

isc Silicon NPN RF Transistor
BFR92A
DESCRIPTION

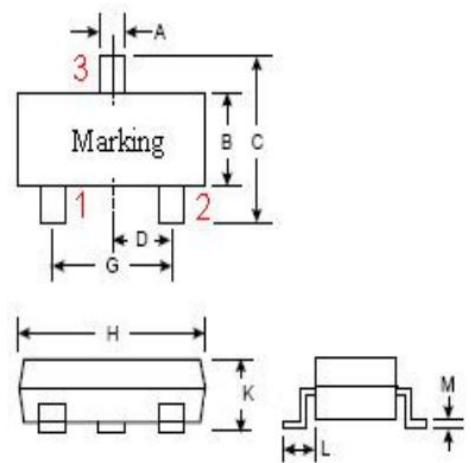
- Low Noise and High Gain
 $NF = 1.3 \text{ dB TYP.}$
 $@V_{CE} = 10 \text{ V, } I_C = 7 \text{ mA, } f = 1.0 \text{ GHz}$
- High Power Gain
 $|S_{21e}|^2 = 11.5 \text{ dB TYP.}$
 $@V_{CE} = 10 \text{ V, } I_C = 20 \text{ mA, } f = 1.0 \text{ GHz}$
- Minimum Lot-to-Lot variations for robust device performance 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_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I _{CB0}	Collector Cutoff Current	V _{CB} = 10V; I _E = 0			0.1	μ A
I _{EB0}	Emitter Cutoff Current	V _{EB} = 2V; I _C = 0			0.1	μ A
h _{FE}	DC Current Gain	I _C = 14mA ; V _{CE} = 10V	65		150	
f _T	Current-Gain—Bandwidth Product	I _C = 20mA ; V _{CE} = 10V	6	7		GHz
C _{re}	Feed-Back Capacitance	I _E = 0 ; V _{CB} = 10V;f= 1.0MHz		0.65		pF
S _{21e} ²	Insertion Power Gain	I _C = 20mA ; V _{CE} = 10V;f= 1.0GHz	11	11.5		dB
NF	Noise Figure	I _C = 7mA ; V _{CE} = 10V;f= 1.0GHz		1.3	1.8	dB

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