

**isc Silicon NPN RF Transistor**
**BFR92A**
**DESCRIPTION**

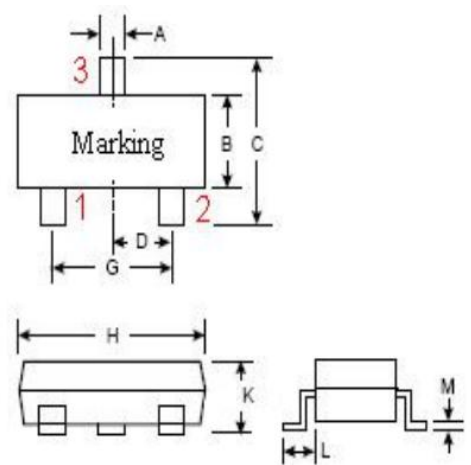
- Low Noise and High Gain  
 $NF = 1.3 \text{ dB TYP.}$   
 $@V_{CE} = 10 \text{ V, } I_C = 7 \text{ mA, } f = 1.0 \text{ GHz}$
- High Power Gain  
 $|S_{21e}|^2 = 11.5 \text{ dB TYP.}$   
 $@V_{CE} = 10 \text{ V, } I_C = 20 \text{ mA, } f = 1.0 \text{ GHz}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low noise amplifier at VHF, UHF and CATV band.

**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	12	V
$V_{EBO}$	Emitter-Base Voltage	2.5	V
$I_C$	Collector Current-Continuous	100	mA
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	0.2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



Pin 1, Base 2, Emitter 3, Collector

SOT-23		
	MIN(mm)	MAX(mm)
A	0.3	0.5
B	1.2	1.4
C	2.25	2.55
D	0.95	
G	1.8	2
H	2.8	3
K	0.9	1.15
L	0.55	
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>CB0</sub>	Collector Cutoff Current	V <sub>CB</sub> = 10V; I <sub>E</sub> = 0			0.1	μ A
I <sub>EB0</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 2V; I <sub>C</sub> = 0			0.1	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 14mA ; V <sub>CE</sub> = 10V	65		150	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V	6	7		GHz
C <sub>re</sub>	Feed-Back Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V;f= 1.0MHz		0.65		pF
S <sub>21e</sub>   <sup>2</sup>	Insertion Power Gain	I <sub>C</sub> = 20mA ; V <sub>CE</sub> = 10V;f= 1.0GHz	11	11.5		dB
NF	Noise Figure	I <sub>C</sub> = 7mA ; V <sub>CE</sub> = 10V;f= 1.0GHz		1.3	1.8	dB

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