

PNP SILICON TRANSISTOR
POWER AMPLIFIER
INDUSTRIAL USE

DESCRIPTION

The 2SA1988 is PNP Silicon Power Transistor that designed for audio frequency power amplifier.

FEATURES

- High Voltage $V_{CE0} = -200$ V
- DC Current Gain $h_{FE} = 70$ to 200
- TO-3P Package

ORDERING INFORMATION

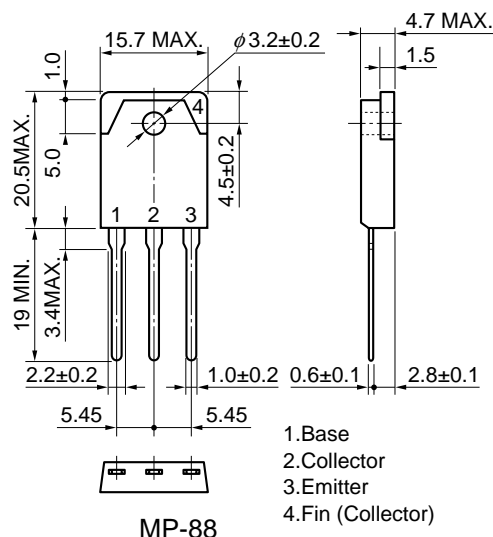
Type Number	Package
2SA1988	MP-88

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$)

Collector to Base Voltage	V_{CB0}	-200	V
Collector to Emitter Voltage	V_{CE0}	-200	V
Emitter to Base Voltage	V_{EB0}	-5.0	V
Collector Current (DC)	I_C (DC)	-7.0	A
Collector Current (pulse)	I_C (pulse) *1	-10	A
Total Power Dissipation	P_2 *2	100	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

*1 $PW \leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 10\%$ *2 $T_C = 25\text{ }^\circ\text{C}$

