

PNP SILICON EPITAXIAL TRANSISTOR

MP-3

DESCRIPTION

2SB962-Z is designed for Audio frequency amplifier and switching, especially in Hybrid Integrated Circuits.

FEATURE

- LOW $V_{CE(sat)}$ $V_{CE(sat)} = -0.3$ V TYP.

QUALITY GRADE

Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

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

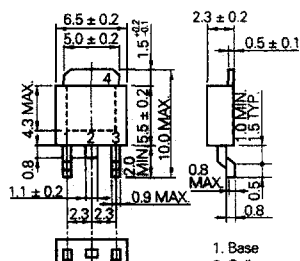
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-30	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-3	A
Collector Current (Pulse)*	I_C	-6	A
Total Power Dissipation ($T_a = 25^\circ\text{C}$)**	P_T	2.0	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10$ ms, Duty Cycle ≤ 50 %

** When mounted on ceramic substrate of $7.5\text{ cm}^2 \times 0.7$ mm

PACKAGE DIMENSIONS

(in millimeters)



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

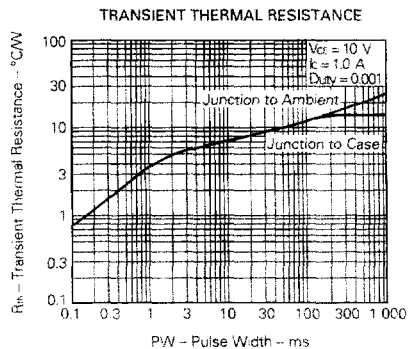
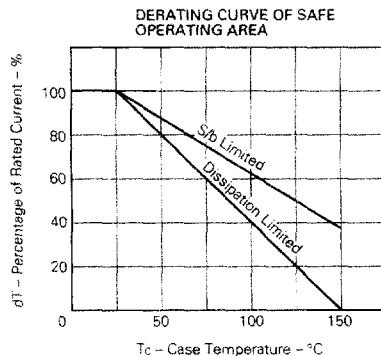
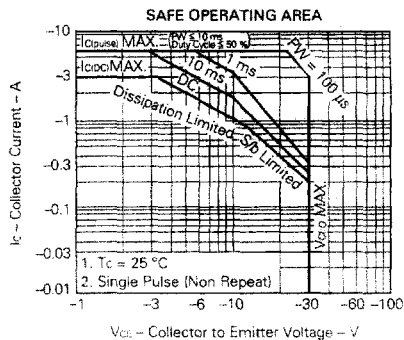
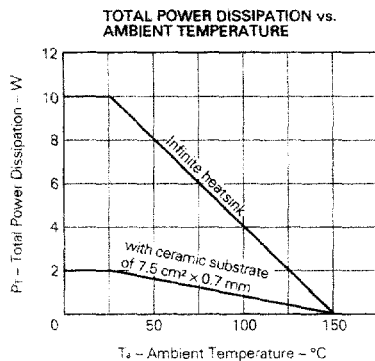
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			-10	μA	$V_{CE} = -30\text{ V}, I_E = 0$
Emitter Cutoff Current	I_{EBO}			-1.0	μA	$V_{EB} = -3.0\text{ V}, I_C = 0$
DC Current Gain	h_{FE1}^*	30	150			$V_{CE} = -2.0\text{ V}, I_C = -20\text{ mA}$
DC Current Gain	h_{FE2}^*	60	160	400		$V_{CE} = -2.0\text{ V}, I_C = -1.0\text{ A}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		-0.3	-0.5	V	$I_C = -2.0\text{ A}, I_E = -0.2\text{ A}$
Base Saturation Voltage	$V_{BE(sat)}^*$		-1.0	-2.0	V	$I_C = -2.0\text{ A}, I_E = -0.2\text{ A}$
Gain Bandwidth Product	f_T		80		MHz	$V_{CE} = -5.0\text{ V}, I_E = 100\text{ mA}$
Output Capacitance	C_{ob}		55		pF	$V_{CE} = -10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$

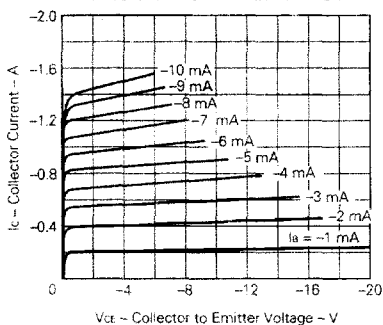
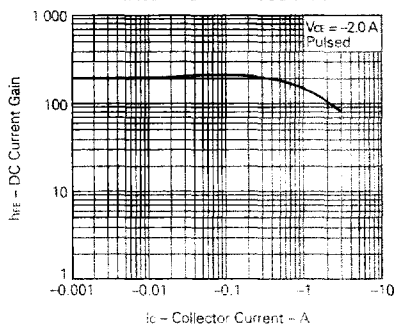
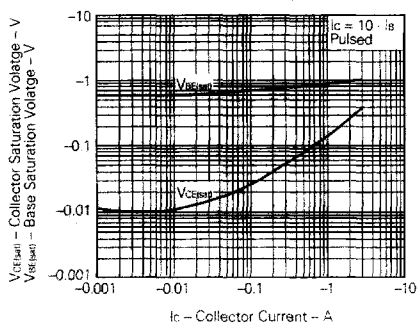
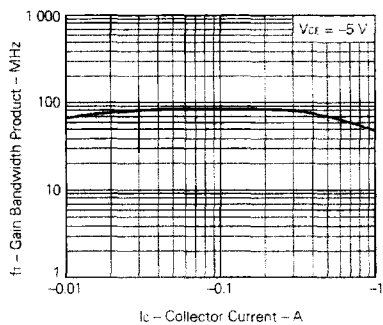
* Pulsed: $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

h_{FE} Classification

MARKING	R	Q	P	E
h_{FE2}	60 to 120	100 to 200	160 to 320	200 to 400

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



COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGECOLLECTOR CURRENT vs.
BASE TO EMITTER VOLTAGEBASE AND COLLECTOR SATURATION
VOLTAGE vs. COLLECTOR CURRENTGAIN BANDWIDTH PRODUCT vs.
COLLECTOR CURRENTOUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE