

SOT323 PNP SILICON PLANAR GENERAL PURPOSE TRANSISTOR

ZUMT858B

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Partmarking Detail:

- T19



SOT323

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CES}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-100	mA
Peak Pulse Current	I_{EM}	-200	mA
Base Current	I_{BM}	-200	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	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector Cut-Off Current	I_{CBO}			-15 -4	nA μA	$V_{CB} = -30\text{V}$ $V_{CB} = -30\text{V}, T_{amb} = 150^\circ\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$		-75	-300	mV	$I_C = -10\text{mA}, I_B = -5\text{mA}$
			-250	-600	mV	$I_C = -100\text{mA}, I_B = -5\text{mA}$
			-300	-600	mV	$I_C = -10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(\text{sat})}$		-700 -850		mV	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$ $I_C = -100\text{mA}, I_B = -5\text{mA}$
Base-Emitter Voltage	V_{BE}	-600	-650	-750 -820	mV	$I_C = -2\text{mA}, V_{CE} = -5\text{V}$ $I_C = -10\text{mA}, V_{CE} = -5\text{V}$

* Collector-Emitter Saturation Voltage at $I_C = 10\text{mA}$ for the characteristics going through the operating point $I_C = 11\text{mA}, V_{CE} = 1\text{V}$ at constant base current.

TYPICAL CHARACTERISTICS

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ELECTRICAL CHARACTERISTICS (Continued)

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Noise Figure		N	-	2	10	dB	$V_{CB} = -5V$, $I_C = 200\mu A$, $R_G = 2k\Omega$, $f = 1kHz$, $\Delta f = 200Hz$
			-	-	-	dB	$V_{CB} = -5V$, $I_C = 200\mu A$, $R_G = 2k\Omega$, $f = 30Hz$ to $15kHz$ at $-3dB$ points
Dynamic Characteristics	Group B	h_{ie}	3.2	4.5	8.5	kΩ	$V_{CE} = -5V$ $I_C = 2mA$ $f = 1kHz$
	Group B	h_{re}		2		$\times 10^{-4}$	
	Group B	h_{fe}	240	330	500		
	Group B	h_{oe}	-	30	60	μs	
Static Forward Current Ratio	Group B	h_{FE}		150			$I_C = -0.01mA$, $V_{CE} = -5V$
			220	290	475		$I_C = -2mA$, $V_{CE} = -5V$
			-	200	-		$I_C = -100mA$, $V_{CE} = -5V$
Transition Frequency		f_T	-	150	-	MHz	$I_C = -10mA$, $V_{CE} = -5V$ $f = 100MHz$
Collector-Base Capacitance		C_{obo}		4.5		pF	$V_{CB} = -10V$, $f = 1MHz$