PACKAGE DIMENSIONS



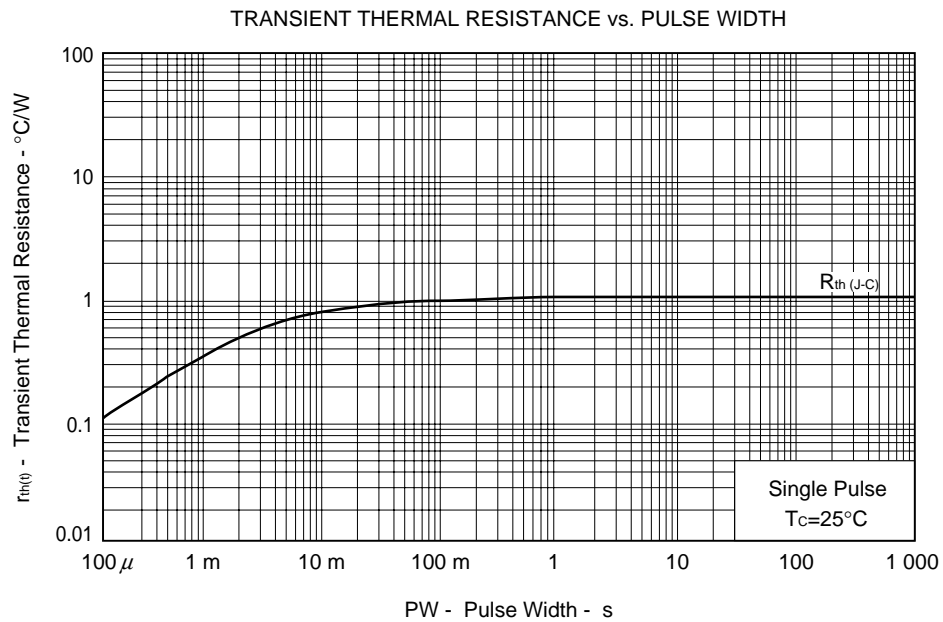
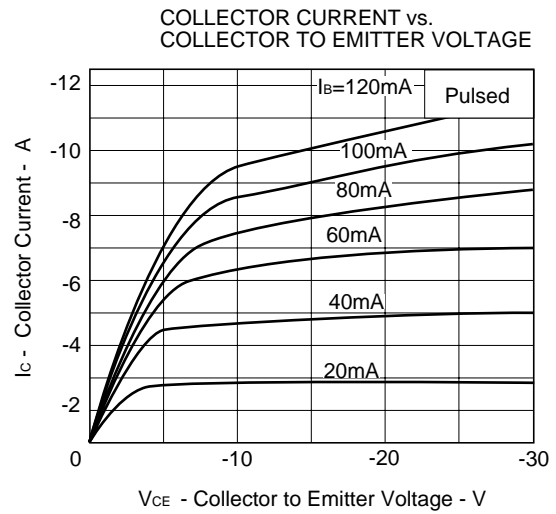
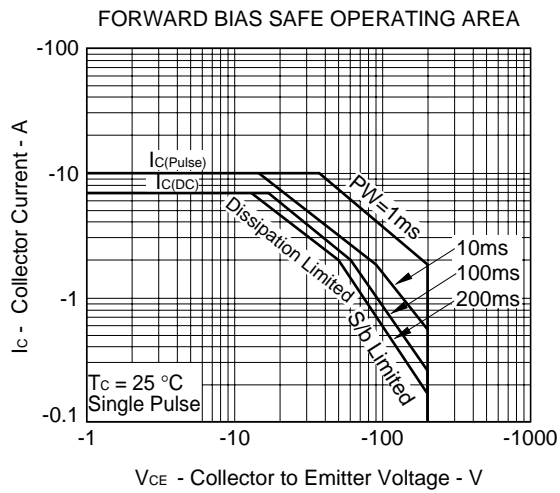
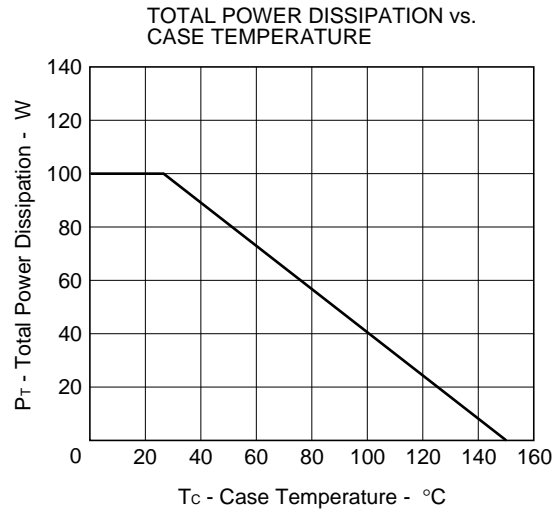
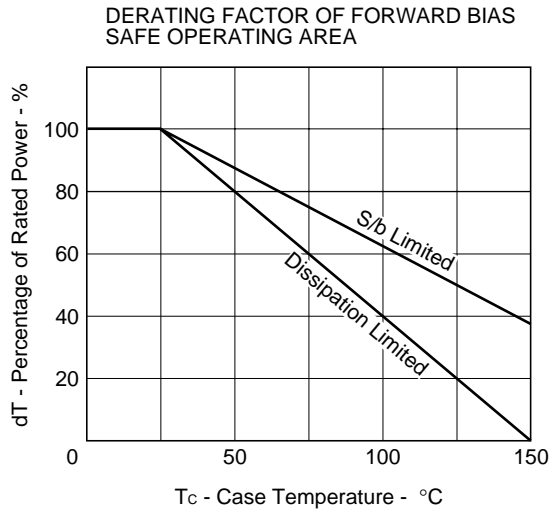
ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$)

