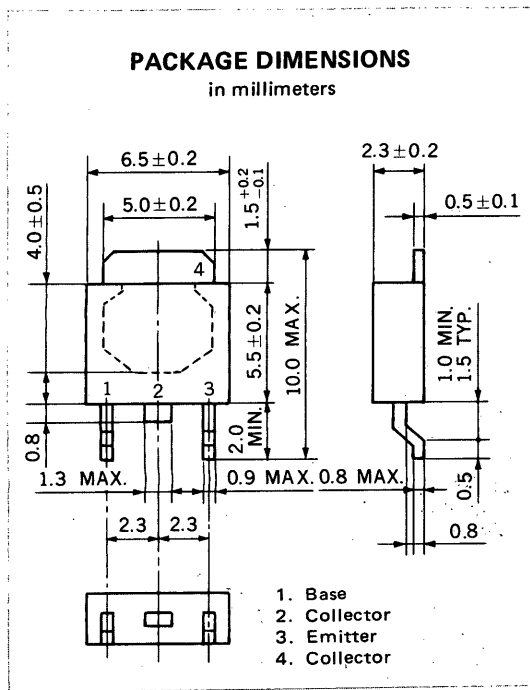


**NPN SILICON EPITAXIAL TRANSISTOR**  
**MP-3**

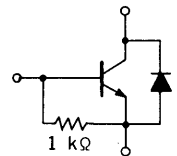
**DESCRIPTION**

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



**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 ( $T_a = 25^\circ\text{C}$ )

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 $25^\circ\text{C}$ Ambient Temperature**	$P_T$	2.0	W
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Maximum Temperatures

Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* $PW \leq 10$  ms, Duty Cycle  $\leq 50\%$

\*\*When mounted on ceramic substrate of  $2.5\text{ cm}^2 \times 0.7\text{ mm}$

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

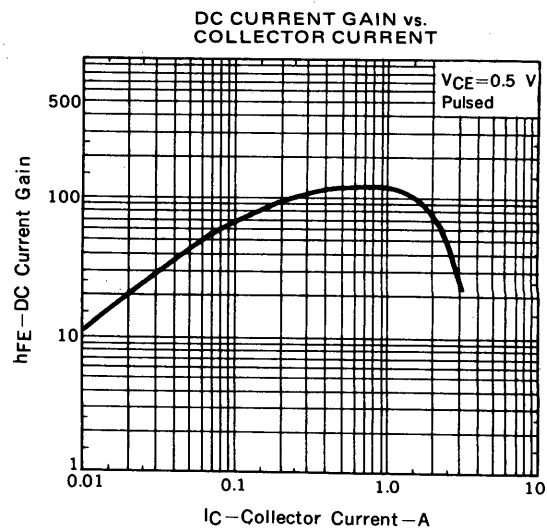
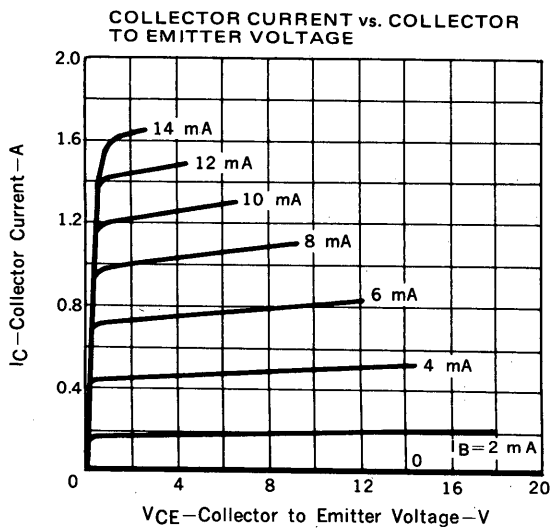
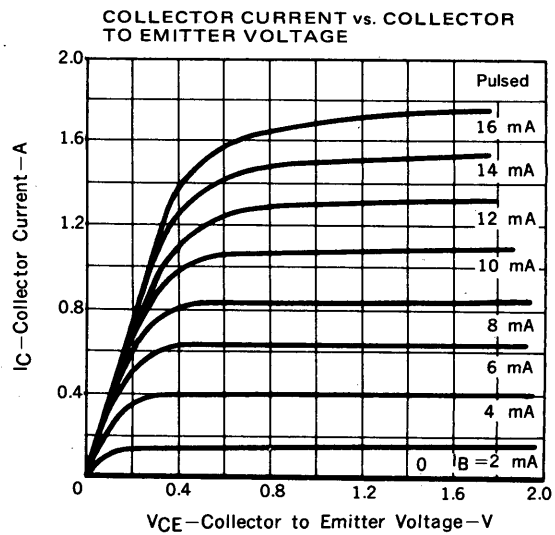
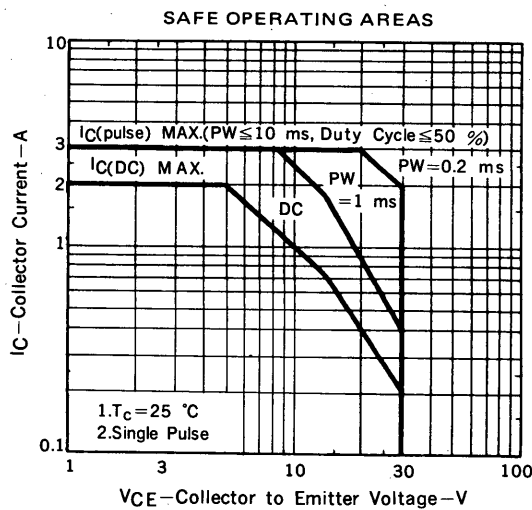
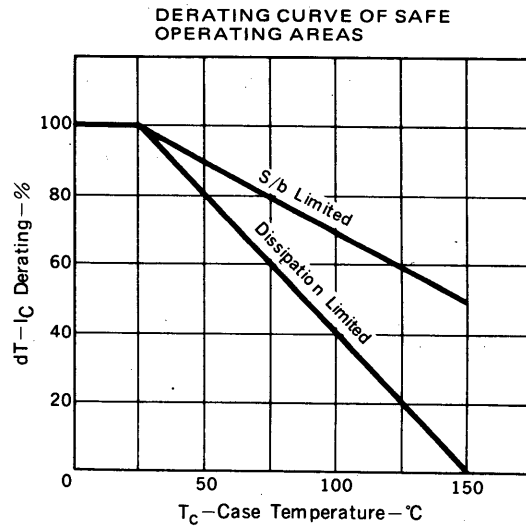
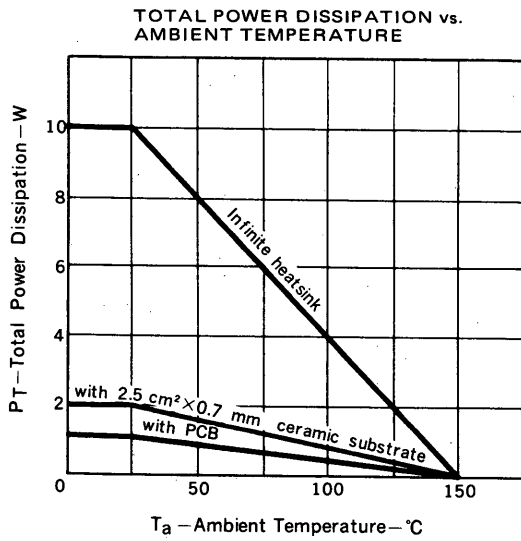
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	$I_{CBO}$			10	$\mu\text{A}$	$V_{CB} = 20\text{ V}, I_E = 0$
DC Current Gain	$h_{FE1}^{***}$	35		200		$V_{CE} = 0.5\text{ V}, I_C = 0.1\text{ A}$
DC Current Gain	$h_{FE2}^{***}$	50				$V_{CE} = 0.5\text{ V}, I_C = 2.0\text{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

