

TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SA1822

High-Voltage Switching Applications

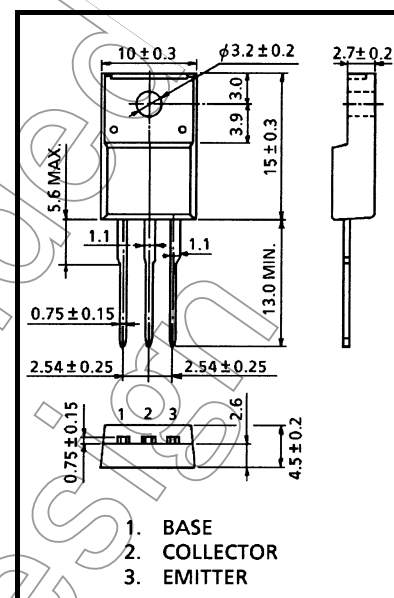
High-Speed DC-DC Converter Application

Unit: mm

- Excellent switching times
: $t_{on} = 1.0 \mu s$ (max), $t_f = 1.0 \mu s$ (max) at $I_C = -0.3 A$
- High collector breakdown voltage: $V_{CEO} = -400 V$

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	-400	V
Collector-emitter voltage		V_{CEO}	-400	V
Emitter-base voltage		V_{EBO}	-7	V
Collector current	DC	I_C	-1	A
	Pulse	I_{CP}	-2	
Base current		I_B	-0.5	A
Collector power dissipation	$T_a = 25^\circ C$	P_C	2.0	W
	$T_c = 25^\circ C$		25	
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	-55 to 150	$^\circ C$



1. BASE
2. COLLECTOR
3. EMITTER

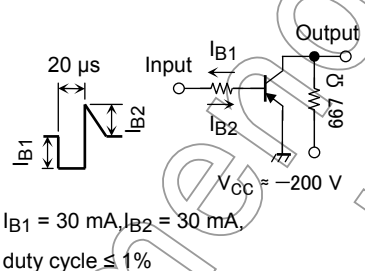
JEDEC	—
JEITA	—
TOSHIBA	2-10R1A

Weight: 1.7 g (typ.)

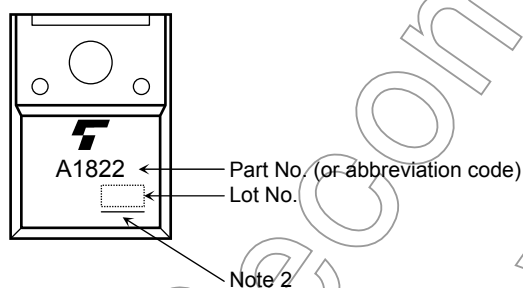
Note 1: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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}	$V_{CB} = -400\text{ V}, I_E = 0$	—	—	-1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = -7\text{ V}, I_C = 0$	—	—	-1	μA
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-400	—	—	V
DC current gain		h_{FE}	$V_{CE} = -5\text{ V}, I_C = -0.3\text{ A}$	30	—	100	
			$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$	20	—	—	
Collector-emitter saturation voltage		$V_{CE (sat)}$	$I_C = -0.3\text{ A}, I_B = -30\text{ mA}$	—	-0.25	-1.0	V
Base-emitter saturation voltage		$V_{BE (sat)}$	$I_C = -0.3\text{ A}, I_B = -30\text{ mA}$	—	-0.75	-1.2	V
Switching time	Rise time	t_{on}		—	—	1.0	μs
	Storage time	t_{stg}		—	—	5.0	
	Fall time	t_f		$I_{B1} = 30\text{ mA}, I_{B2} = 30\text{ mA},$ duty cycle $\leq 1\%$	—	—	

