TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1201

Voltage Amplifier Applications
Power Amplifier Applications

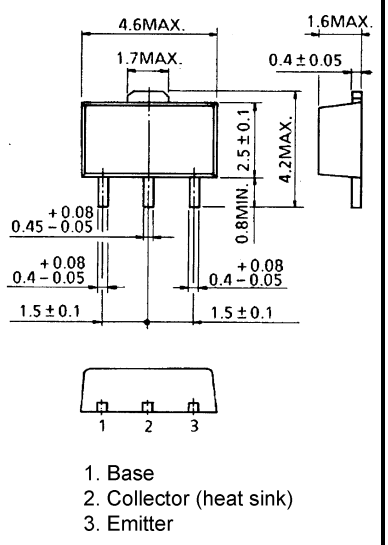
- High voltage: V_{CEO} = −120 V
- High transition frequency: f_T = 120 MHz (typ.)
- Small flat package
- P_C = 1 to 2 W (mounted on ceramic substrate)
- Complementary to 2SC2881

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	−120	V
Collector-emitter voltage	V_{CEO}	−120	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−800	mA
Base current	I_B	−160	mA
Collector power dissipation	P_C	500	mW
	P_C (Note 1)	1000	
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55 to 150	°C

Note 1: Mounted on ceramic substrate (250 mm^2 × 0.8 t)

Unit: mm



1. Base
2. Collector (heat sink)
3. Emitter

PW-MINI	
JEDEC	—
JEITA	SC-62
TOSHIBA	2-5K1A

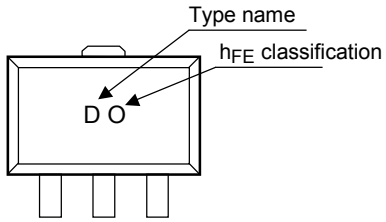
Weight: 0.05 g (typ.)

Electrical Characteristics (Ta = 25°C)

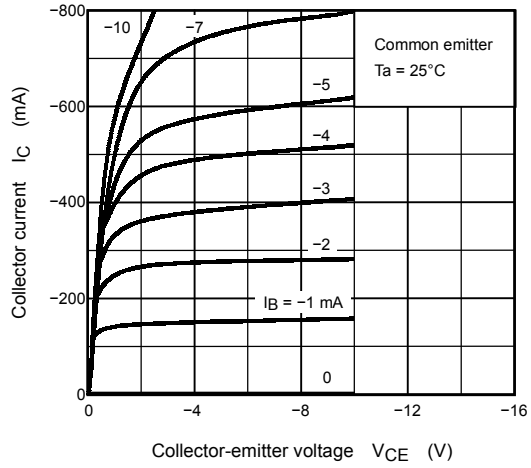
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = −120 V, I_E = 0	—	—	−0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = −5 V, I_C = 0	—	—	−0.1	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = −10 mA, I_B = 0	−120	—	—	V
Emitter-base breakdown voltage	$V_{(BR)\ EBO}$	I_E = −1 mA, I_C = 0	−5	—	—	V
DC current gain	h_{FE} (Note 2)	V_{CE} = −5 V, I_C = −100 mA	80	—	240	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = −500 mA, I_B = −50 mA	—	—	−1.0	V
Base-emitter voltage	V_{BE}	V_{CE} = −5 V, I_C = −500 mA	—	—	−1.0	V
Transition frequency	f_T	V_{CE} = −5 V, I_C = −100 mA	—	120	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = −10 V, I_E = 0, f = 1 MHz	—	—	30	pF

