

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

# 2SB905

## Power Amplifier Applications

- Complementary to SD1220

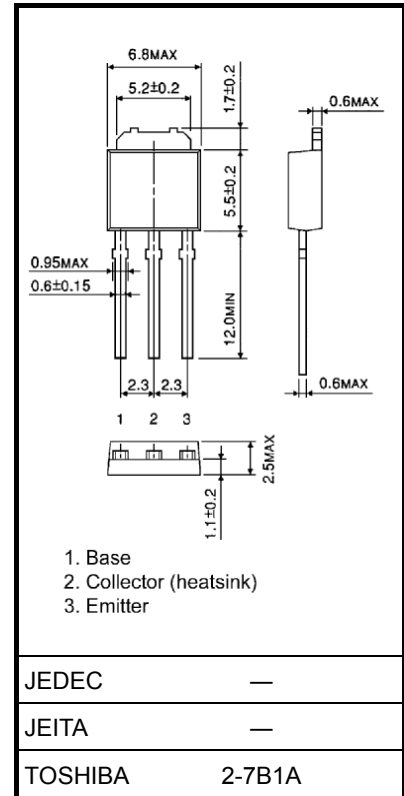
### Absolute Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	-150	V
Collector-emitter voltage		$V_{CEO}$	-150	V
Emitter-base voltage		$V_{EBO}$	-6	V
Collector current		$I_C$	-1.5	A
Base current		$I_B$	-1.0	A
Collector power dissipation	Ta = 25°C	PC	1.0	W
	Tc = 25°C		10	
Junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	-55 to 150	°C

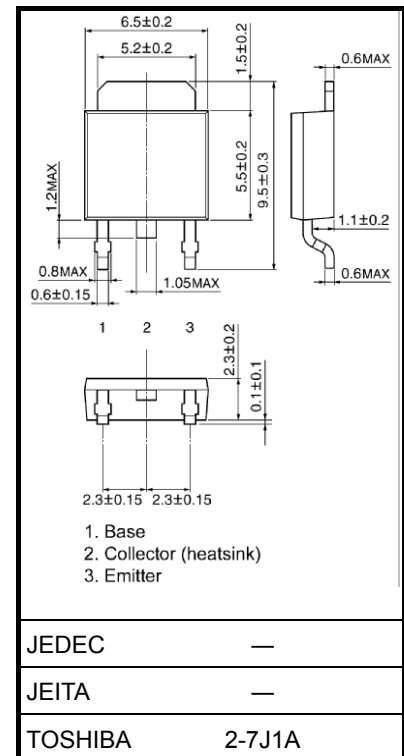
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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



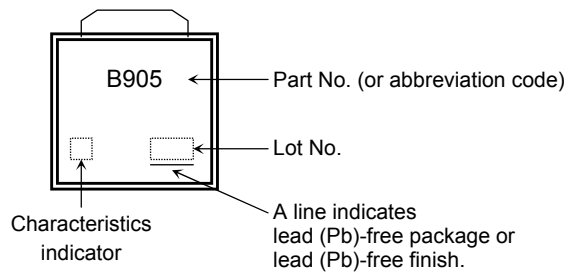
Weight: 0.36 g (typ.)

