

TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SA2034

High-Voltage Switching Applications

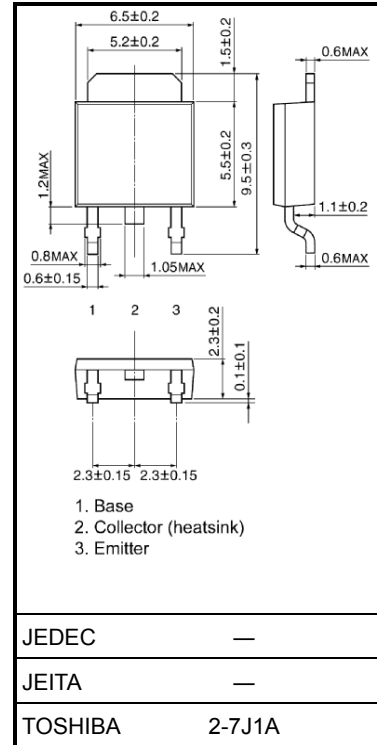
- High voltage : $V_{CBO} = -400\text{ V}$
- High speed : $t_f = 0.3\ \mu\text{s (max)}$ ($I_C = -1.0\text{ A}$)

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

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

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).

Unit: mm

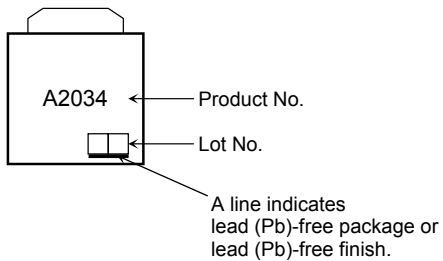


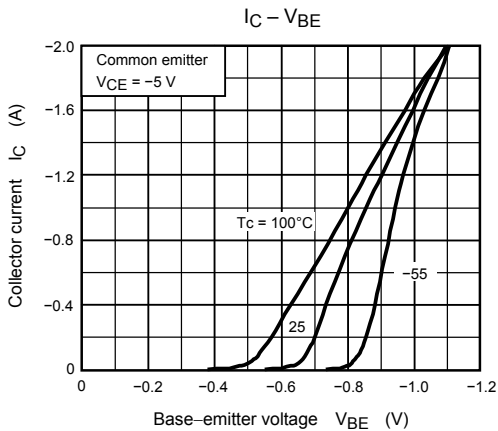
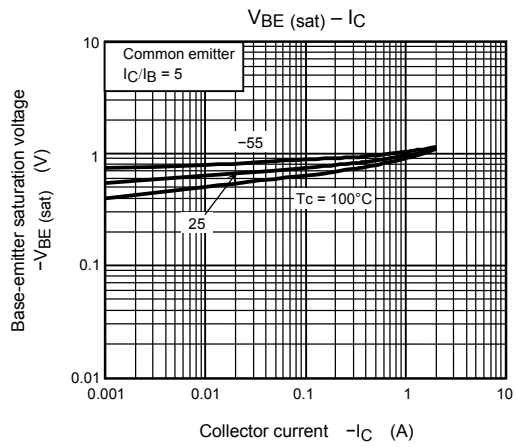
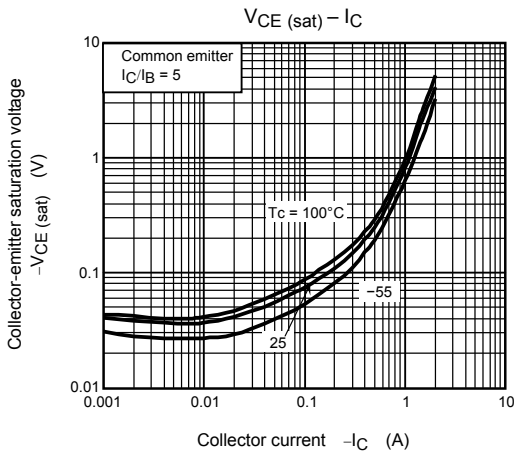
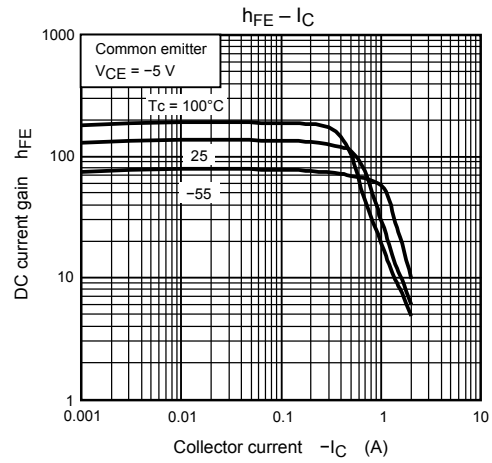
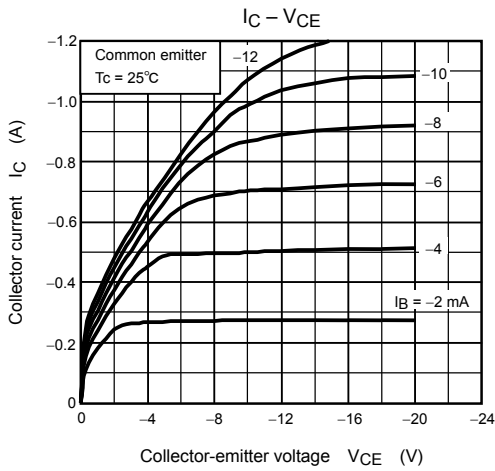
Weight: 0.36 g (typ.)