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

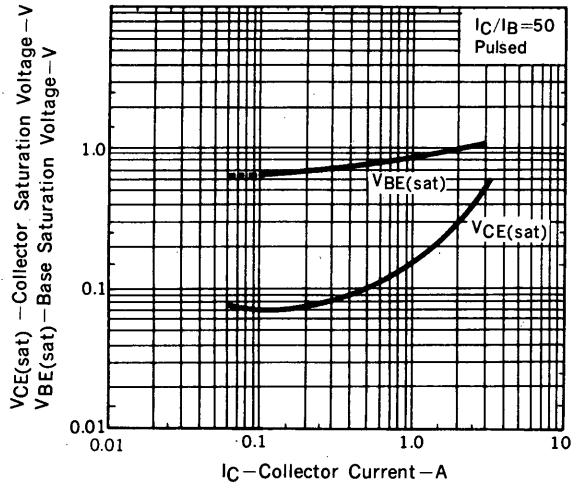
**$h_{FE}$  Classification**

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

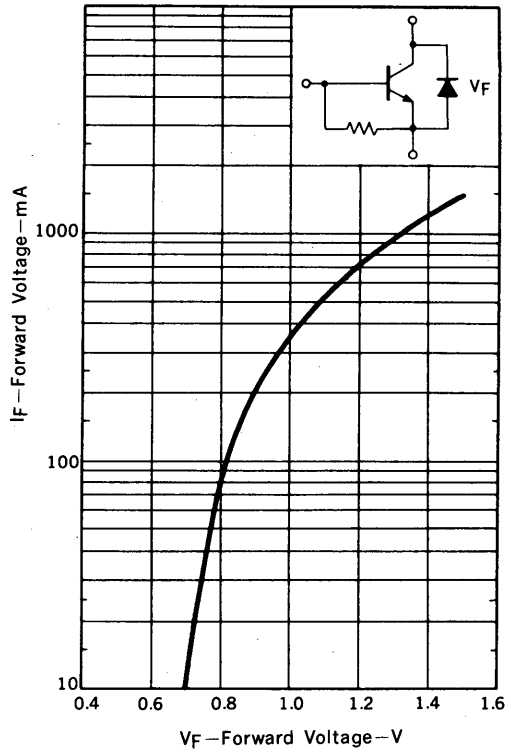
TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



FORWARD CURRENT vs. FORWARD VOLTAGE



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## NEC Corporation

INTERNATIONAL ELECTRON DEVICES DIV.  
SUMITOMO MITA Building, 37-8,  
Shiba Gochome, Minato-ku, Tokyo 108, Japan  
Tel: Tokyo 456-3111  
Telex Address: NECTOK J22686  
Cable Address: NEC TOKYO

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