NEC
ELECTRON DEVICE

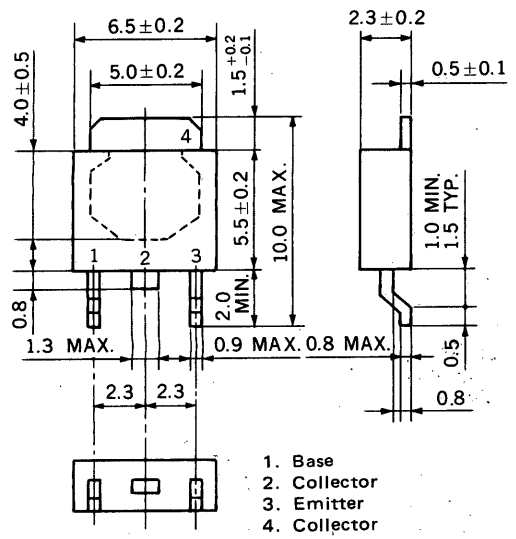
SILICON TRANSISTOR
2SD992-Z

NPN SILICON EPITAXIAL TRANSISTOR
MP-3

DESCRIPTION

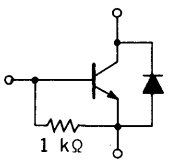
2SD992-Z is designed for Audio Frequency Amplifier and Switching, especially in Hybrid Integrated Circuits.

PACKAGE DIMENSIONS
in millimeters



FEATURES

- Low $V_{CE(sat)}$: $V_{CE(sat)}$ = 0.3 V TYP.
- B-E Resistor, Built-in
- Complement to 2SB962-Z



ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (T_a = 25 °C)			
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	2	A
Collector Current (Pulse)*	I_C	3	A
Maximum Power Dissipation			
Total Power Dissipation at 25 °C Ambient Temperature**	P_T	2.0	W
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

*PW ≦ 10 ms, Duty Cycle ≦ 50 %

**When mounted on ceramic substrate of 2.5 cm². x 0.7 mm

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			10	μA	V_{CB} = 20 V, I_E = 0
DC Current Gain	h_{FE1}***	35		200		V_{CE} = 0.5 V, I_C = 0.1 A
DC Current Gain	h_{FE2}***	50				V_{CE} = 0.5 V, I_C = 2.0 A
Collector Saturation Voltage	$V_{CE(sat)}$***		0.3	0.5	V	I_C = 2.0 A, I_B = 40 mA
Base Saturation Voltage	$V_{BE(sat)}$***		0.95	1.5	V	I_C = 2.0 A, I_B = 40 mA

***Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

h_{FE} Classification

MARKING	N	M	L	K
h_{FE1}	35 to 80	60 to 120	80 to 120	100 to 200

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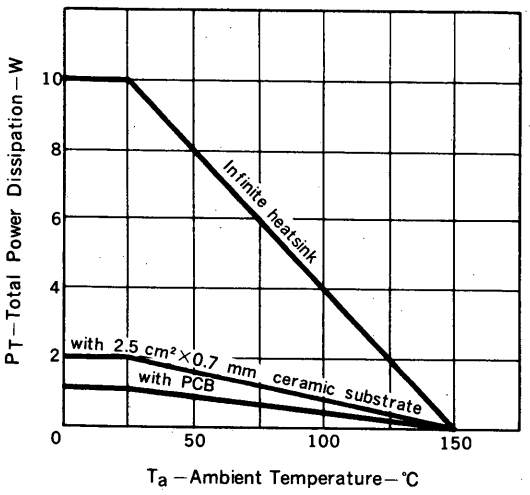
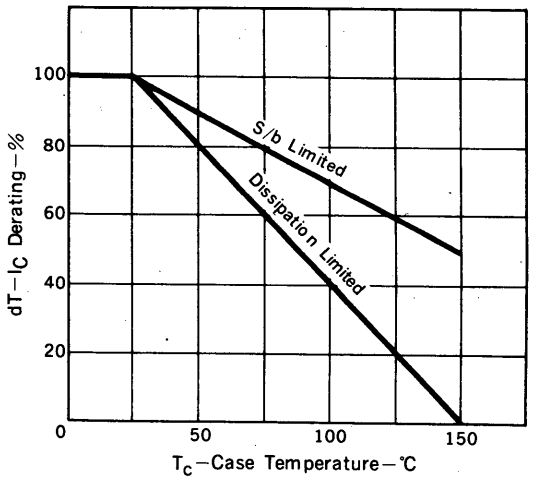
TYPICAL CHARACTERISTICS (T_a = 25 °C)

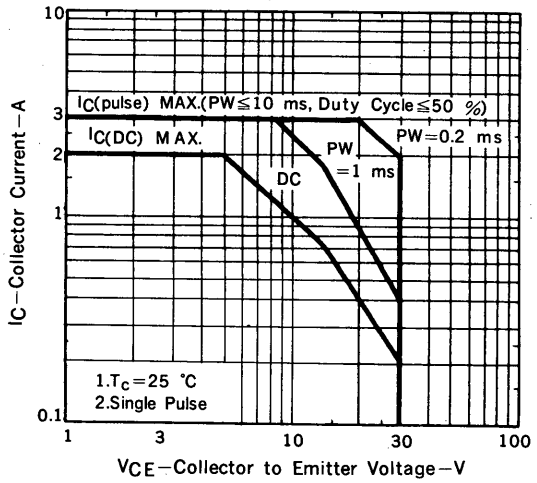
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