Note 2: h_{FE} classification O: 80 to 160, Y: 120 to 240

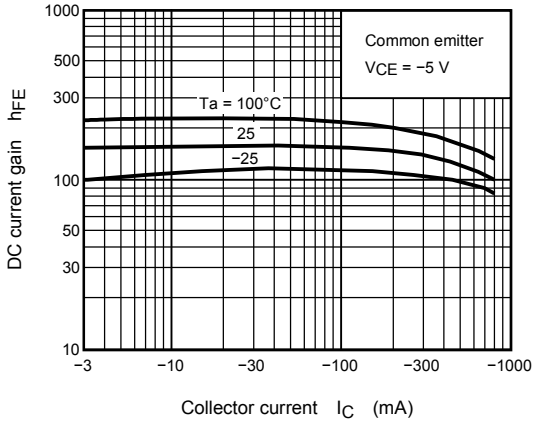
Marking



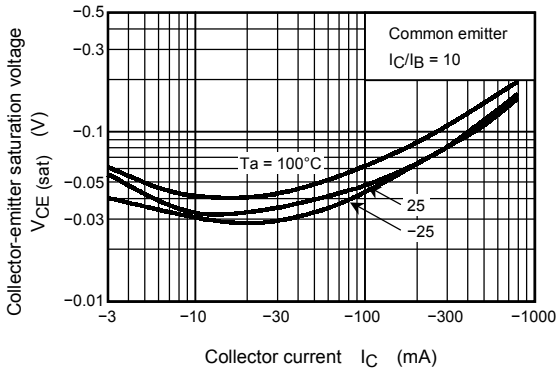
$I_C - V_{CE}$



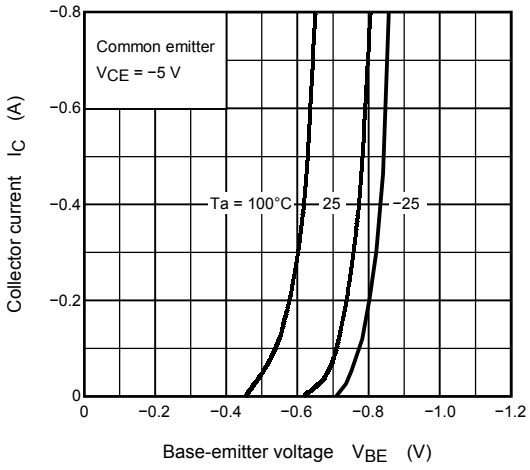
$h_{FE} - I_C$



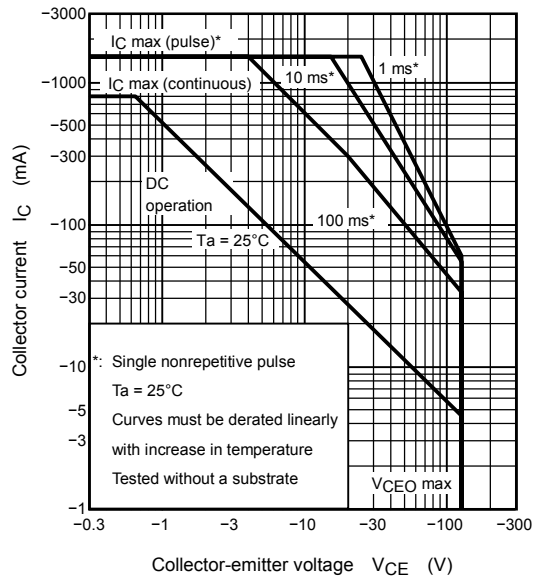
$V_{CE\ (sat)} - I_C$



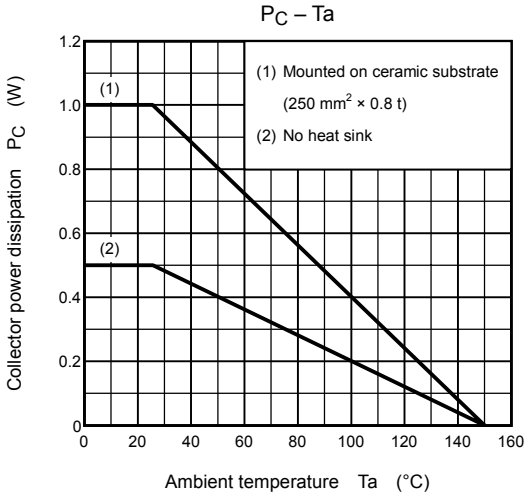
$I_C - V_{BE}$



Safe Operating Area



$P_C - Ta$



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