

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SB907

Switching Applications

Hammer Drive, Pulse Motor Drive Applications

Power Amplifier Applications

- High DC current gain: $h_{FE(1)} = 2000$ (min) ($V_{CE} = -2$ V, $I_C = -1$ A)
- Low saturation voltage: $V_{CE(sat)} = -1.5$ V (max) ($I_C = -2$ A)
- Complementary to 2SD1222.

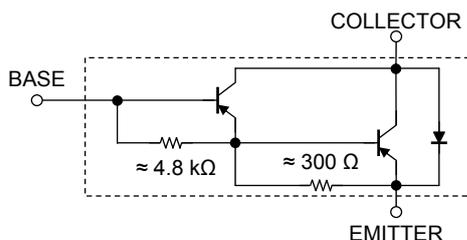
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	-60	V
Collector-emitter voltage		V_{CEO}	-40	V
Emitter-base voltage		V_{EBO}	-5	V
Collector current		I_C	-3	A
Base current		I_B	-0.3	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		15	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

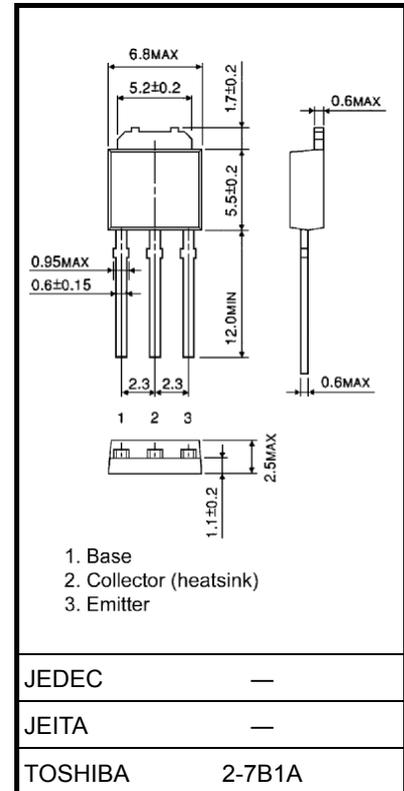
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

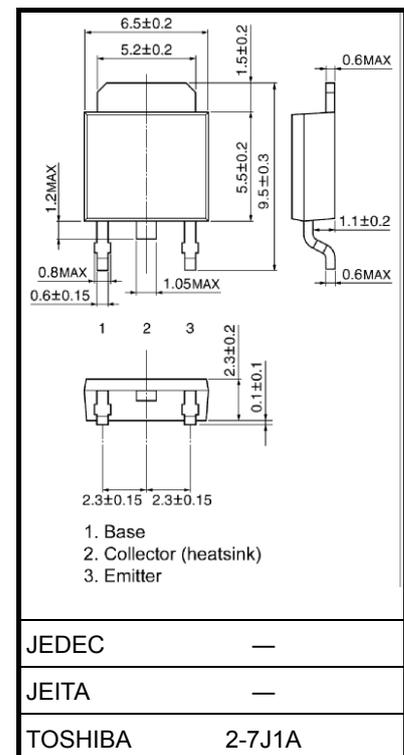
Equivalent Circuit



Unit: mm



Weight: 0.36 g (typ.)

