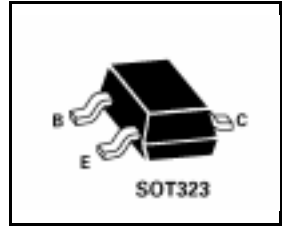


# SOT323 NPN SILICON PLANAR RF TRANSISTORS

ISSUE 1 – DECEMBER 1998

## ZUMTS17 ZUMTS17H

PARTMARKING DETAIL — ZUMTS17 - T4  
ZUMTS17H - T4H



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	25	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	2.5	V
Peak Pulse Current	$I_{CM}$	50	mA
Continuous Collector Current	$I_C$	25	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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector Cut-Off Current	$I_{CBO}$			10 10	nA $\mu\text{A}$	$V_{CB}=10\text{V}, I_E=0$ $V_{CB}=10\text{V}, I_E=0,$ $T_{amb} = 100^\circ\text{C}$
Static Forward Current Transfer Ratio	$h_{FE}$	25 20		150 125		$I_C=2.0\text{mA}, V_{CE}=1.0\text{V}$ $I_C=25\text{mA}, V_{CE}=1.0\text{V}$
ZUMTS17H		70		200		$I_C=2.0\text{mA}, V_{CE}=1.0\text{V}$
Transition Frequency	$f_T$		1.0 1.3		GHz GHz	$I_C=2.0\text{mA}, V_{CE}=5.0\text{V}$ $f=500\text{MHz}$ $I_C=25\text{mA}, V_{CE}=5.0\text{V}$ $f=500\text{MHz}$
Feedback Capacitance	$-C_{re}$		0.85		pF	$I_C=2.0\text{mA}, V_{CE}=5\text{V}, f=1\text{MHz}$
Collector Capacitance	$C_{Tc}$			1.5	pF	$I_E=I_E=0, V_{CB}=10\text{V},$ $f=1\text{MHz}$
Emitter Capacitance	$C_{Te}$			2.0	pF	$I_C=I_C=0, V_{EB}=5.0\text{V},$ $f=1\text{MHz}$
Noise Figure	N		4.5		dB	$I_C=2.0\text{mA}, V_{CE}=5.0\text{V}$ $R_S=50\Omega, f=500\text{MHz}$
Intermodulation Distortion	$d_{im}$		-45		dB	$I_C=10\text{mA}, V_{CE}=6.0\text{V}$ $R_L=37.5\Omega, T_{amb}=25^\circ\text{C}$ $V_o=100\text{mV}$ at $f_p=183\text{MHz}$ $V_o=100\text{mV}$ at $f_q=200\text{MHz}$ measured at $f_{(2q-p)}=217\text{MHz}$

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

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## TYPICAL CHARACTERISTICS

