

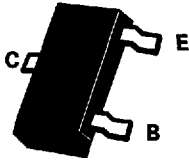
SOT23 NPN SILICON PLANAR
VHF/UHF TRANSISTORS

ISSUE 3 – JANUARY 1996

BFQ31
BFQ31A

PARTMARKING DETAILS

BFQ31 – S2
BFQ31A – S4
BFQ31AR – S5
BFQ31R – S3



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 $T_{amb}=25^{\circ}C$	P_{tot}	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	BFQ31		BFQ31A		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30		30		V	$I_C=1.0\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	15		15		V	$I_C=3mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3		3		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		0.01		0.01	μA	$V_{CB}=15V, I_E=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.4		0.4	V	$I_C=10mA, I_B=1mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.0		1.0	V	$I_C=10mA, I_B=1mA$
Static Forward Current Transfer Ratio	h_{FE}	20		100			$I_C=3mA, V_{CE}=1V$
Transition Frequency	f_T	600		600		MHz	$I_C=4mA, V_{CE}=10V$ $f=100MHz$
Collector-Base Capacitance	C_{obo}		1.7		1.7	pF	$V_{CB}=10V, f=1MHz$
Input Capacitance	C_{ibo}		2.0		2.0	pF	$V_{CB}=0.5V, f=1MHz$
Noise Figure	N		6.0		6.0	dB	$I_C=1mA, V_{CE}=6V$ $R_g=400\Omega, f=60MHz$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device