NEC
ELECTRON DEVICE

SILICON TRANSISTOR
2SD992-Z

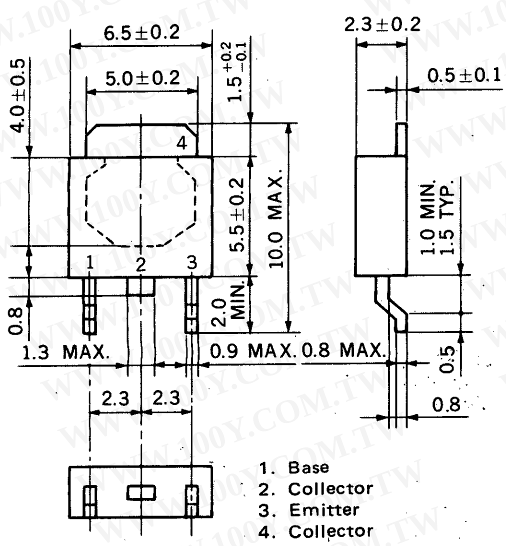
NPN SILICON EPITAXIAL TRANSISTOR
MP-3

DESCRIPTION

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

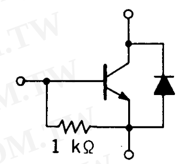
PACKAGE DIMENSIONS

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

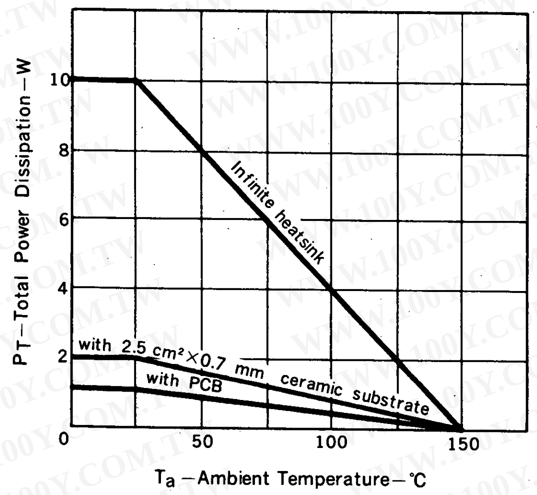
***Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

h_{FE} Classification

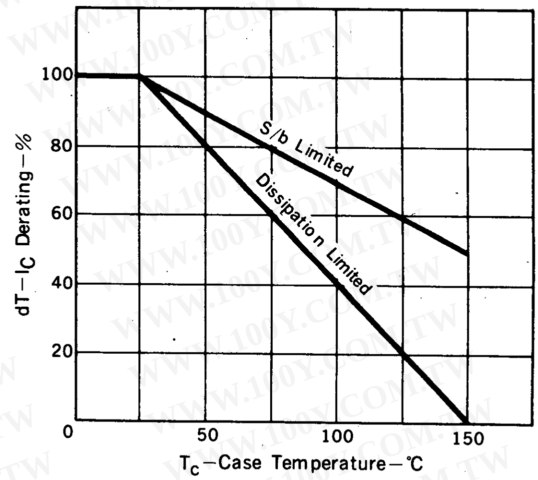
MARKING	N	M	L	K
h_{FE1}	35 to 80	60 to 120	80 to 120	100 to 200

TYPICAL CHARACTERISTICS (T_a = 25 °C)

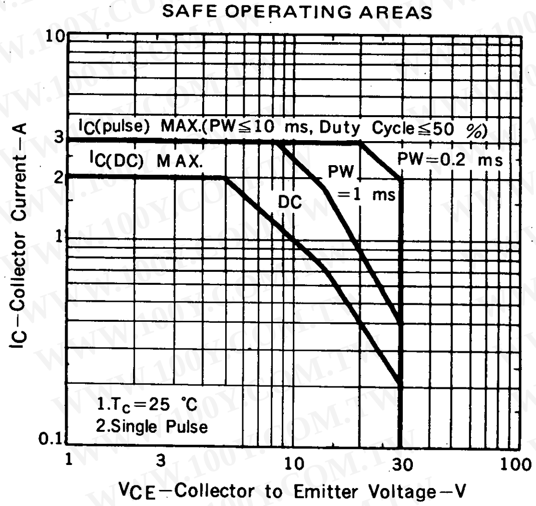
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