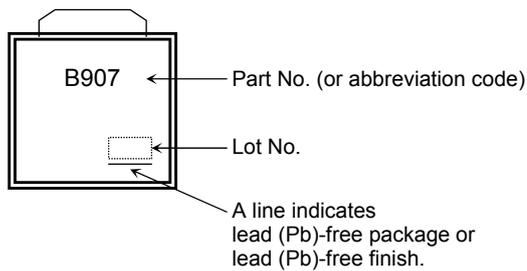


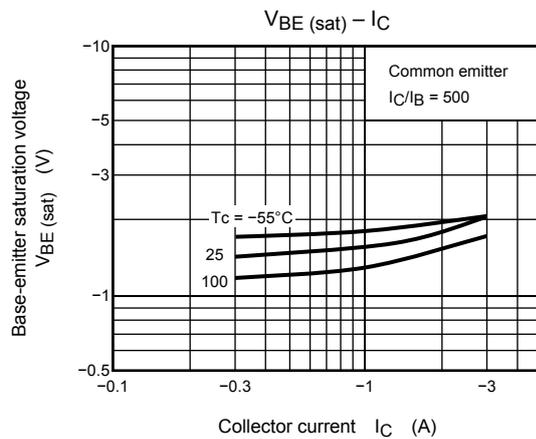
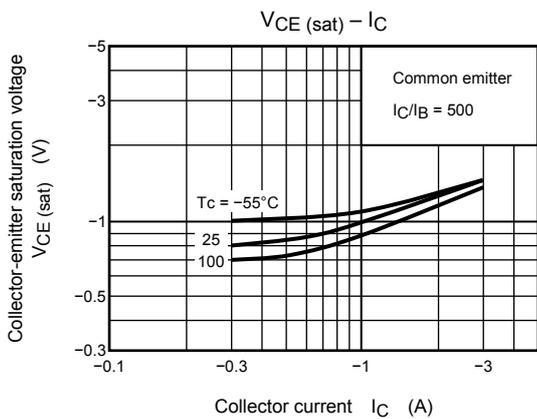
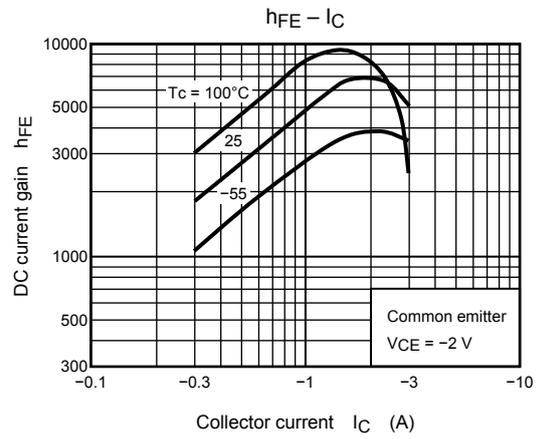
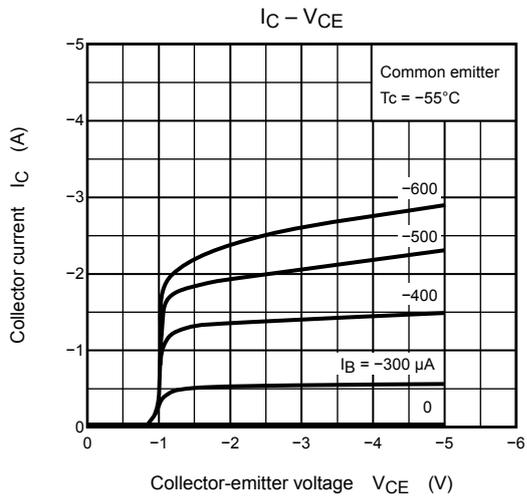
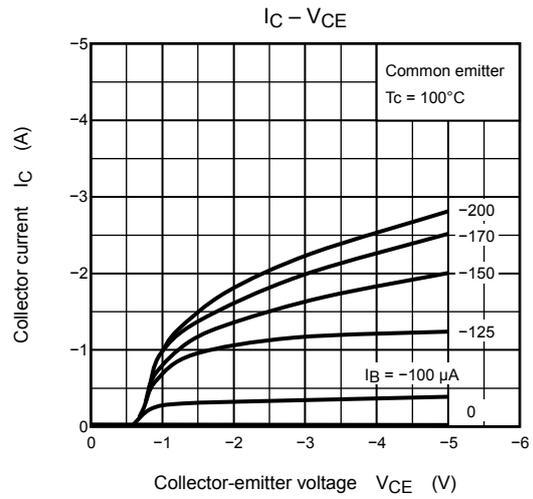
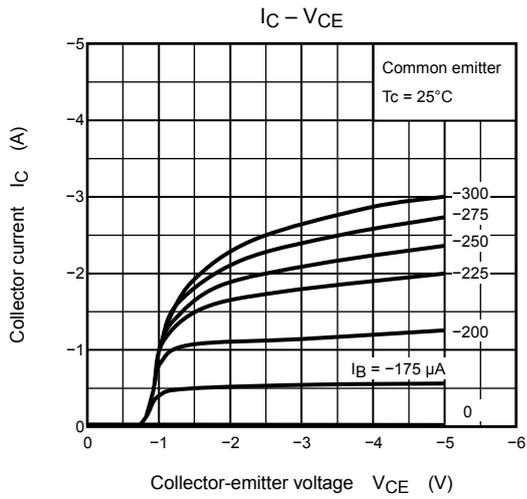
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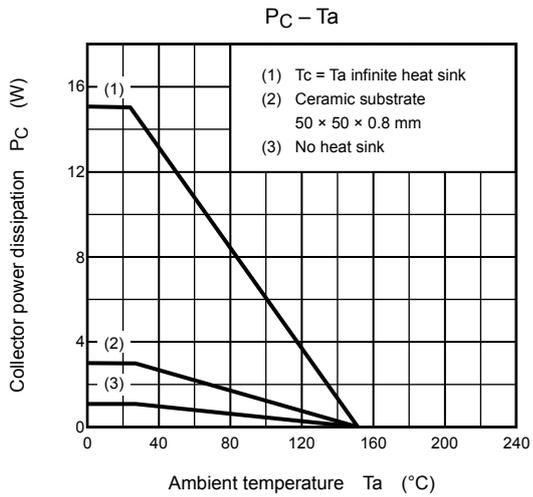
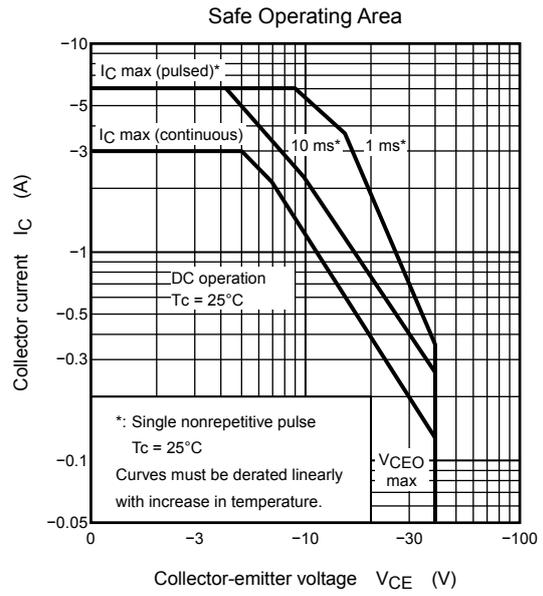
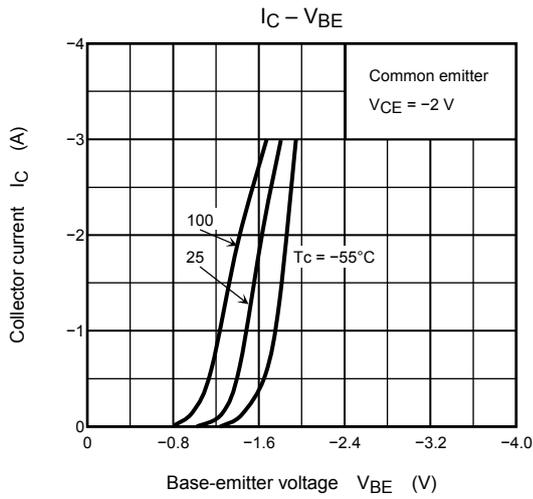
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = -60\text{ V}, I_E = 0$	—	—	-20	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-2.5	mA
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = -25\text{ mA}, I_B = 0$	-40	—	—	V
DC current gain		$h_{FE} (1)$	$V_{CE} = -2\text{ V}, I_C = -1\text{ A}$	2000	—	—	
		$h_{FE} (2)$	$V_{CE} = -2\text{ V}, I_C = -3\text{ A}$	1000	—	—	
Collector-emitter saturation voltage		$V_{CE (sat)}$	$I_C = -2\text{ A}, I_B = -4\text{ mA}$	—	—	-1.5	V
Base-emitter saturation voltage		$V_{BE (sat)}$	$I_C = -2\text{ A}, I_B = -4\text{ mA}$	—	—	-2.0	V
Switching time	Turn-on time	t_{on}	<p style="text-align: center;">$-I_{B1} = I_{B2} = 6\text{ mA}, \text{DUTY CYCLE} \leq 1\%$</p>	—	0.30	—	μs
	Storage time	t_{stg}		—	0.60	—	
	Fall time	t_f		—	—	0.25	

Marking







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20070701-EN

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