isc Silicon NPN RF Transistor BFR193W

DESCRIPTION

- Low Noise and High Gain
  NF = 1.5 dB TYP
  @V_{CE} = 6V, I_C = 5 mA, f = 1.0 GHz
- Minimum Lot-to-Lot variations for robust device performance and reliable operation
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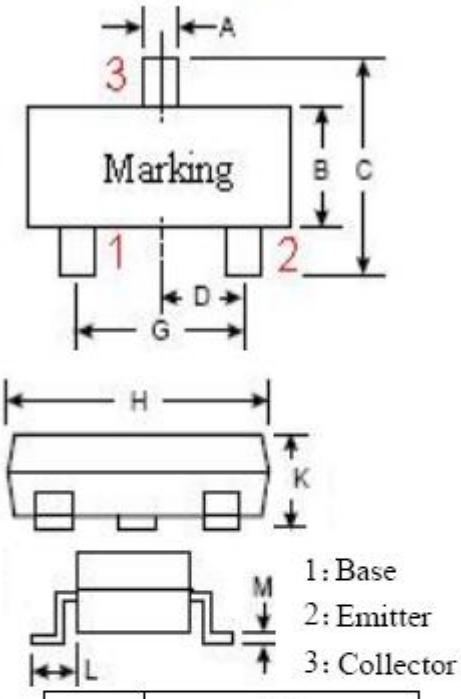
APPLICATIONS

- Designed for low noise amplifier at VHF, UHF

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	2.0	V
I_C	Collector Current-Continuous	80	mA
P_C	Collector Power Dissipation @T_C=25℃	580	mW
T_J	Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

SOT-323 Package



DIM	mm MIN	MAX
A	0.200	0.400
B	1.150	1.350
C	2.150	2.450
D	0.650	
G	1.200	1.400
H	2.000	2.200
K	0.900	1.100
L	0.525	
M	0.080	0.150

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	IC=1mA,IB=0	12			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 10V; I_E= 0			0.1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 1V; I_C= 0			1.0	μA
h_{FE}	DC Current Gain	I_C= 20mA ; V_{CE}= 6V	70		140	
f_T	Current-Gain—Bandwidth Product	I_C= 20mA ; V_{CE}= 6V		8		GHz
C_{re}	Feed-Back Capacitance	I_E= 0 ; V_{CB}= 6V;f= 1.0MHz		0.4	0.7	pF
$\|S_{21e}\|^2$	Insertion Power Gain	I_C= 20mA ; V_{CE}= 6V;f= 1.0GHz		12.5		dB
NF	Noise Figure	I_C= 5mA ; V_{CE}= 6V;f= 1.0GHz		1.5	2	dB