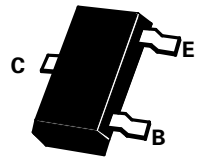
SOT23 NPN SILICON PLANAR SWITCHING TRANSISTOR

ISSUE 2 – MARCH 94 ✪

FMMT4123

PARTMARKING DETAIL – ZB



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	200	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.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40		V	I_C=10μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		V	I_C=1mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	I_E=10μA
Collector Cut-Off Current	I_{CBO}		50	nA	V_{CB}=20V
Emitter Cut-Off Current	I_{EBO}		50	nA	VEB=3V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3	V	I_C=50mA, I_B=5mA*
Base-Emitter SaturationVoltage	$V_{BE(sat)}$		0.95	V	IC=50mA, I_B=5mA*
Static Forward Current Transfer Ratio	h_{FE}	50 25	150		I_C=2mA, V_{CE}=1V* I_C=50mA, V_{CE}=1V*
Transistion Frequency	f_T	250		MHz	I_C=10mA, V_{CE}=20V, f=100MHz
Output Capacitance	C_{obo}		4	pF	V_{CB}=5V, I_E=0, f=140KHz
Input Capacitance	C_{ibo}		8	pF	V_{BE}=0.5V, I_E=0, f=140KHz
Noise Figure	N		6	dB	I_C=200μA, V_{CE}=5V, R_g=2kΩ f=30Hz to 15KHz at 3dB points
Small Signal Current Transfer	h_{fe}	50	200		I_C=2mA, V_{CE}=1V, f=1KHz

SWITCHING CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER	SYMBOL	TYP.	UNIT	CONDITIONS
Delay Time	t_d	24	ns	V_{CC}=3V, $V_{BE(off)}$=0.5V I_C=10mA, I_{B1}=1mA
Rise Time	t_r	13	ns	
Storage Time	t_s	125	ns	V_{CC}=3V, I_C=10mA I_{B1}=I_{B2}=1mA
Fall Time	t_f	11	ns	

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

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