

## isc Silicon NPN RF Transistor

## BFQ540

## DESCRIPTION

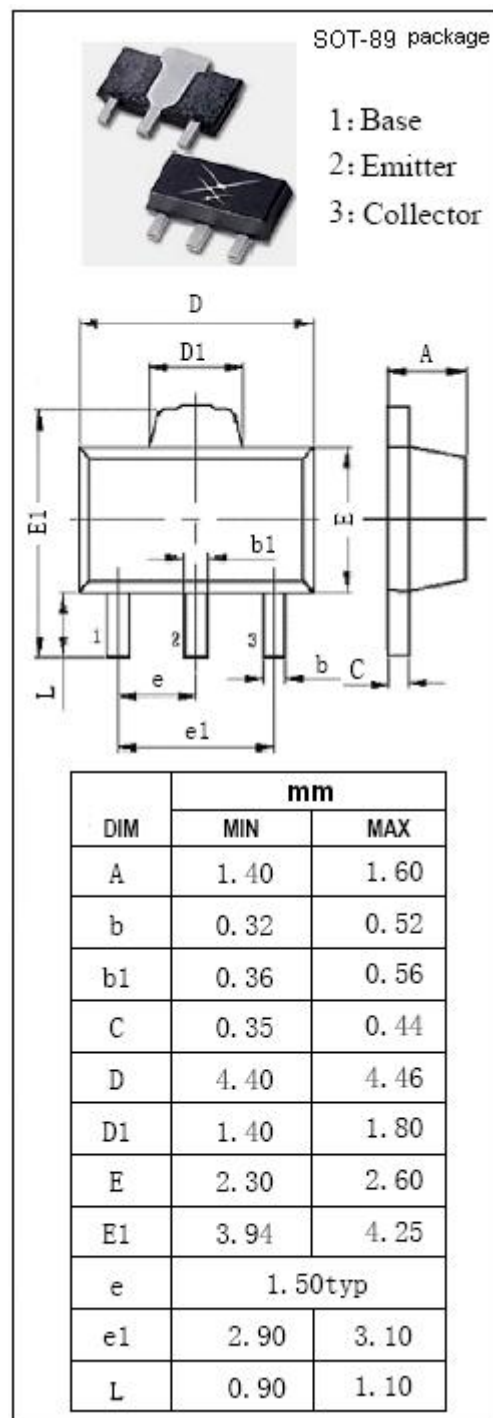
- High Gain
- High Output Voltage
- Low Noise
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for use in VHF, UHF and CATV amplifiers.

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	15	V
$V_{EBO}$	Emitter-Base Voltage	2	V
$I_c$	Collector Current-Continuous	120	mA
$P_c$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	1.2	W
$T_J$	Junction Temperature	175	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



**ELECTRICAL CHARACTERISTICS**T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CES</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 40 μA ; R <sub>BE</sub> = 0	15			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 10 μA ; I <sub>E</sub> = 0	20			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 100 μA ; I <sub>C</sub> = 0	2			V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 8V; I <sub>E</sub> = 0			50	nA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 1V; I <sub>C</sub> = 0			200	nA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 40mA ; V <sub>CE</sub> = 8V	60		250	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 40mA ; V <sub>CE</sub> = 8V; f= 1GHz		9		GHz
C <sub>re</sub>	Feedback Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 8V; f= 1MHz		0.9		pF
S <sub>21e</sub>   <sup>2</sup>	Insertion Power Gain	I <sub>C</sub> = 40mA ; V <sub>CE</sub> = 8V; f= 900MHz	12	13		dB
NF	Noise Figure	I <sub>C</sub> = 40mA ; V <sub>CE</sub> = 8V; f= 900MHz		1.9	2.4	dB

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