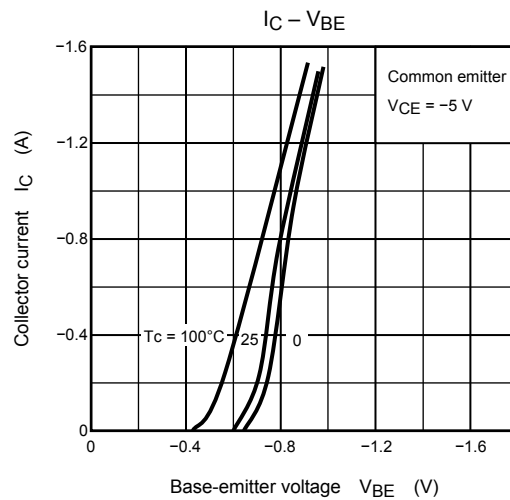
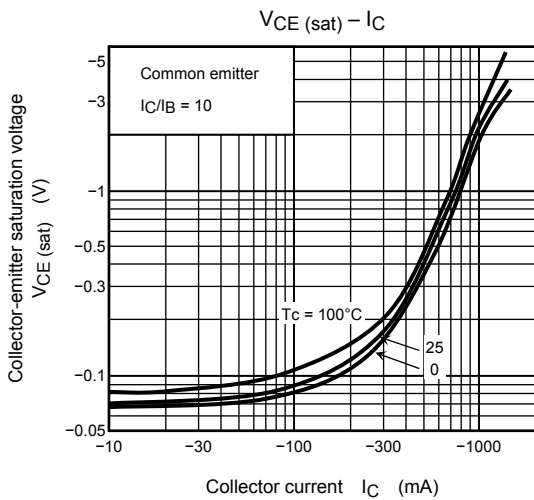
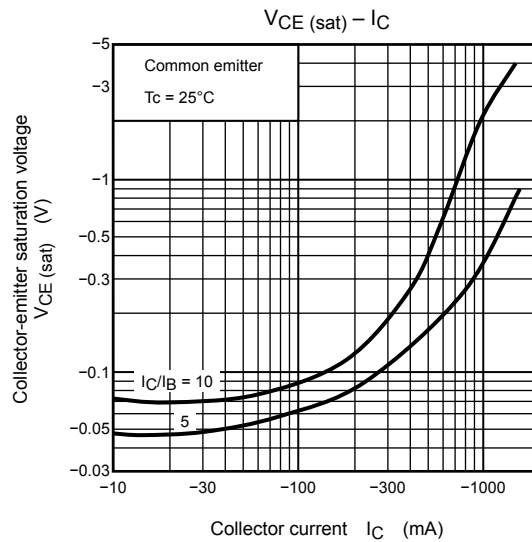
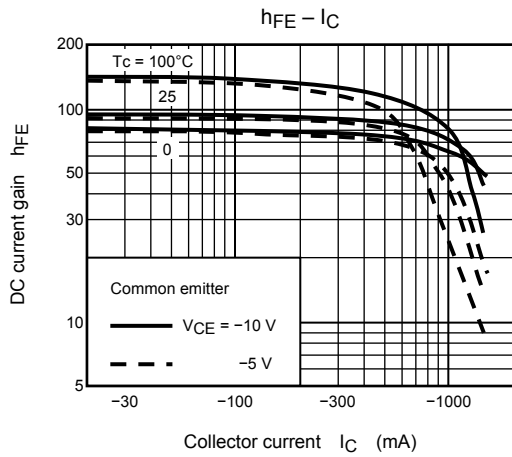
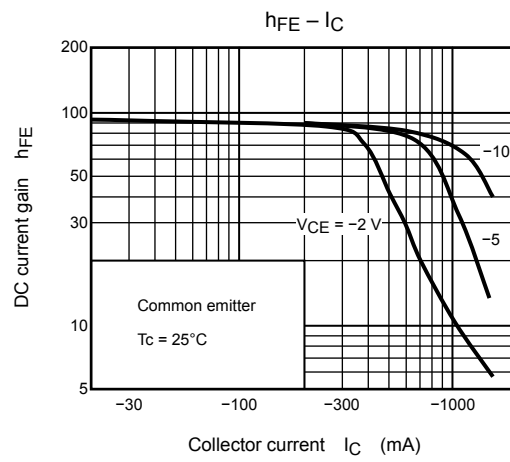
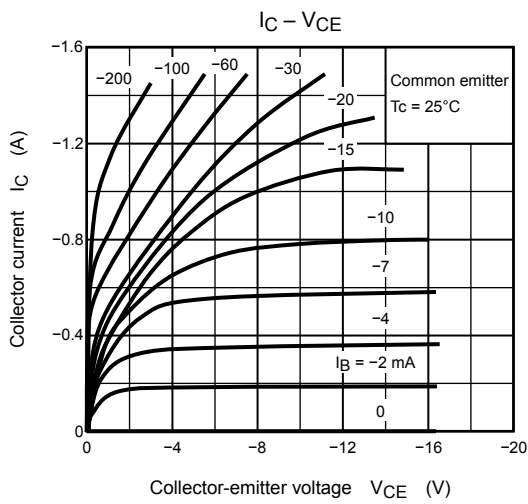
## Electrical Characteristics (Ta = 25°C)