Marking

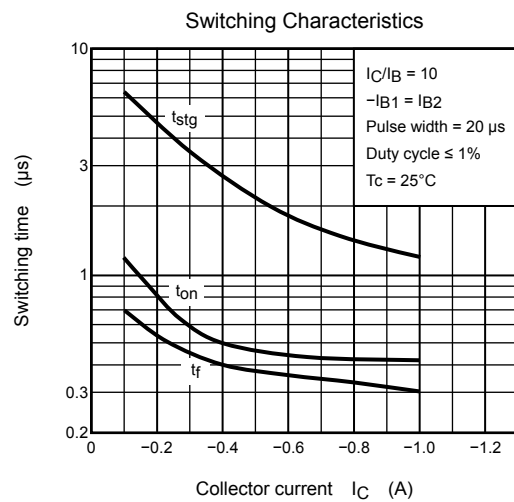
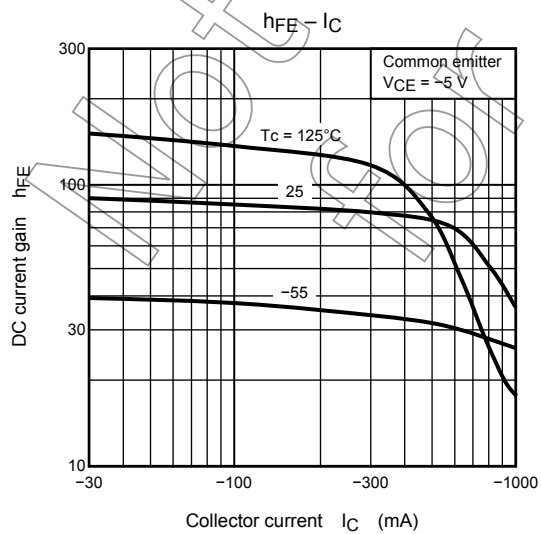
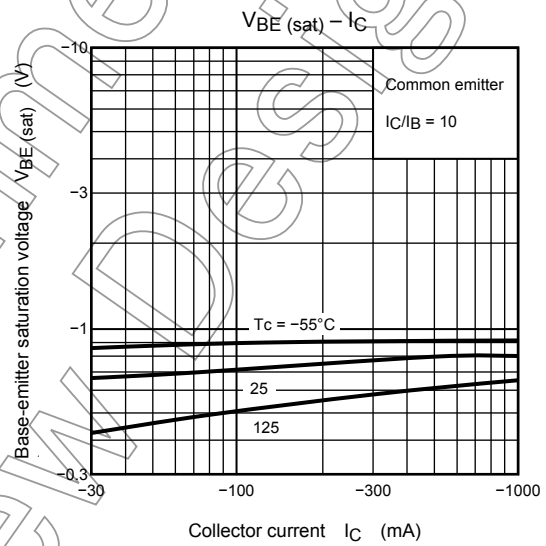
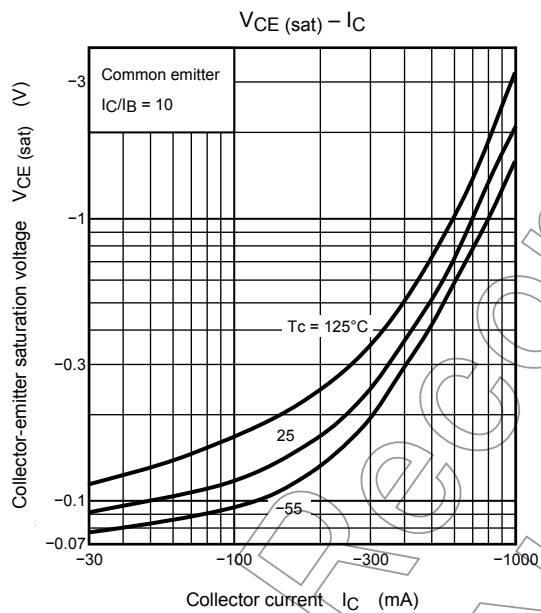
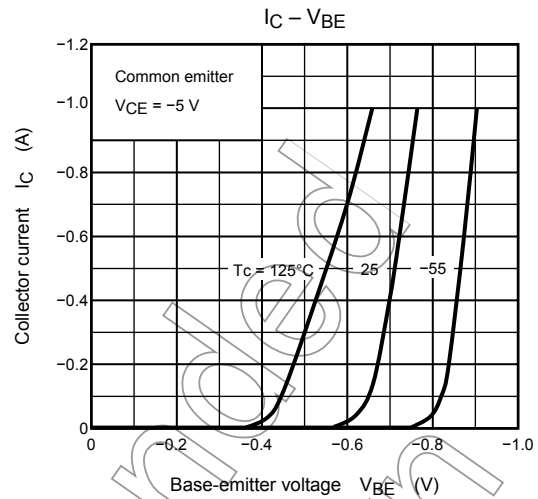
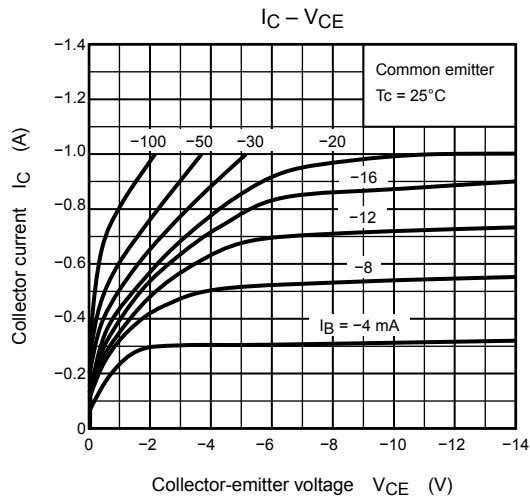


