TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

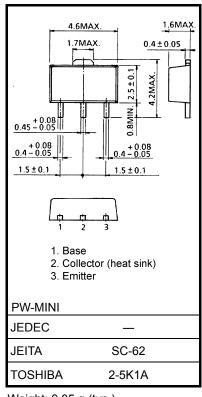
2SA1202

Power Amplifier Applications Voltage Amplifier Applications

- Suitable for driver of 30 to 35 watts audio amplifier
- Small flat package
- $P_C = 1.0$ to 2.0 W (mounted on a ceramic substrate)
- Complementary to 2SC2882

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	V _{CBO}	-80	V	
Collector-emitter voltage	V _{CEO}	-80	V	
Emitter-base voltage	V _{EBO}	-5	V	
Collector current	Ι _C	-400	mA	
Base current	Ι _Β	-80	mA	
Collector power dissipation	P _C	500	mW	
	P _C	1000		
	(Note 1)			
Junction temperature	Тj	150	°C	
Storage temperature range	T _{stg}	−55 to 150	°C	



Weight: 0.05 g (typ.)

Note 1: Mounted on a ceramic substrate (250 mm² × 0.8 t)

Note 2: 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

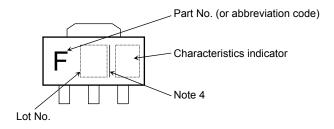
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Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -80 \text{ V}, I_E = 0$	—	_	-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	-80	_	_	V
DC current gain	h _{FE (1)} (Note 3)	I _E = −2 mA, I _C = −50 mA	70		240	
	h _{FE (2)}	V _{CE} = -2 V, I _C = -200 mA	40	_	_	
Collector-emitter saturation voltage	V _{CE (sat)}	I _C = -200 mA, I _B = -20 mA	_	_	-0.4	V
Base-emitter voltage	V _{BE}	$V_{CE} = -2 V, I_C = -5 mA$	-0.55	-	-0.8	V
Transition frequency	f _T	V _{CE} = -10 V, I _C = -10 mA	_	120	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = −10 V, I _E = 0, f = 1 MHz	_	14	_	pF

Note 3: h_{FE(1)} classification O: 70 to 140, Y: 120 to 240

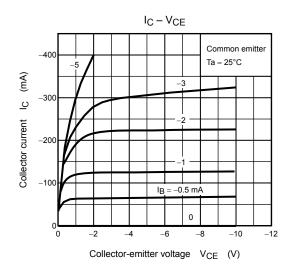
Marking

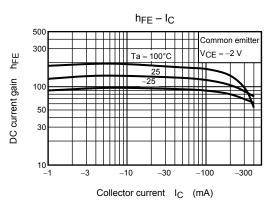


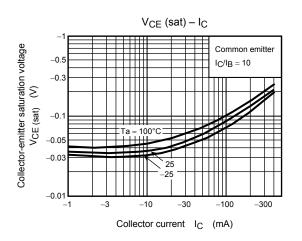
Note 4: A line beside a Lot No. identifies the indication of product Labels. Without a line: [[Pb]]/INCLUDES > MCV With a line: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

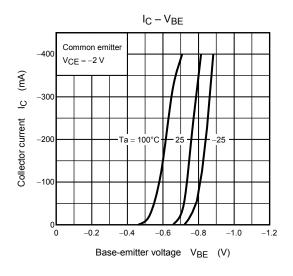
Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

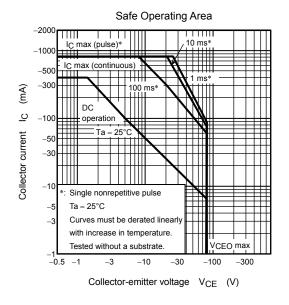
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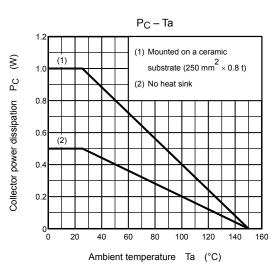












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