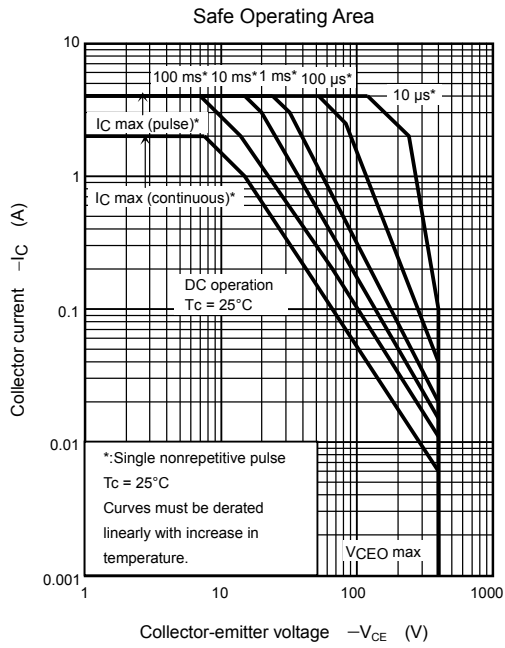
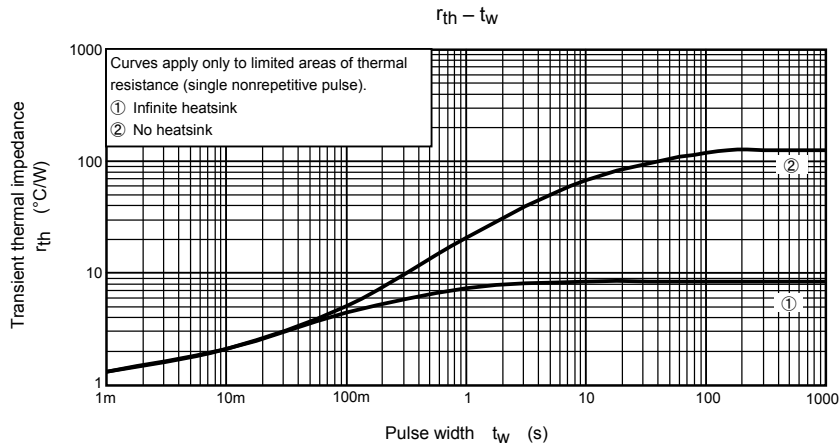
Electrical Characteristics (Tc = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cutoff current		I_{CBO}	$V_{CB} = -400\text{ V}, I_E = 0$	—	—	-10	μA
Emitter cutoff 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		$h_{FE} (1)$	$V_{CE} = -5\text{ V}, I_C = -1\text{ mA}$	80	—	—	—
		$h_{FE} (2)$	$V_{CE} = -5\text{ V}, I_C = -0.1\text{ A}$	80	—	240	
Collector-emitter saturation voltage		$V_{CE (sat)}$	$I_C = -0.5\text{ A}, I_B = -0.1\text{ A}$	—	—	-1.0	V
Base-emitter saturation voltage		$V_{BE (sat)}$	$I_C = -0.5\text{ A}, I_B = -0.1\text{ A}$	—	—	-1.5	V
Switching time	Rise time	t_r	<p> $20\ \mu\text{s}$ I_{B1} I_{B2} $V_{CC} = -200\text{V}$ $200\ \Omega$ Input Output $I_{B1} = -I_{B2} = -0.2\text{A}$ Duty cycle < 1% </p>	—	—	0.3	μs
	Storage time	t_{stg}		—	—	2.5	
	Fall time	t_f		—	—	0.3	

Marking







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20070701-EN

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