

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

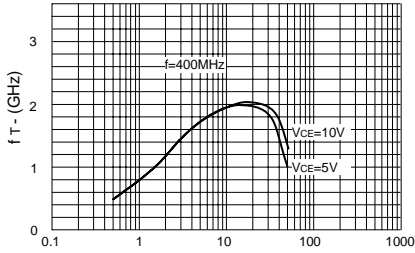
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

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

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

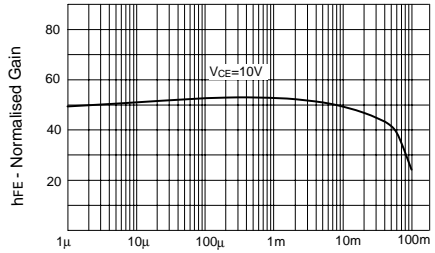
ZUMTS17 ZUMTS17H

TYPICAL CHARACTERISTICS



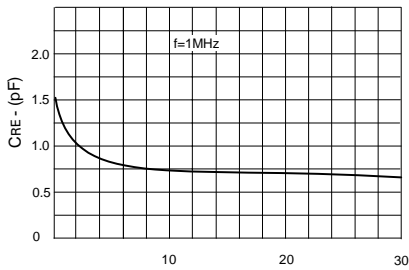
I_C - Collector Current (mA)

f_T v I_C



I_C - Collector Current (A)

hFE v I_C



V_{CE} - (V)

C_{RE} v V_{CE}