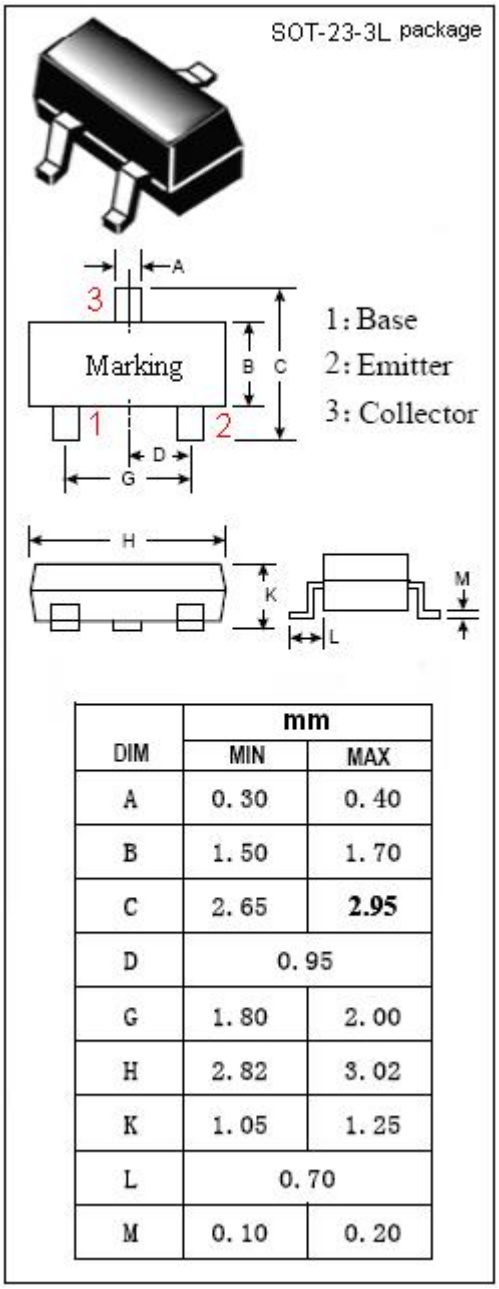
isc Silicon NPN RF Transistor — BFR540

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 RF frontend in wideband applications in the GHz range,such as analog and digital cellular telephones, cordless telephones(CT1, CT2,DEC, etc.).



DIM	mm MIN	mm MAX
A	0.30	0.40
B	1.50	1.70
C	2.65	2.95
D	0.95	
G	1.80	2.00
H	2.82	3.02
K	1.05	1.25
L	0.70	
M	0.10	0.20

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	20	V
V_{CES}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current-Continuous	120	mA
P_C	Collector Power Dissipation @T_C=25℃	0.5	W
T_J	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{CBO}	Collector Cutoff Current	V_{CB}= 8V; I_E= 0			50	nA
h_{FE}	DC Current Gain	I_C= 40mA ; V_{CE}= 8V	100		250	
f_T	Current-Gain—Bandwidth Product	I_C= 40mA ; V_{CE}= 8V; f= 1GHz		9		GHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 8V; f= 1MHz		0.9		pF
C_{re}	Feedback Frequency	I_E= 0 ; V_{CB}= 8V; f= 1MHz		0.6		pF
PG	Power Gain	I_C= 40mA ; V_{CE}= 8V; f= 900MHz		14		dB
PG	Power Gain	I_C= 40mA ; V_{CE}= 8V; f= 2GHz		7		dB
$\lvert S_{21e} \rvert^2$	Insertion Power Gain	I_C= 40mA ; V_{CE}= 8V; f= 900MHz	12	13		dB
NF	Noise Figure	I_C= 10mA ; V_{CE}= 8V; f= 900MHz		1.3	1.8	dB
NF	Noise Figure	I_C= 40mA ; V_{CE}= 8V; f= 900MHz		1.9	2.4	dB
NF	Noise Figure	I_C= 10mA ; V_{CE}= 8V; f= 2GHz		2.1		dB
Vo	Output Voltage	I_C = 40 mA; V_{CE} = 8 V; Z_L = Z_S = 75 Ω		550		mV

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