

TOSHIBA Transistor Silicon PNP Triple Diffused Type

# 2SA2034

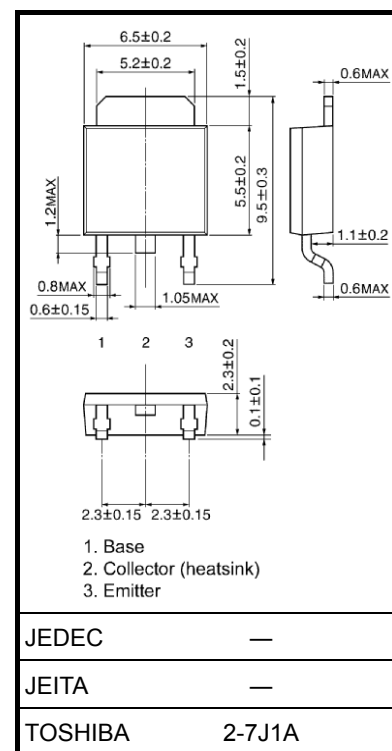
## High-Voltage Switching Applications

Unit: mm

- High voltage :  $V_{CBO} = -400\text{ V}$
- High speed :  $t_f = 0.3\text{ }\mu\text{s (max)}$  ( $I_C = -1.0\text{ A}$ )

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic		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	$I_C$	-2	A
	Pulse	$I_{CP}$	-4	
Base current		$I_B$	-1	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1	W
	$T_c = 25^\circ\text{C}$		15	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55~150	$^\circ\text{C}$

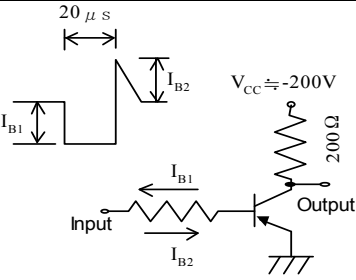


Weight: 0.36 g (typ.)

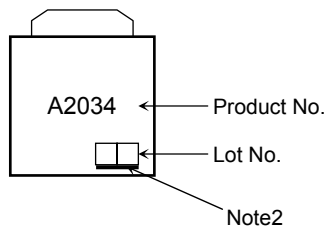
Note1: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

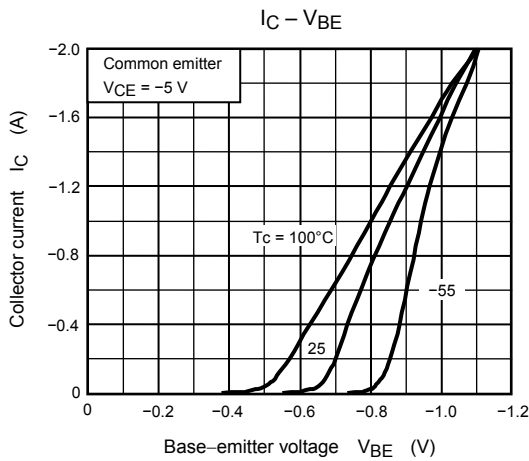
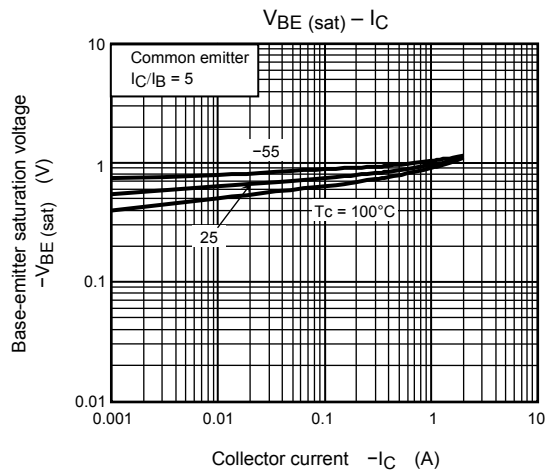
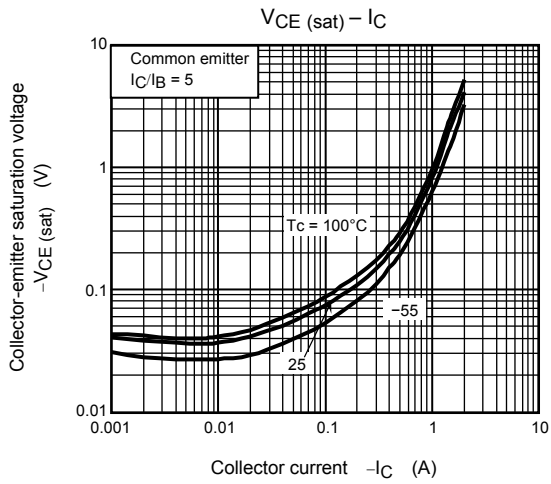
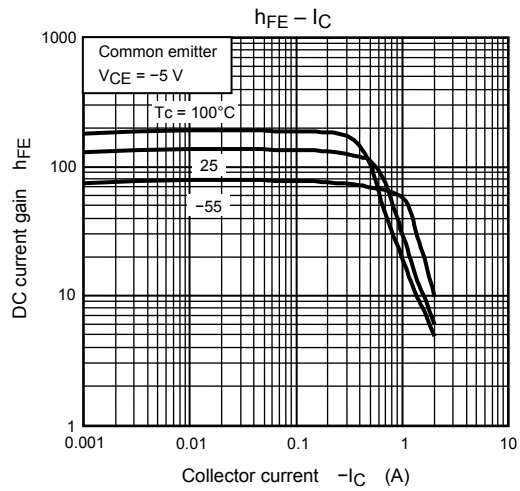
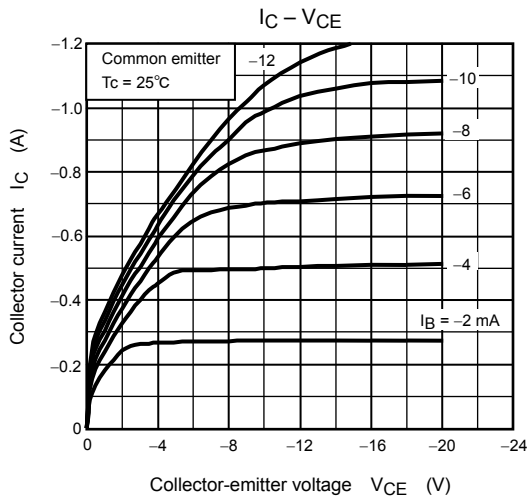
Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cutoff current		ICBO	V <sub>CB</sub> = -400 V, I <sub>E</sub> = 0	—	—	-10	μA
Emitter cutoff current		IEBO	V <sub>EB</sub> = -7 V, I <sub>C</sub> = 0	—	—	-1	μA
Collector-emitter breakdown voltage		V (BR) CEO	I <sub>C</sub> = -10 mA, I <sub>B</sub> = 0	-400	—	—	V
DC current gain		h <sub>FE</sub> (1)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -1 mA	80	—	—	—
		h <sub>FE</sub> (2)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -0.1 A	80	—	240	
Collector-emitter saturation voltage		V <sub>CE</sub> (sat)	I <sub>C</sub> = -0.5 A, I <sub>B</sub> = -0.1 A	—	—	-1.0	V
Base-emitter saturation voltage		V <sub>BE</sub> (sat)	I <sub>C</sub> = -0.5 A, I <sub>B</sub> = -0.1 A	—	—	-1.5	V
Switching time	Rise time	t <sub>r</sub>	 I <sub>B1</sub> = 0.2A, I <sub>B2</sub> = 0.2A Duty Cycle < 1%	—	—	0.3	μs
	Storage time	t <sub>stg</sub>		—	—	2.5	
	Fall time	t <sub>f</sub>		—	—	0.3	

