

isc Silicon NPN RF Transistor

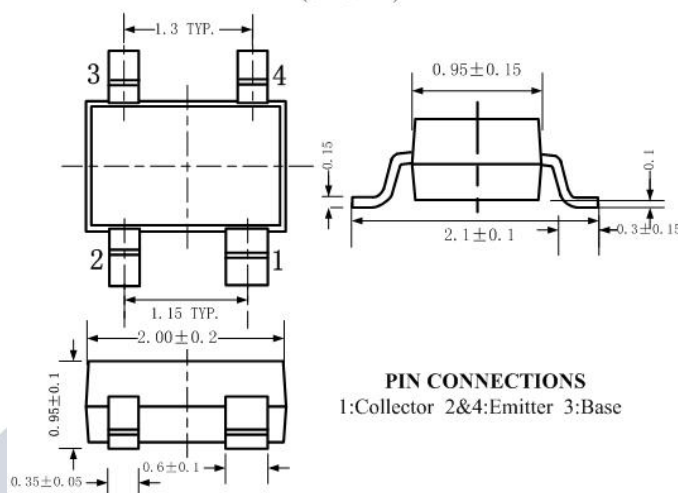
BFG540

DESCRIPTION

- Low Noise Figure
NF = 1.3 dB TYP.
@ $V_{CE} = 8\text{ V}$, $I_C = 10\text{ mA}$, $f = 900\text{ MHz}$
- High Gain
 $|S_{21}|^2 = 16\text{ dB}$ TYP.
@ $V_{CE} = 8\text{ V}$, $I_C = 40\text{ mA}$, $f = 900\text{ MHz}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in low noise ,high-gain amplifiers and linear broadband amplifiers.

SOT-343R(SC82) PACKAGE DIMENSIONS
(Units:mm)PIN CONNECTIONS
1:Collector 2&4:Emitter 3:BaseABSOLUTE 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	120	mA
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	0.5	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

isc Silicon NPN RF Transistor

BFG540

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 _{CBO}	Collector Cutoff Current	V _{CB} = 8V; I _E = 0			0.05	μ A
h _{FE}	DC Current Gain	I _C =40mA ; V _{CE} = 8V	60		250	
f _T	Current-Gain—Bandwidth Product	I _C = 40mA ; V _{CE} = 8V; f= 1MHz		9		GHz
C _{re}	Feedback Capacitance	I _E = 0 ; V _{CB} = 8V; f= 1MHz		0.5		pF
C _e	Emitter capacitance	I _C =I _C =0, V _{EB} =0.5V, f=1MHz		2.0		pF
C _c	Collector capacitance	I _E =I _E =0, V _{CB} =8V, f=1MHz		0.9		pF
S ₂₁ ²	Insertion Power Gain	I _C = 40mA ; V _{CE} = 8V; f= 900MHz	15	16		dB
NF	Noise Figure	I _C = 10mA ; V _{CE} = 8V; f= 900MHz		1.3	1.8	dB
		I _C = 40mA ; V _{CE} = 8V; f= 900MHz		1.9	2.4	
		I _C = 10mA ; V _{CE} = 8V; f= 2GHz		2.1		

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.