

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5439

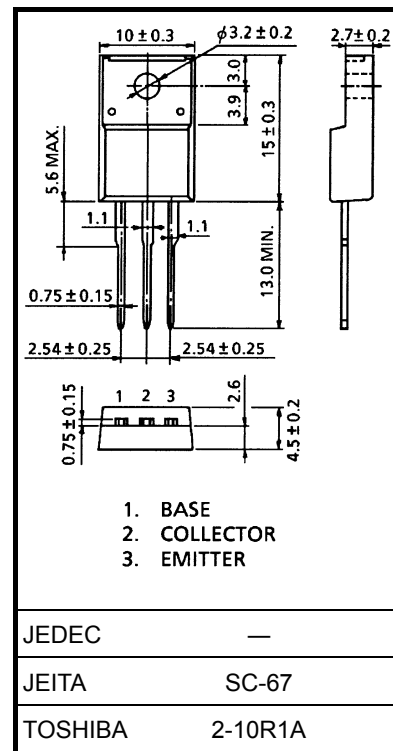
Switching Regulator Applications
High-Voltage Switching Applications
DC-DC Converter Applications
Inverter Lighting Applications

Unit: mm

- Excellent switching times: $t_r = 0.2 \mu s$ (typ.), $t_f = 0.15 \mu s$ (typ.)
- High collector breakdown voltage: $V_{CEO} = 450 V$

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	1000	V
Collector-emitter voltage		V_{CEO}	450	V
Emitter-base voltage		V_{EBO}	9	V
Collector current	DC	I_C	8	A
	Pulse	I_{CP}	16	
Base current		I_B	1	A
Collector power dissipation	$T_a = 25^\circ C$	P_C	2.0	W
	$T_c = 25^\circ C$		30	
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	-55 to 150	$^\circ C$

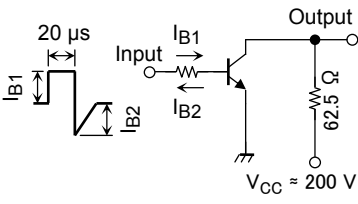


Weight: 1.7 g (typ.)

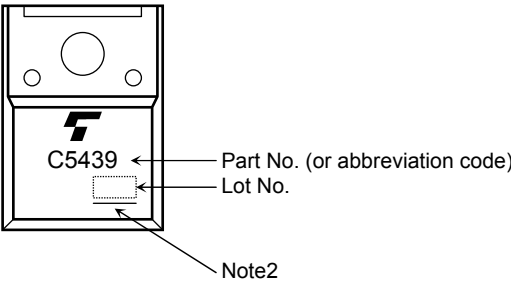
Note1: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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 (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 1000 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	1000	—	—	V
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 10 mA, I _B = 0	450	—	—	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 = 1 A	14	—	34	
Collector-emitter saturation voltage		V _{CE} (sat)	I _C = 3.2 A, I _B = 0.64 A	—	—	1.0	V
Base-emitter saturation voltage		V _{BE} (sat)	I _C = 3.2 A, I _B = 0.64 A	—	—	1.5	V
Switching time	Turn-on time	t _{on}	 I _{B1} = 0.64 A, I _{B2} = 1.28 A duty cycle ≤ 1%	—	0.2	—	μs
	Storage time	t _{stg}		—	2.0	3.5	
	Fall time	t _f		—	0.15	—	

