

Silicon NPN RF Transistor

MMBR951L

DESCRIPTION

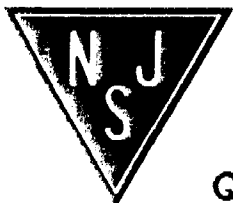
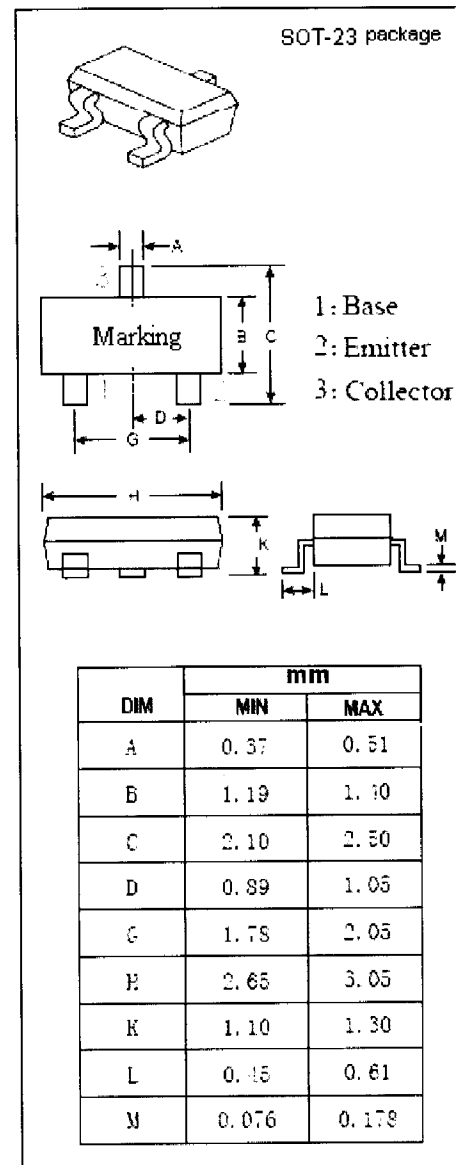
- Low Noise
- High Current-Gain Bandwidth Product

APPLICATIONS

- Designed for use in high gain , low noise small-signal amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	1.5	V
I_C	Collector Current-Continuous	100	mA
P_C	Collector Power Dissipation @ $T_C=75^{\circ}\text{C}$	0.322	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$



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ELECTRICAL CHARACTERISTICS

$T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 0.1\text{mA}; I_B = 0$	10			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 0.1\text{mA}; I_E = 0$	20			V
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 1\text{V}; I_C = 0$			0.1	μA
I_{CBO}	Collector Cutoff Current	$V_{CB} = 10\text{V}; I_E = 0$			0.1	μA
h_{FE}	DC Current Gain	$I_C = 5\text{mA}; V_{CE} = 6\text{V}$	50		200	
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10\text{V}; f = 1\text{MHz}$		0.45	1.0	pF
f_T	Current-Gain—Bandwidth Product	$I_C = 30\text{mA}; V_{CE} = 6\text{V}; f = 1\text{GHz}$		8		GHz
$ S_{21e} ^2$	Insertion Power Gain	$I_C = 30\text{mA}; V_{CE} = 6\text{V}; f = 1.0\text{GHz}$		12.5		dB
$ S_{21e} ^2$	Insertion Power Gain	$I_C = 30\text{mA}; V_{CE} = 6\text{V}; f = 2.0\text{GHz}$		7.0		dB
GU_{max}	Maximum Unilateral Gain	$I_C = 30\text{mA}; V_{CE} = 8\text{V}; f = 1.0\text{GHz}$		14		dB
GU_{max}	Maximum Unilateral Gain	$I_C = 30\text{mA}; V_{CE} = 8\text{V}; f = 2.0\text{GHz}$		8		dB
NF	Noise Figure	$I_C = 5\text{mA}; V_{CE} = 6\text{V}; f = 1\text{GHz}; R_G = 50\Omega$		1.9	2.8	dB