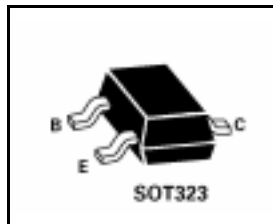


SOT323 NPN SILICON PLANAR VHF/UHF TRANSISTORS

ISSUE 1 – DECEMBER 1998

ZUMTQ31A

PARTMARKING DETAIL – T11



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	$^\circ\text{C}$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
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	μA	$V_{CB}=15\text{V}, I_E=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.4	V	$I_C=10\text{mA}, I_B=1\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		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	$I_C=4\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$
Collector-Base 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. Pulse width=300 μs . Duty cycle $\leq 2\%$

Spice parameter data is available upon request for this device