

## isc Silicon NPN RF Transistor

## PRF957

## DESCRIPTION

- Low Noise  
NF = 1.5 dB TYP., @ $V_{CE} = 6V$ ,  $I_C = 30\text{ mA}$ ,  $f = 1\text{ GHz}$
- High Gain  
 $|S_{21e}|^2 = 12\text{ dB TYP.}$  @ $V_{CE} = 6V$ ,  $I_C = 30\text{ mA}$ ,  $f = 1.0\text{ GHz}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

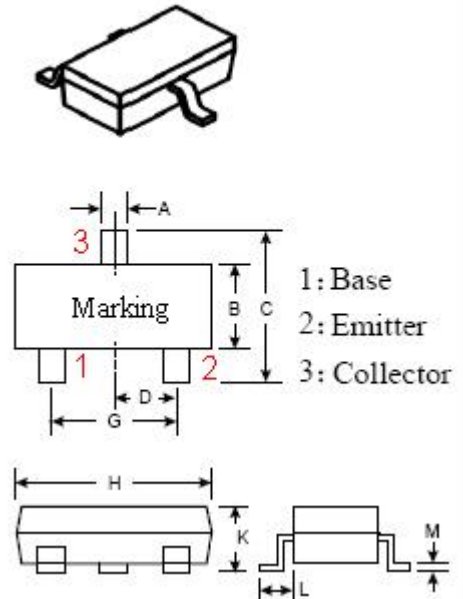
## APPLICATIONS

- Designed for VHF, UHF low noise amplifier.

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 @ $T_c=25^\circ\text{C}$	270	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	

SOT-323 package



DIM	mm	
	MIN	MAX
A	0.2	0.4
B	1.15	1.35
C	2.15	2.45
D	0.65	
G	1.2	1.4
H	2	2.2
K	0.9	1.1
L	0.525	
M	0.08	0.15

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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 10V; I <sub>E</sub> = 0			0.1	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 1V; I <sub>C</sub> = 0			0.1	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 5mA ; V <sub>CE</sub> = 6V	50		200	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 30mA ; V <sub>CE</sub> =6V		8		GHz
C <sub>re</sub>	Feed-Back Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> =6V;f= 1.0MHz		0.65		pF
S <sub>21e</sub>   <sup>2</sup>	Insertion Power Gain	I <sub>C</sub> = 30mA ; V <sub>CE</sub> = 6V;f= 1.0GHz		12		dB
NF	Noise Figure	I <sub>C</sub> = 5mA ; V <sub>CE</sub> = 6V;f= 1.0GHz		1.5		dB

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