

SOT323 PNP SILICON PLANAR
SWITCHING TRANSISTOR

ZUMT2907A

ISSUE 1 – OCTOBER 1998

FEATURES

* Fast switching

PARTMARKING DETAIL – T15

COMPLIMENTARY TYPE – ZUMT2222A



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-600	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 $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60		V	$I_C=-10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60		V	$I_C=-10mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E=-10\mu A, I_C=0$
Collector-Emitter Cut-Off Current	I_{CEX}		-50	nA	$V_{CE}=-30V, V_{BE}=-0.5V$
Collector Cut-Off Current	I_{CBO}		-10 -10	nA μA	$V_{CB}=-50V, I_E=0$ $V_{CB}=-50V, I_E=0, T_{amb}=150^{\circ}C$
Base Cut-Off Current	I_B		-50	nA	$V_{CE}=-30V, V_{BE}=-0.5V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.4 -1.6	V V	$I_C=-150mA, I_B=-15mA^*$ $I_C=-500mA, I_B=-50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.3 -2.6	V V	$I_C=-150mA, I_B=-15mA^*$ $I_C=-500mA, I_B=-50mA^*$
Static Forward Current Transfer Ratio	h_{FE}	75 100 100 100 50	300		$I_C=-0.1mA, V_{CE}=-10V$ $I_C=-1mA, V_{CE}=-10V$ $I_C=-10mA, V_{CE}=-10V$ $I_C=-150mA, V_{CE}=-10V^*$ $I_C=-500mA, V_{CE}=-10V^*$
Transition Frequency	f_T	200		MHz	$I_C=-50mA, V_{CE}=-20V$ $f=100MHz$

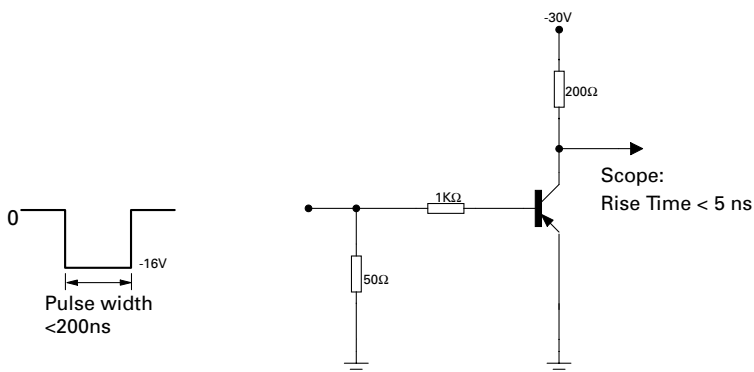
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

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SWITCHING CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C_{obo}		8	pF	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 100\text{KHz}$
Input Capacitance	C_{ibo}		30	pF	$V_{BE} = -2\text{V}$, $I_C = 0$, $f = 100\text{KHz}$
Turn On Time	t_{on}	26	50	ns	$V_{CE} = -30\text{V}$ $I_C = -150\text{mA}$, $I_{B1} = -15\text{mA}$ (See Turn On Circuit)
Turn Off Time	t_{off}	70	110	ns	$V_{CE} = -6\text{V}$, $I_C = -150\text{mA}$ $I_{B1} = I_{B2} = -15\text{mA}$ (See Turn Off Circuit)

TURN ON TIME – TEST CIRCUIT



TURN OFF TIME – TEST CIRCUIT

