TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SA1987

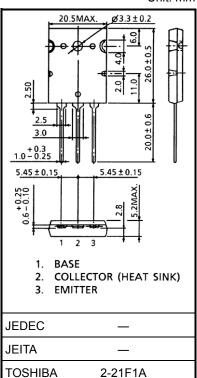
Power Amplifier Applications

• High breakdown voltage: $V_{CEO} = -230 V (min)$

- Complementary to 2SC5359
- Recommended for 100-W high-fidelity audio frequency amplifier output stage.

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Characteristics	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	-230	V
Collector-emitter voltage	V _{CEO}	-230	V
Emitter-base voltage	V _{EBO}	-5	V
Collector current	۱ _C	-15	А
Base current	۱ _B	-1.5	А
Collector power dissipation (Tc = 25°C)	P _C	180	W
Junction temperature	Tj	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

Weight: 9.75 g (typ.)

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).

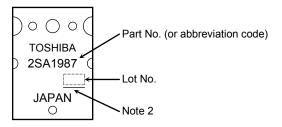
Unit: mm

Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -230 \text{ V}, I_E = 0$	_	_	-5.0	μA
Emitter cut-off current	I _{EBO}	$V_{EB} = -5 V, I_C = 0$	_	_	-5.0	μA
Collector-emitter breakdown voltage	V (BR) CEO	I _C = -50 mA, I _B = 0	-230	_	_	V
DC current gain	h _{FE (1)} (Note 1)	V _{CE} = -5 V, I _C = -1 A	55	-	160	
	h _{FE (2)}	$V_{CE} = -5 V, I_C = -7 A$	35	70	_	
Collector-emitter saturation voltage	V _{CE (sat)}	I _C = -8 A, I _B = -0.8 A	_	-1.5	-3.0	V
Base-emitter voltage	V _{BE}	$V_{CE} = -5 V, I_C = -7 A$	_	-1.0	-1.5	V
Transition frequency	f _T	$V_{CE} = -5 V, I_C = -1 A$	_	30	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz		360	_	pF

Note 1:hFE (1) classification R: 55 to 110, O: 80 to 160

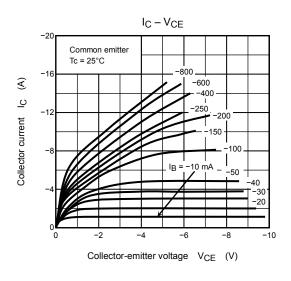
Marking

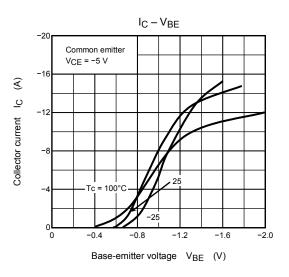


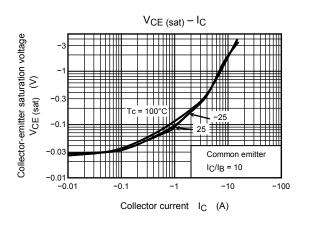
Note 2: A line under a Lot No. identifies the indication of product Labels. Not underlined : [[Pb]]/INCLUDES > MCV Underlined : [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

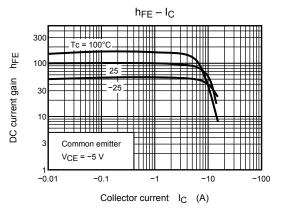
Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical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

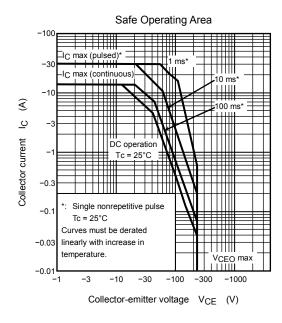
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