

DESCRIPTION

The PBR951 is an NPN silicon epitaxial transistor designed for low noise amplifier at VHF, UHF and CATV band.

It has dynamic range and good current characteristic.

MARKING:W2W

FEATURES

- Low Noise and High Gain
 $NF = 1.1 \text{ dB TYP.}, G_a = 11 \text{ dB TYP. @} V_{CE} = 10 \text{ V}, I_c = 7 \text{ mA}, f = 1.0 \text{ GHz}$
- High Power Gain
 $MAG = 13 \text{ dB TYP. @} V_{CE} = 10 \text{ V}, I_c = 20 \text{ mA}, f = 1.0 \text{ GHz}$

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

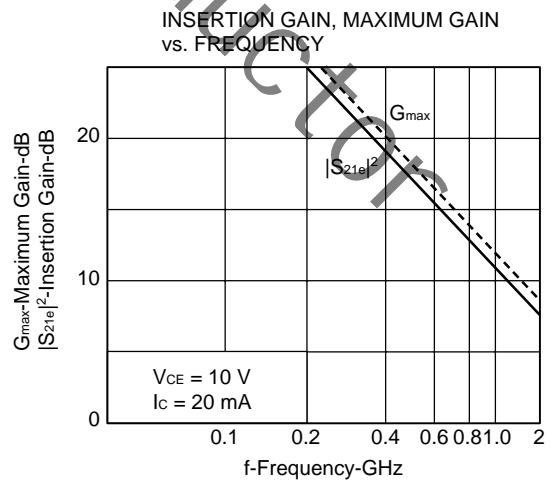
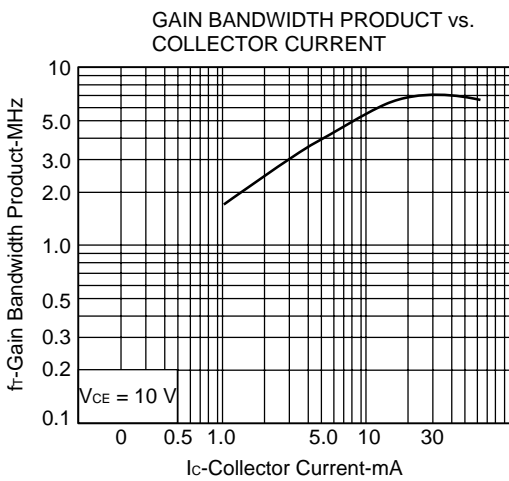
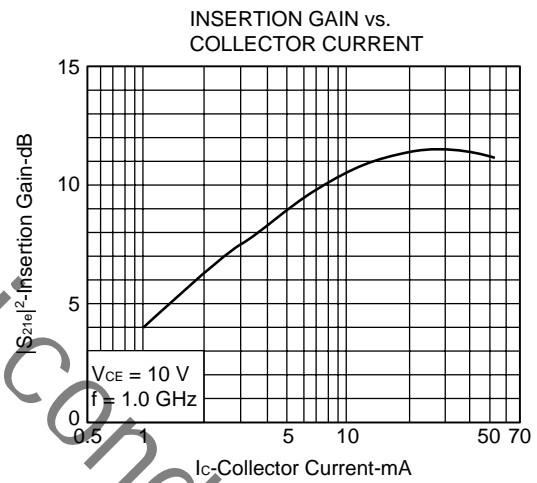
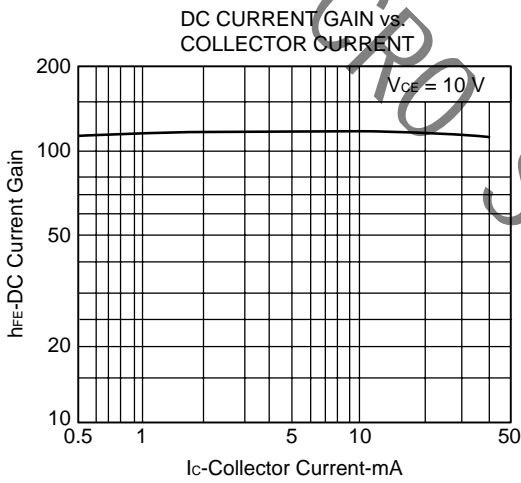
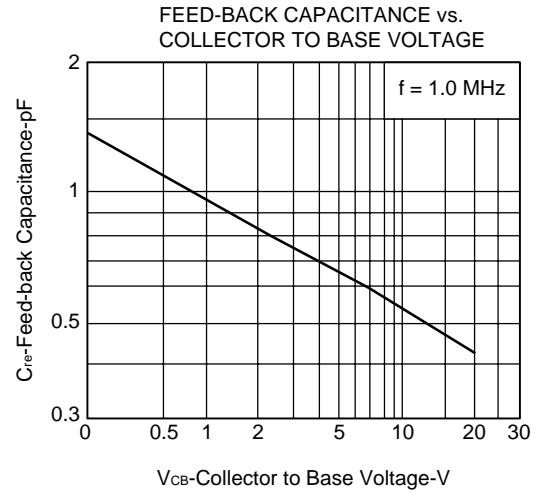
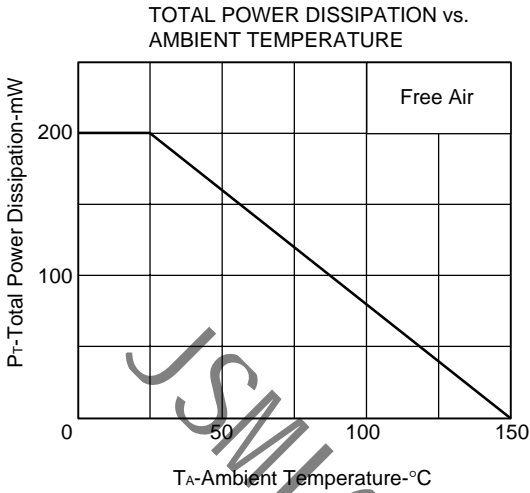
Collector to Base Voltage	V _{CB0}	20	V
Collector to Emitter Voltage	V _{CE0}	12	V
Emitter to Base Voltage	V _{EB0}	3.0	V
Collector Current	I _c	100	mA
Total Power Dissipation	P _T	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-65 to +150	°C

