

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5352

Switching Regulator and High-Voltage Switching Applications

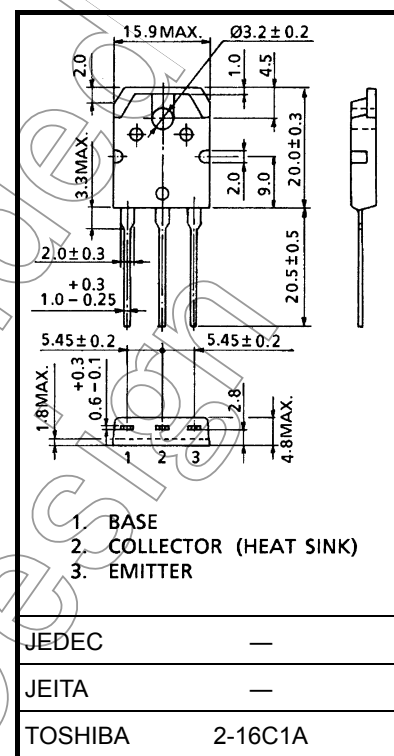
High-Speed DC-DC Converter Applications

Unit: mm

- Excellent switching times: $t_r = 0.5 \mu s$ (max), $t_f = 0.3 \mu s$ (max)
($I_C = 4 A$)
- High breakdown voltage: $V_{CEO} = 400 V$

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	600	V
Collector-emitter voltage		V_{CEO}	400	V
Emitter-base voltage		V_{EBO}	7	V
Collector current	DC	I_C	10	A
	Pulse	I_{CP}	15	
Base current		I_B	5	A
Collector power dissipation ($T_c = 25^\circ C$)		P_C	80	W
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	-55 to 150	$^\circ C$



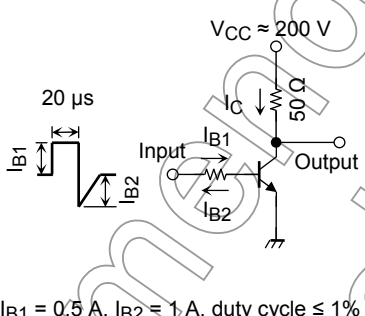
JEDEC	—
JEITA	—
TOSHIBA	2-16C1A

Weight: 4.7 g (typ.)

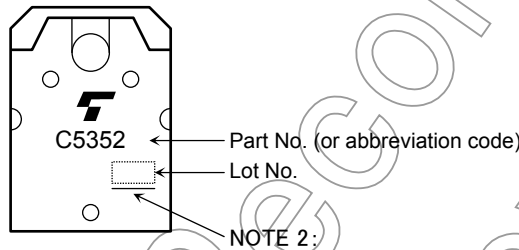
Note : Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 480\text{ V}, I_E = 0$	—	—	100	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	mA
Collector-base breakdown voltage		$V_{(BR) CBO}$	$I_C = 1\text{ mA}, I_E = 0$	600	—	—	V
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	400	—	—	V
DC current gain		h_{FE}	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	20	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 4\text{ A}, I_B = 0.5\text{ A}$	—	—	1	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 4\text{ A}, I_B = 0.5\text{ A}$	—	—	1.3	V
Switching time	Rise time	t_r	 <p>$I_{B1} = 0.5\text{ A}, I_{B2} = 1\text{ A}, \text{duty cycle} \leq 1\%$</p>	—	—	0.5	μs
	Storage time	t_{stg}		—	—	2	
	Fall time	t_f		—	—	0.3	

