

isc Silicon NPN RF Transistor

BFR93AW

DESCRIPTION

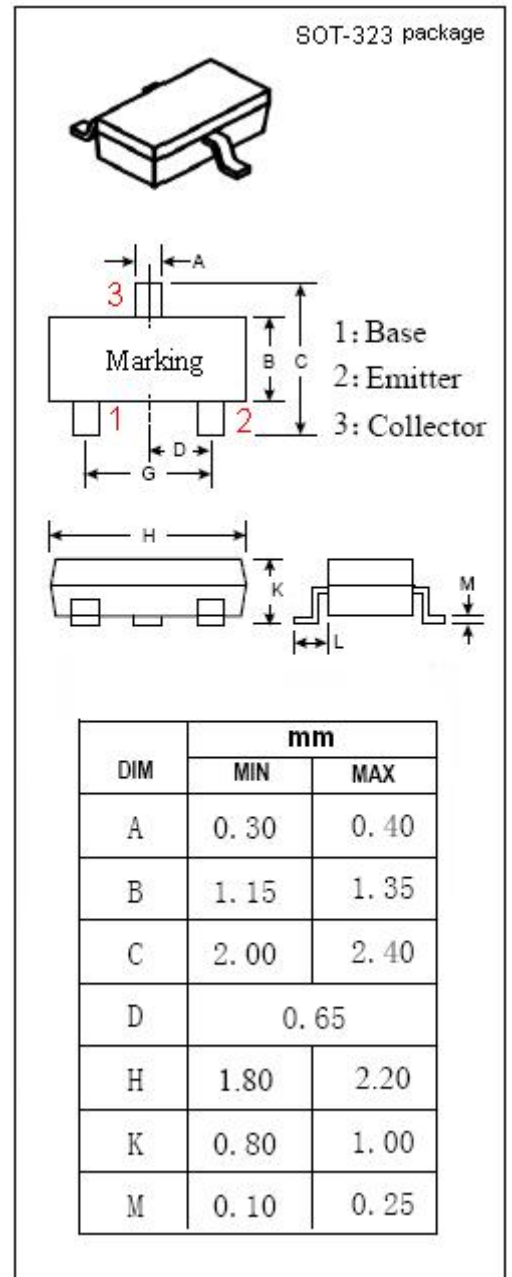
- High Power Gain
- High Current Gain Bandwidth Product
- Low Noise Figure
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in RF wideband amplifiers and oscillators.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CES}	Collector-Emitter Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	2	V
I_C	Collector Current-Continuous	50	mA
I_B	Base Current-Continuous	6	mA
P_C	Collector Power Dissipation @ $T_c=25^{\circ}\text{C}$	0.3	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 1mA ; I _B = 0	12			V
I _{CES}	Collector Cutoff Current	V _{CE} = 20V; V _{BE} = 0			100	μ A
I _{CBO}	Collector Cutoff Current	V _{CB} = 10V; I _E = 0			100	nA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 2V; I _C = 0			10	μ A
h _{FE}	DC Current Gain	I _C = 30mA ; V _{CE} = 8V	50		200	
f _T	Current-Gain—Bandwidth Product	I _C = 30mA ; V _{CE} = 8V; f= 500MHz	4.5	6		GHz
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V; f= 1MHz		0.62	0.9	pF
NF	Noise Figure	I _C = 5mA ; V _{CE} = 8V; f= 900MHz		2		dB
NF	Noise Figure	I _C = 5mA ; V _{CE} = 8V; f= 1.8GHz		3.3		dB
PG	Power Gain	I _C = 30mA ; V _{CE} = 8V; f= 900MHz		15		dB
PG	Power Gain	I _C = 30mA ; V _{CE} = 8V; f= 1.8GHz		10		dB
S _{21e} ²	Insertion Power Gain	I _C = 30mA ; V _{CE} = 8V; f= 900MHz		13		dB
S _{21e} ²	Insertion Power Gain	I _C = 30mA ; V _{CE} = 8V; f= 1.8GHz		7.5		dB

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