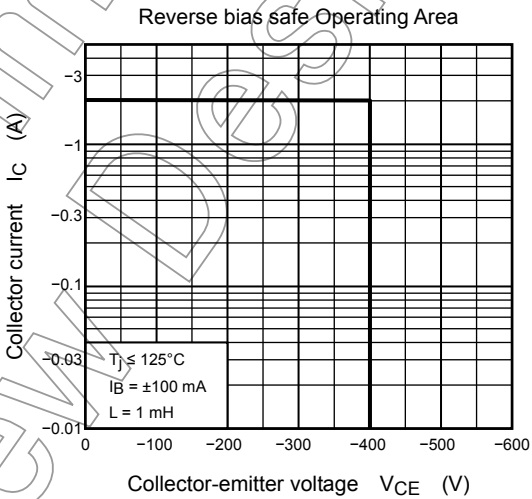
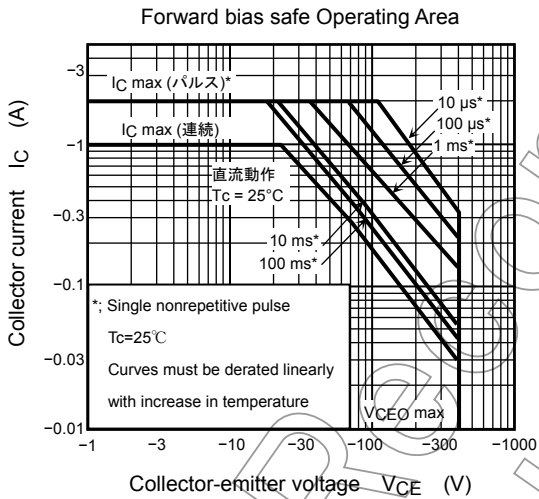
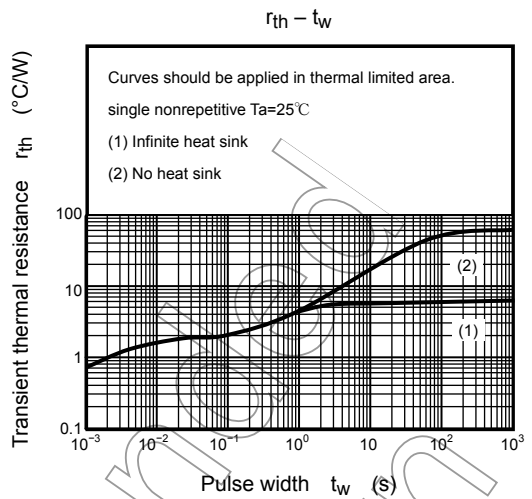
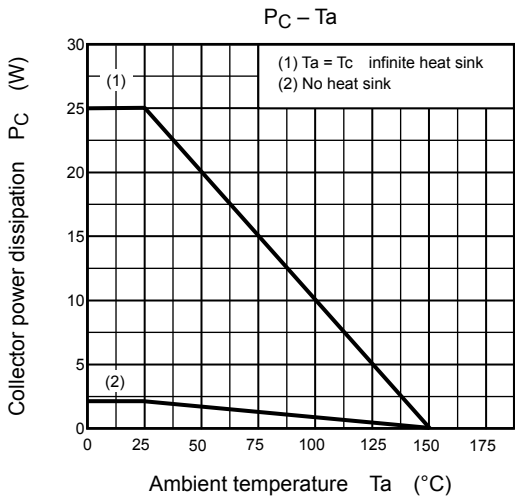
Note 2: A line under a Lot No. identifies the indication of product Labels.

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

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

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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