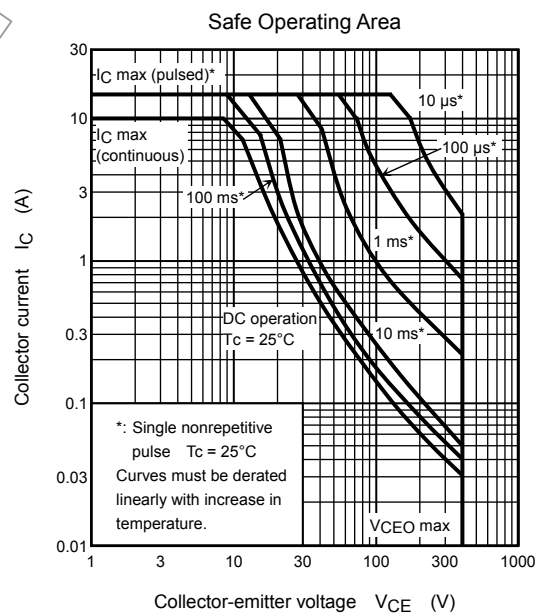
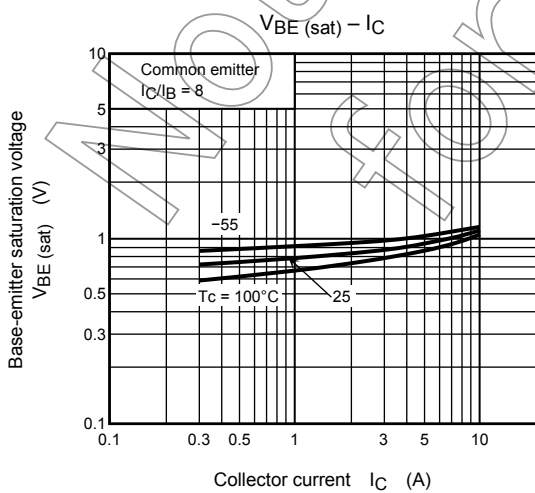
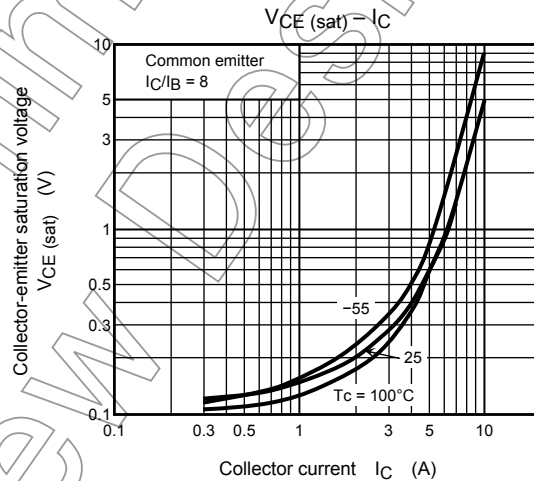
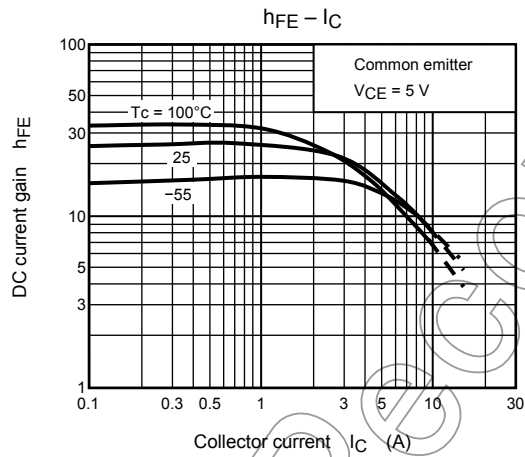
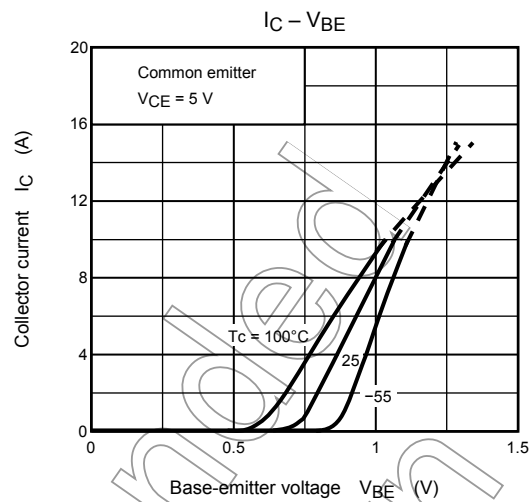
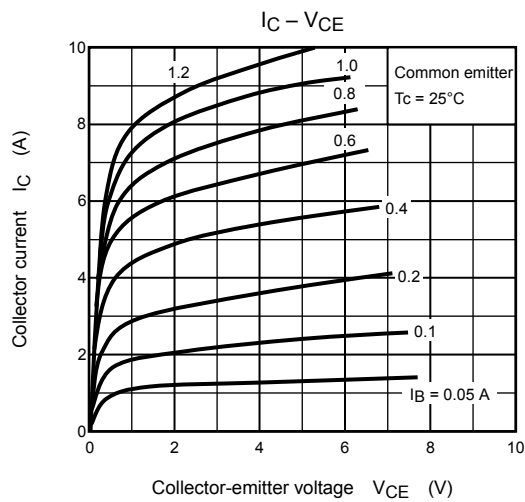
Marking



Note 2 : A line under a Lot No. identifies the indication of product Labels.
 [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



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