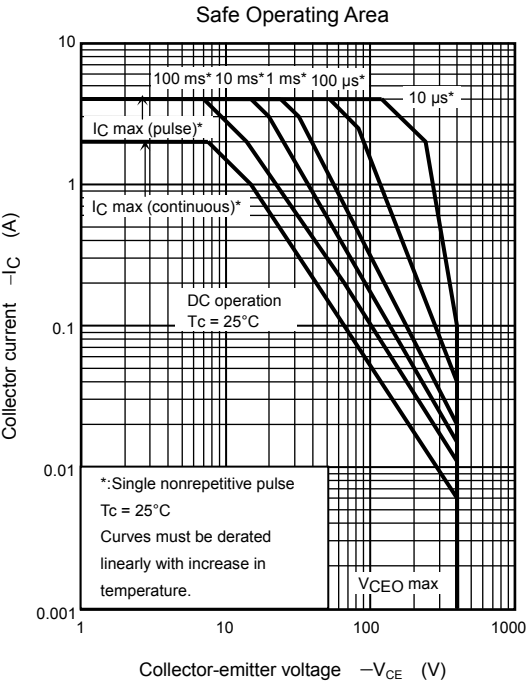
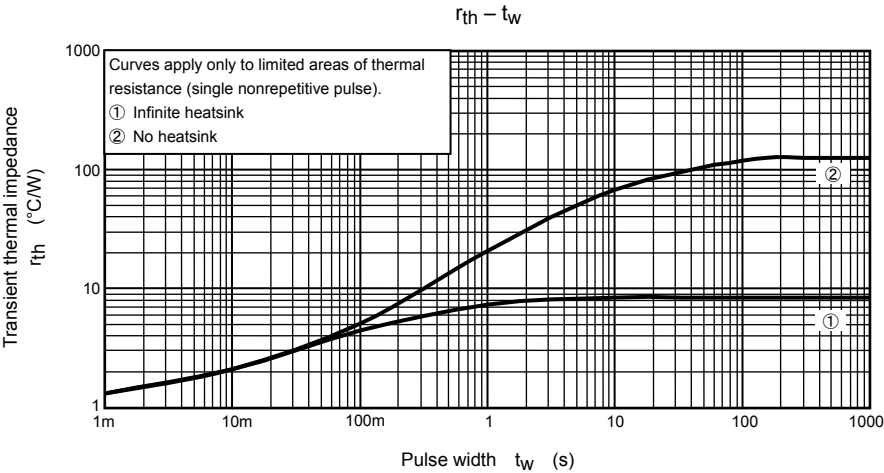
Marking



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]]

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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