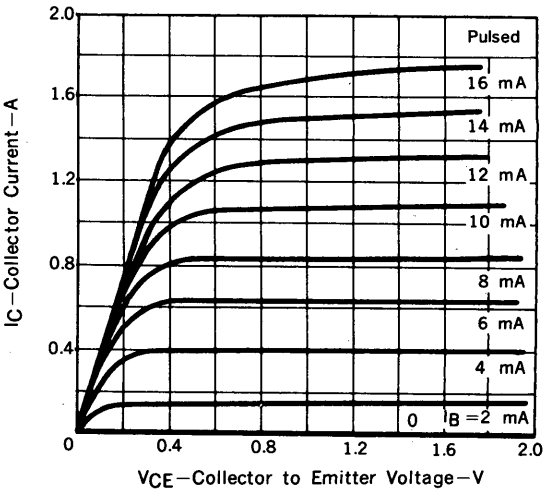
DERATING CURVE OF SAFE OPERATING AREAS



SAFE OPERATING AREAS



COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



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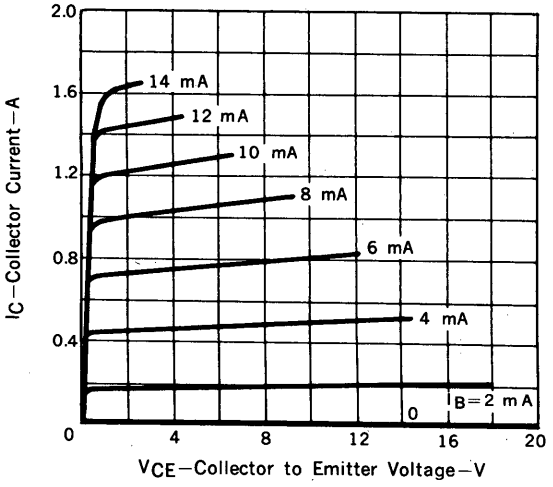
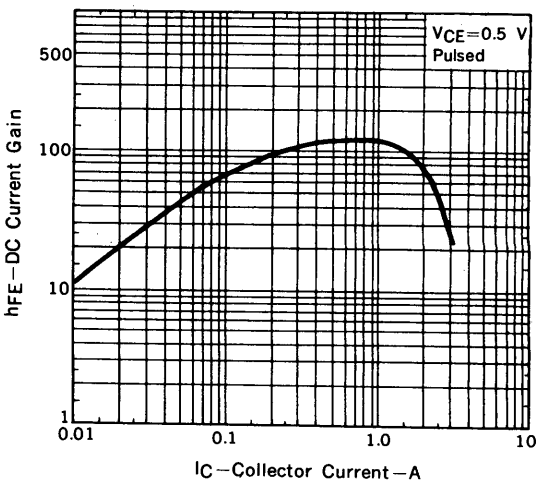
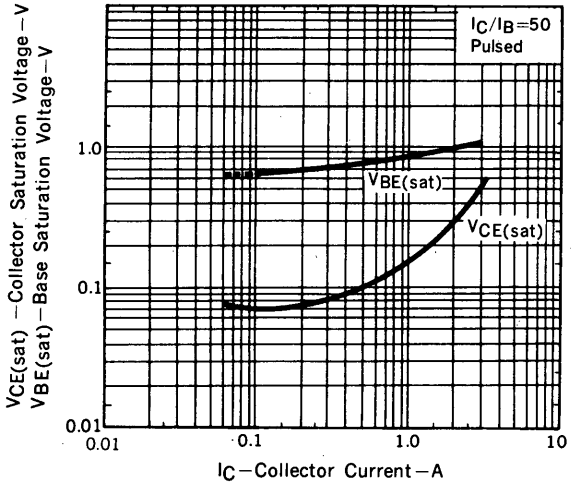


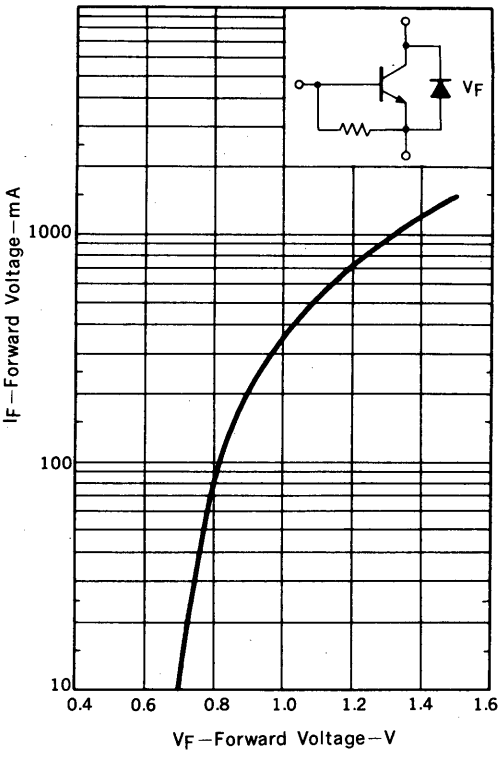
DC CURRENT GAIN vs. COLLECTOR CURRENT



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



FORWARD CURRENT vs. FORWARD VOLTAGE



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