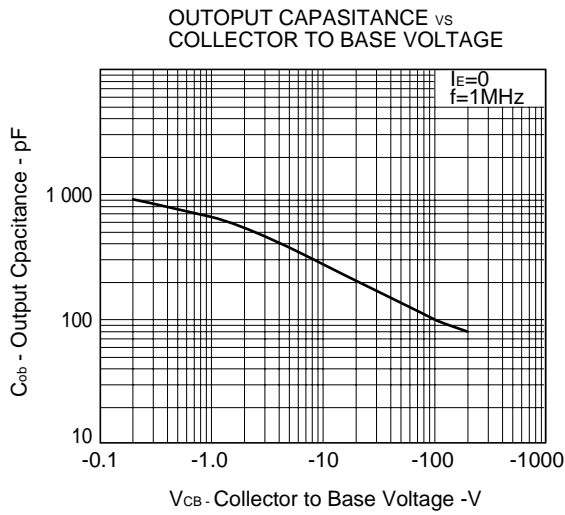
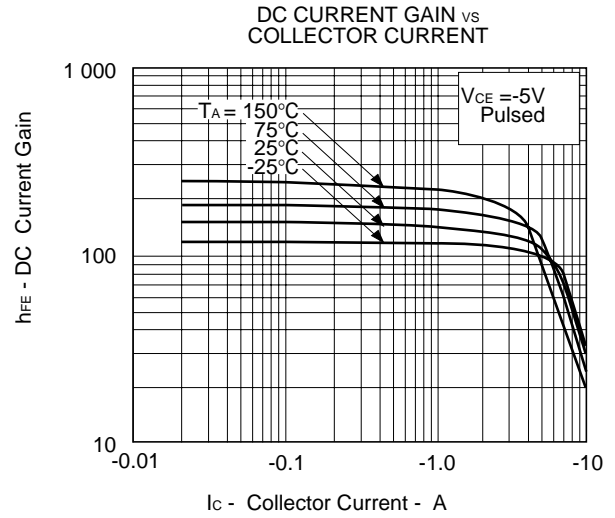
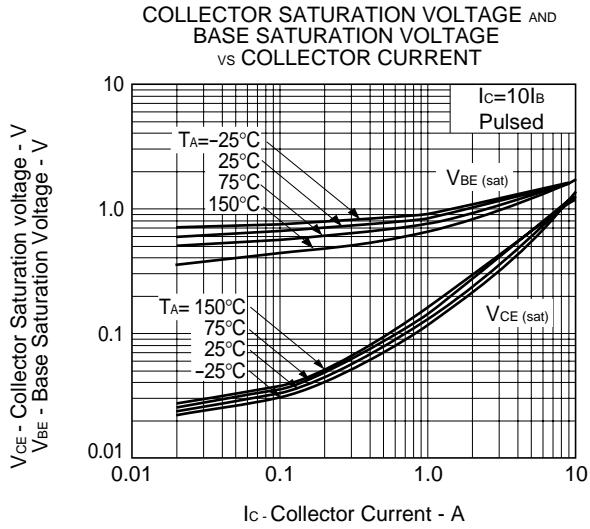
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CB0}			-50	μA	$V_{CB} = -200\text{ V}$, $I_E = 0$
Emitter Cutoff Current	I_{EB0}			-50	μA	$V_{EB} = -3.0\text{ V}$, $I_C = 0$
DC Current Gain	h_{FE1}	70		200	-	$V_{CE} = -5.0\text{ V}$, $I_C = -1.0\text{ A}$ *
DC Current Gain	h_{FE2}	20			-	$V_{CE} = -5.0\text{ V}$, $I_C = -3.5\text{ A}$ *
Collector Saturation Voltage	$V_{CE(sat)}$		-0.6	-2.0	V	$I_C = -5.0\text{ V}$, $I_E = -0.5\text{ V}$ *
Base Saturation Voltage	$V_{BE(sat)}$		-1.3	-2.0	V	$I_C = -5.0\text{ V}$, $I_E = -0.5\text{ V}$ *
Gain Band width Product	f_T		40		MHz	$V_{CE} = -5.0\text{ V}$, $I_C = 1.0\text{ mA}$
Output Capacitance	C_{ob}		270		pF	$V_{CB} = -10\text{ V}$, $I_C = 0$, $f = 1.0\text{ MHz}$

* Pulse Test $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

The information in this document is subject to change without notice.

CHARACTERISTICS ($T_A = 25^\circ\text{C}$)





REFERENCE

Document Name	Document No.
NEC semiconductor device reliability/quality control system	TEI-1202
Quality grade on NEC semiconductor devices	IEI-1209
Semiconductor device mounting technology manual	C10535E
Semiconductor device package manual	C10943X
Guide to quality assurance for semiconductor devices	MEI-1202
Semiconductor selection guide	X10679E

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Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

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Anti-radioactive design is not implemented in this product.