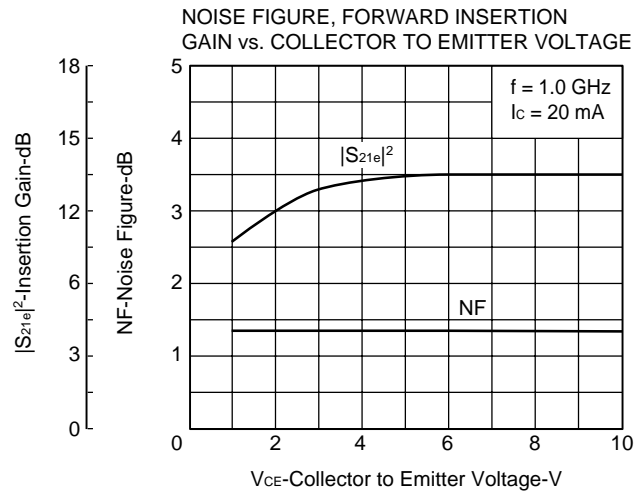
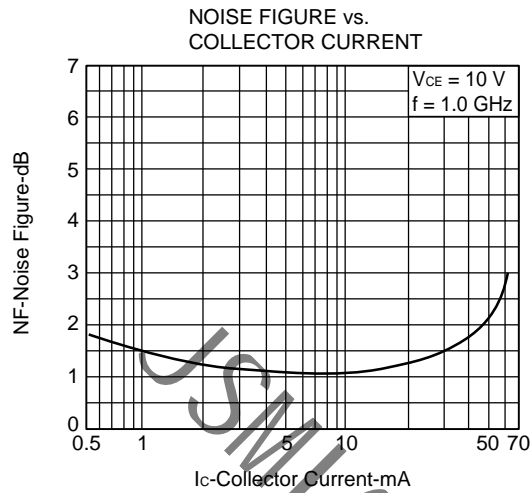
ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I _{cBO}			1.0	μA	V _{CB} = 10 V, I _E = 0
Emitter Cutoff Current	I _{EBO}			1.0	μA	V _{EB} = 1.0 V, I _c = 0
DC Current Gain	h _{FE} *	50	120	300		V _{CE} = 10 V, I _c = 20 mA
Gain Bandwidth Product	f _T		7		GHz	V _{CE} = 10 V, I _c = 20 mA
Feed-Back Capacitance	C _{re} **		0.55	1.0	pF	V _{CB} = 10 V, I _E = 0, f = 1.0 MHz
Insertion Power Gain	S _{21e} ²		11.5		dB	V _{CE} = 10 V, I _c = 20 mA, f = 1.0 GHz
Noise Figure	NF		1.1	2.0	dB	V _{CE} = 10 V, I _c = 7 mA, f = 1.0 GHz

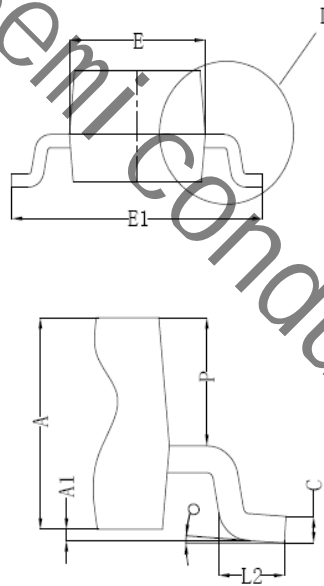
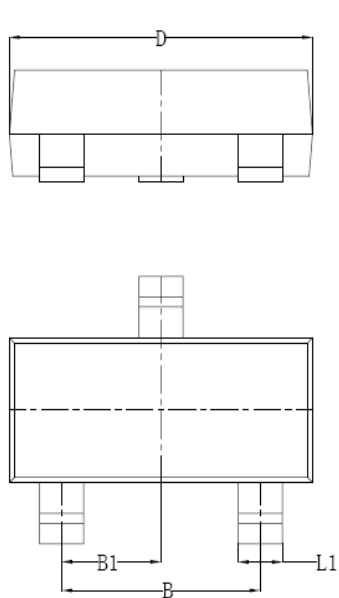
* Pulse Measurement PW ≤ 350 μs, Duty Cycle ≤ 2 %

** The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

TYPICAL CHARACTERISTICS (T_A = 25 °C)




SOT23 Package outline



Symbol	Dim in mm		
	Min	Nor	Max
A	0.900	1.000	1.100
A1	0.000	0.050	0.100
L1	0.350	0.400	0.500
C	0.100	0.110	0.120
D	2.800	2.900	3.000
E	1.250	1.300	1.350
E1	2.250	2.400	2.550
B	1.800	1.900	2.000
B1	0.950 TYP		
L2	0.200	0.350	0.450
P	0.550	0.575	0.600

Detail L