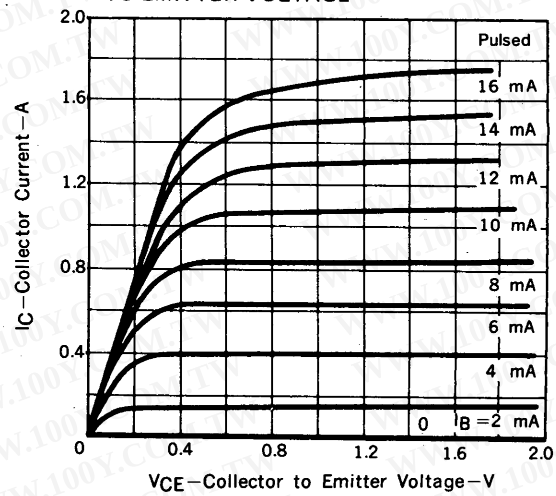
DERATING CURVE OF SAFE OPERATING AREAS



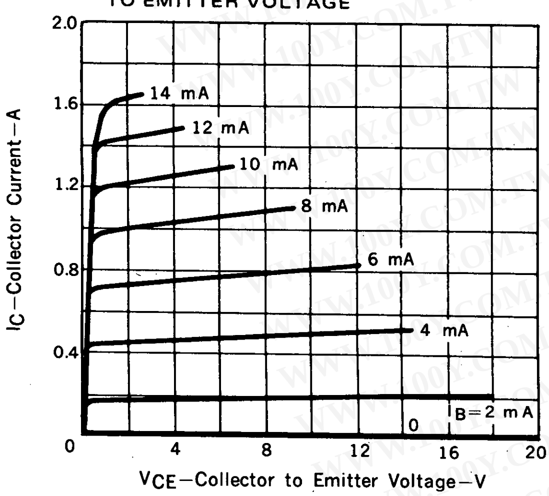
SAFE OPERATING AREAS



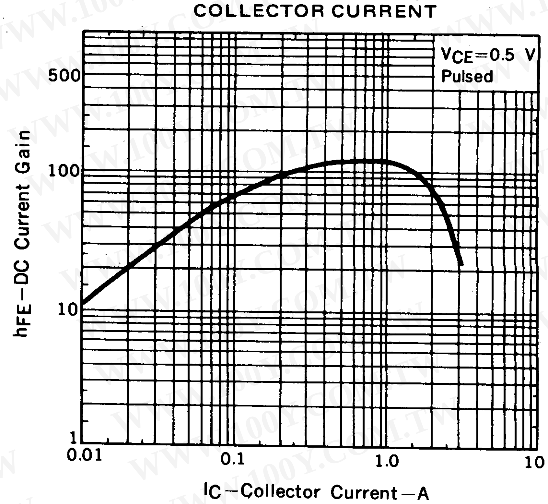
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



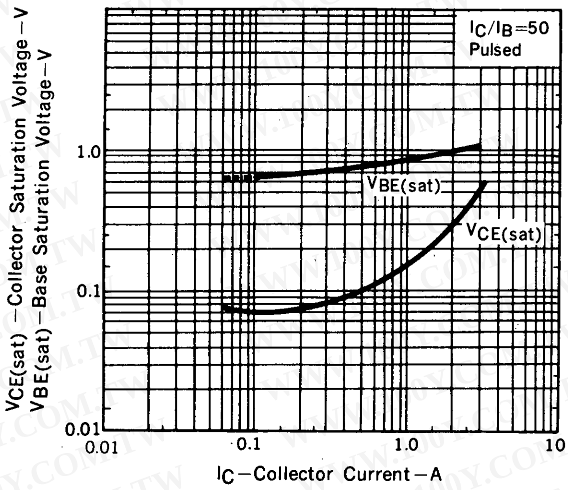
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



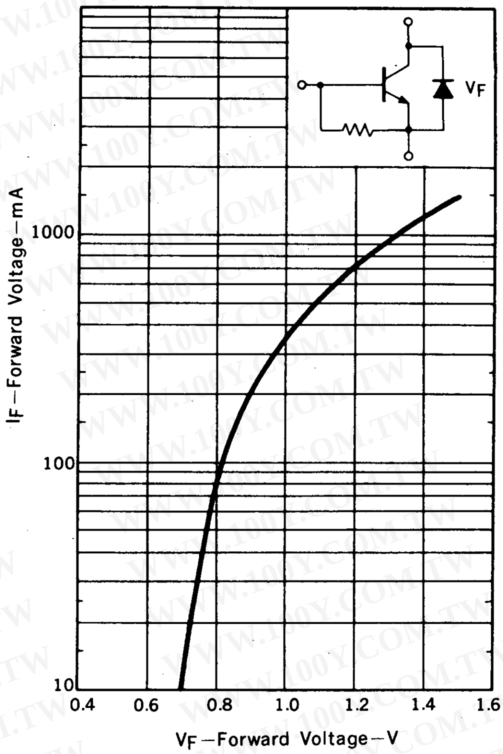
DC CURRENT GAIN vs. COLLECTOR CURRENT



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



FORWARD CURRENT vs. FORWARD VOLTAGE



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