

Silicon NPN RF Transistor

MMBR941L

DESCRIPTION

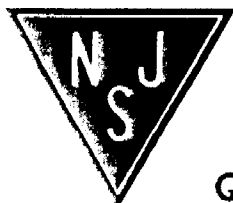
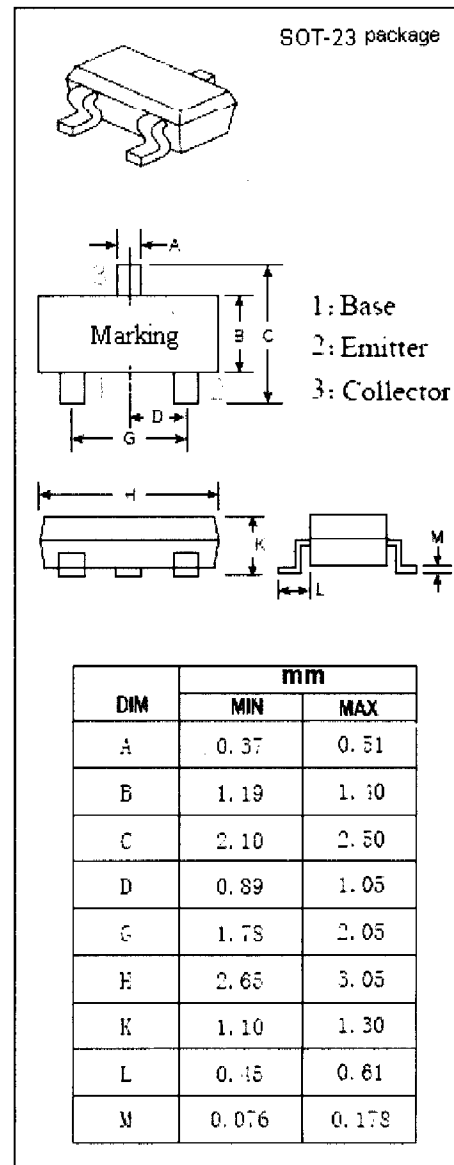
- Low Noise
- High Current-Gain Bandwidth Product

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	20	V
V _{CE0}	Collector-Emitter Voltage	10	V
V _{EB0}	Emitter-Base Voltage	1.5	V
I _c	Collector Current-Continuous	50	mA
P _c	Collector Power Dissipation @T _c = 75°C	0.25	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°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	$I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$		0.35		pF
f_T	Current-Gain—Bandwidth Product	$I_C=15\text{mA}; V_{CE}=6\text{V}; f=1\text{GHz}$		8		GHz
$ S_{21e} ^2$	Insertion Power Gain	$I_C=15\text{mA}; V_{CE}=6\text{V}; f=1.0\text{GHz}$		14		dB
$ S_{21e} ^2$	Insertion Power Gain	$I_C=15\text{mA}; V_{CE}=6\text{V}; f=2.0\text{GHz}$		8.0		dB
GU max	Maximum Unilateral Gain	$I_C=15\text{mA}; V_{CE}=6\text{V}; f=1.0\text{GHz}$		16		dB
GU max	Maximum Unilateral Gain	$I_C=15\text{mA}; V_{CE}=6\text{V}; f=2.0\text{GHz}$		10		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