

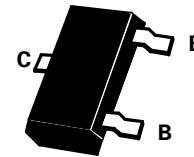
**SOT23 NPN SILICON PLANAR  
VHF/UHF TRANSISTOR**

ISSUE 4 – MARCH 2001

**BFQ31A**

**PARTMARKING DETAILS**

BFQ31A – S4  
BFQ31AR – S5



**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	3	V
Continuous Collector Current	$I_C$	100	mA
Base Current	$I_B$	50	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	330	mW
Operating and Storage Temperature Range	$T_j:T_{stg}$	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS (at  $T_{amb} = 25^\circ\text{C}$ ).**

PARAMETER	SYMBOL	BFQ31A		UNIT	CONDITIONS.
		MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30		V	$I_C=1.0\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	15		V	$I_C=3\text{mA}, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3		V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-Off Current	$I_{CBO}$		0.01	$\mu\text{A}$	$V_{CB}=15\text{V}, I_E=0$
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$		0.4	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(\text{sat})}$		1.0	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Static Forward Current Transfer Ratio	$h_{FE}$	100			$I_C=3\text{mA}, V_{CE}=1\text{V}$
Transition Frequency	$f_T$	600		MHz	$I_C=4\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Output Capacitance	$C_{obo}$		1.7	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$
Input Capacitance	$C_{ibo}$		2.0	pF	$V_{CB}=0.5\text{V}, f=1\text{MHz}$
Noise Figure	N		6.0	dB	$I_C=1\text{mA}, V_{CE}=6\text{V}$ $R_s=400\Omega, f=60\text{MHz}$

\*Measured under pulsed conditions.

Spice parameter data is available upon request for this device

 ZETEX