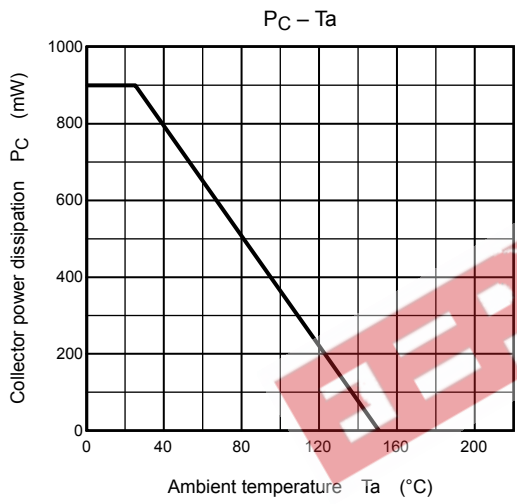
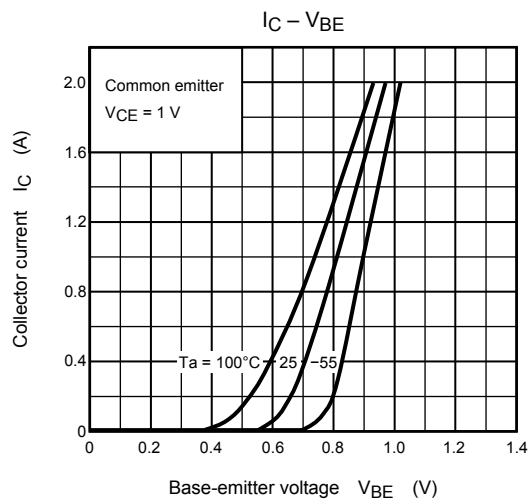
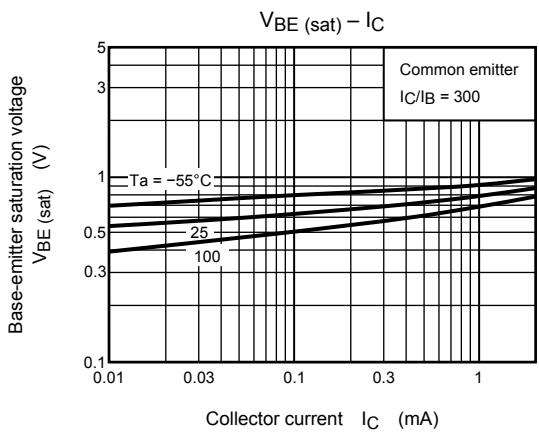
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 40 V, I _E = 0	—	—	10	μA
Emitter cut-off current		IEBO	V _{EB} = 7 V, I _C = 0	—	—	1	μA
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 10 mA, I _B = 0	40	—	—	V
DC current gain		h _{FE}	V _{CE} = 1 V, I _C = 400 mA	500	—	—	
Collector-emitter saturation voltage		V _{CE} (sat)	I _C = 300 mA, I _B = 1 mA	—	0.3	0.5	V
Base-emitter saturation voltage		V _{BE} (sat)	I _C = 300 mA, I _B = 1 mA	—	—	1.1	V
Transition frequency		f _T	V _{CB} = 2 V, I _C = 100 mA	—	220	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _B = 0, f = 1 MHz	—	20	—	pF
Switching time	Turn-on time	t _{on}		—	1.0	—	μs
	Storage time	t _{stg}		—	3.0	—	
	Fall time	t _f		—	1.2	—	

Marking







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20070701-EN

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