

NPN SILICON TRANSISTOR

2SC2869

DESCRIPTION The 2SC2869 is designed for Low Noise Amplifier of VHF & UHF band.

FEATURES

- Low Noise and High Gain
 $NF = 1.2 \text{ dB TYP.}$
 $G_a = 10.5 \text{ dB TYP.}$ $V_{CE} = 8 \text{ V, } I_C = 5 \text{ mA, } f = 1.0 \text{ GHz}$
- High Power Gain
 $MAG = 16.5 \text{ dB TYP.}$
 $V_{CE} = 8 \text{ V, } I_C = 20 \text{ mA, } f = 1.0 \text{ GHz}$

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature $-65 \text{ to } +150 \text{ }^{\circ}\text{C}$

Junction Temperature $150 \text{ }^{\circ}\text{C Maximum}$

Maximum Power Dissipation ($T_c = 130 \text{ }^{\circ}\text{C}$)

Total Power Dissipation 400 mW

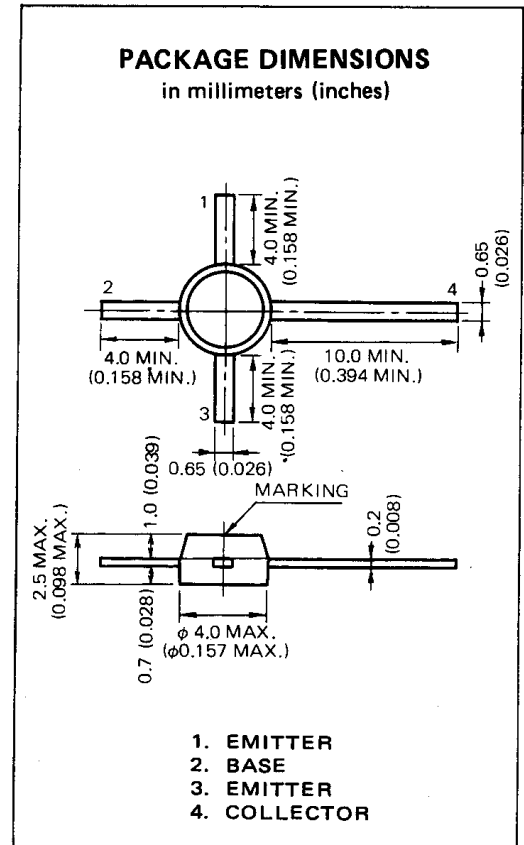
Maximum Voltages and Current ($T_a = 25 \text{ }^{\circ}\text{C}$)

V_{CBO} Collector to Base Voltage 20 V

V_{CEO} Collector to Emitter Voltage 10 V

V_{EBO} Emitter to Base Voltage 3.0 V

I_C Collector Current 80 mA



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE}	DC Current Gain	30	80	300	—	$V_{CE} = 8 \text{ V, } I_C = 20 \text{ mA}$
f_T	Gain Bandwidth Product		8		GHz	$V_{CE} = 8 \text{ V, } I_E = 20 \text{ mA}$
C_{ob}^*	Output Capacitance		0.7	1.0	pF	$V_{CB} = 10 \text{ V, } I_E = 0, f = 1.0 \text{ MHz}$
$ S_{21e} ^2$	Insertion Power Gain	11.5	13		dB	$V_{CE} = 8 \text{ V, } I_C = 20 \text{ mA, } f = 1.0 \text{ GHz}$
NF	Noise Figure		1.2	2.5	dB	$V_{CE} = 8 \text{ V, } I_C = 5 \text{ mA, } f = 1.0 \text{ GHz}$
I_{CBO}	Collector Cutoff Current			1.0	μA	$V_{CB} = 10 \text{ V, } I_E = 0$
I_{EBO}	Emitter Cutoff Current			1.0	μA	$V_{EB} = 1.0 \text{ V, } I_C = 0$

*The emitter should be connected to the guard terminal of the capacitance bridge.