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°C	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°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°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=50Ω, f=500MHz
Intermodulation Distortion	d_{im}		-45		dB	I_C=10mA, V_{CE}=6.0V R_L=37.5Ω,T_{amb}=25°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=300µs. Duty cycle ≤2%
Spice parameter data is available upon request for this device

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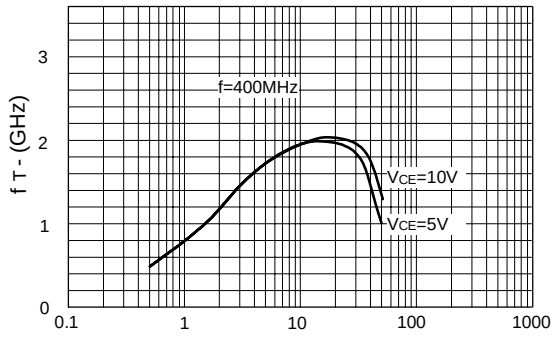
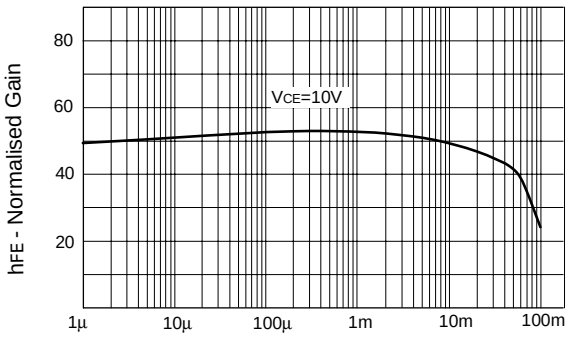
TYPICAL CHARACTERISTICS



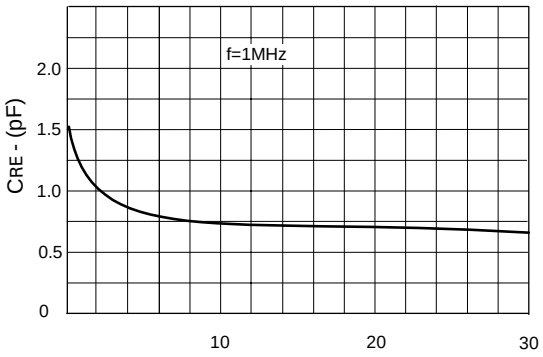
IC - Collector Current (mA)

fT v IC



IC - Collector Current (A)

hFE v IC



VCE - (V)

CRE v VCE