

**Silicon NPN RF Transistor**

**BFQ540**

**DESCRIPTION**

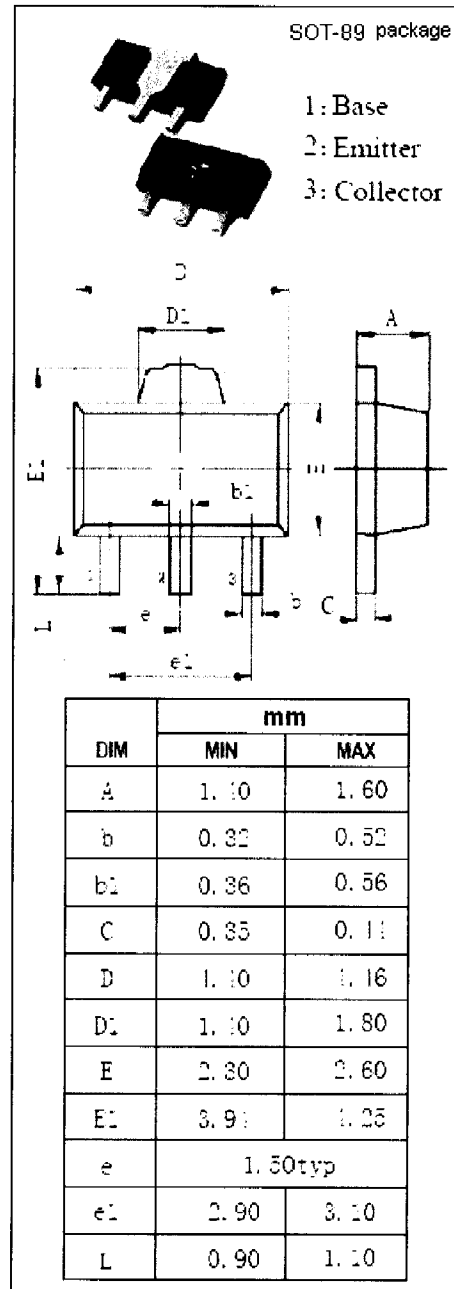
- High Gain
- High Output Voltage
- Low Noise

**APPLICATIONS**

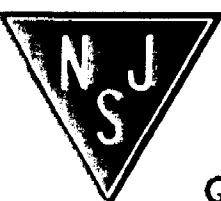
- Designed for use in VHF, UHF and CATV amplifiers.

**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	$^\circ\text{C}$



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# BFQ540

## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C=40\ \mu\text{A}$ ; $R_{BE}=0$	15			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\ \mu\text{A}$ ; $I_E=0$	20			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=100\ \mu\text{A}$ ; $I_C=0$	2			V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=8\text{V}$ ; $I_E=0$			0.05	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=1\text{V}$ ; $I_C=0$			0.2	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=40\text{mA}$ ; $V_{CE}=8\text{V}$	60		250	
$f_T$	Current-Gain—Bandwidth Product	$I_C=40\text{mA}$ ; $V_{CE}=8\text{V}$ ; $f=1\text{GHz}$		9		GHz
$C_{re}$	Feedback Capacitance	$I_E=0$ ; $V_{CB}=8\text{V}$ ; $f=1\text{MHz}$		0.9		pF
$ S_{21e} ^2$	Insertion Power Gain	$I_C=40\text{mA}$ ; $V_{CE}=8\text{V}$ ; $f=900\text{MHz}$	12	13		dB
NF	Noise Figure	$I_C=40\text{mA}$ ; $V_{CE}=8\text{V}$ ; $f=900\text{MHz}$		1.9	2.4	dB