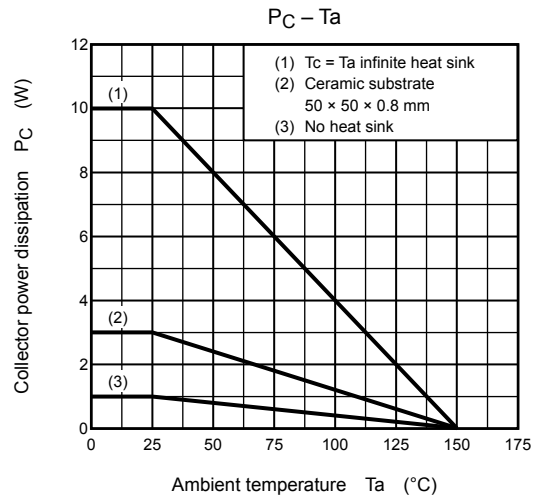
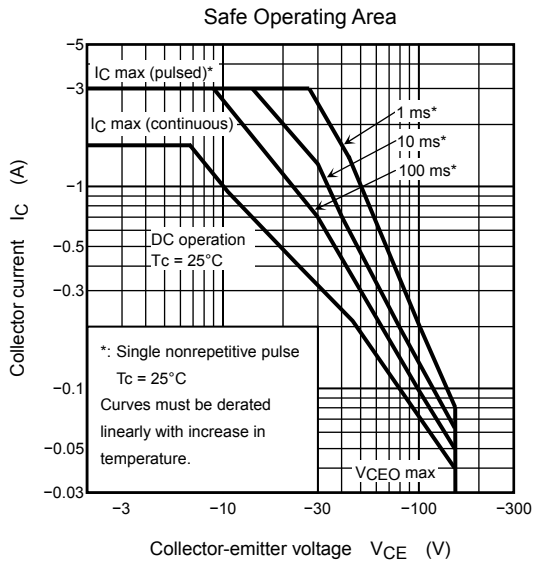
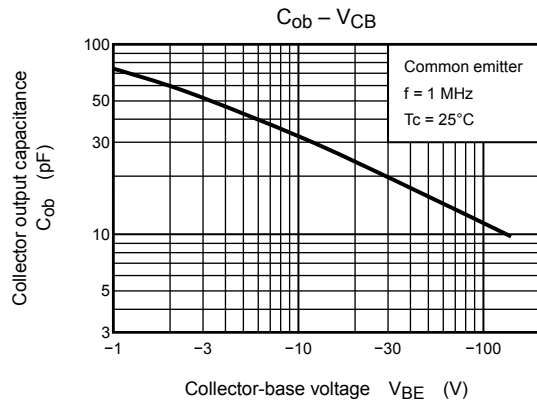
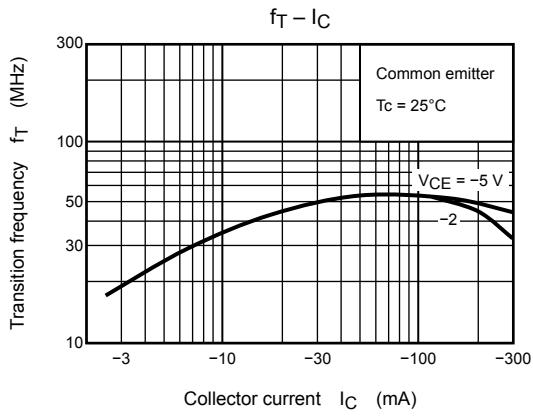
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -150\text{ V}, I_E = 0$	—	—	-1.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6\text{ V}, I_C = 0$	—	—	-1.0	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-150	—	—	V
DC current gain	$h_{FE}$ (Note)	$V_{CE} = -5\text{ V}, I_C = -200\text{ mA}$	60	—	320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$	—	—	-1.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -5\text{ V}, I_C = -5\text{ mA}$	-0.5	—	-0.8	V
Transition frequency	$f_T$	$V_{CE} = -5\text{ V}, I_C = -200\text{ mA}$	15	50	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	—	35	pF

Note:  $h_{FE}$  classification R: 60 to 120, O: 100 to 200, Y: 160 to 320

## Marking







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20070701-EN

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