Marking

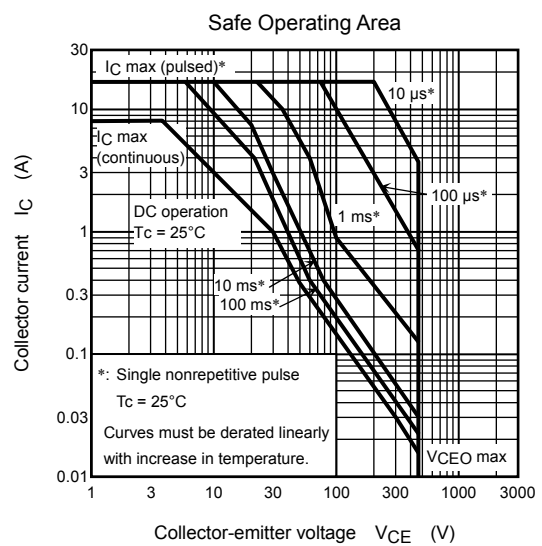
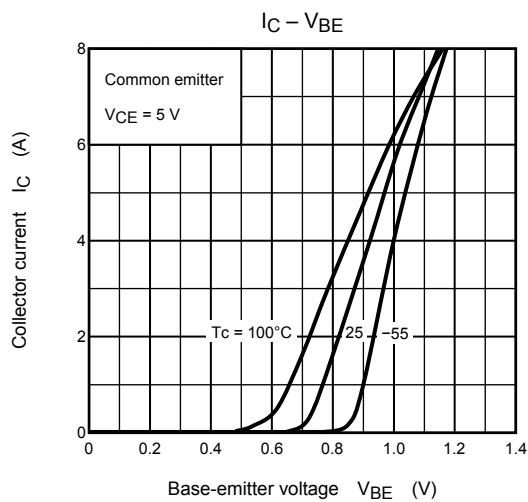
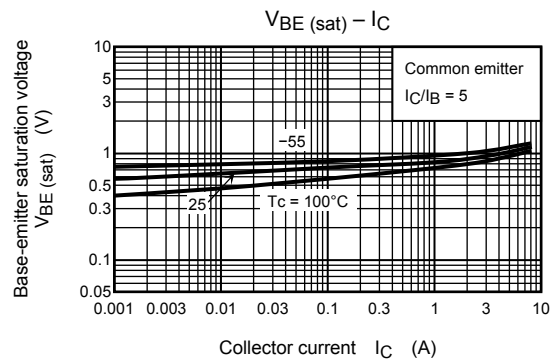
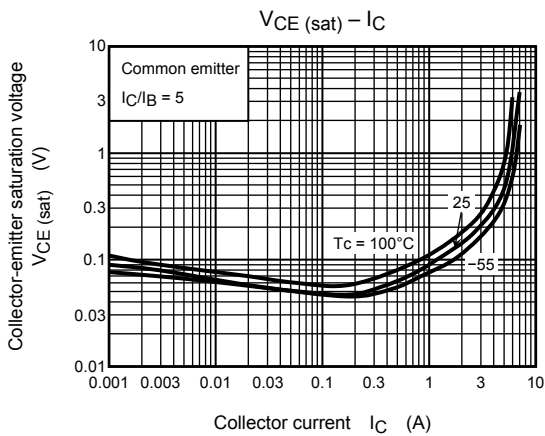
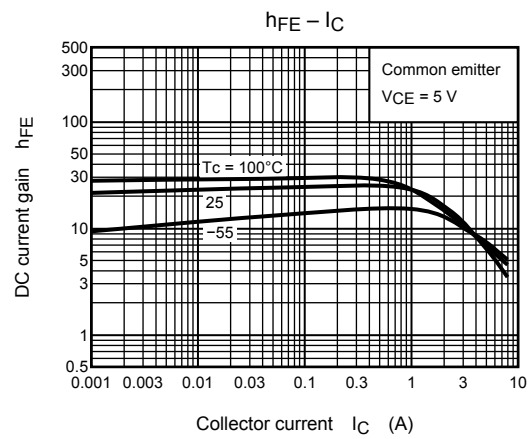
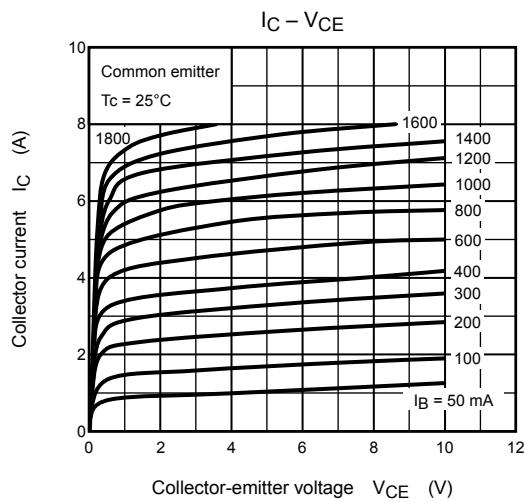


Note2: A line under a Lot No. identifies the indication of product Labels.

Not underlined: [[Pb]]/INCLUDES > MCV

Underlined: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

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