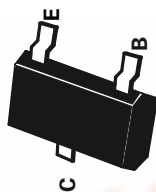


SOT23 PNP SILICON PLANAR
SWITCHING TRANSISTOR

ISSUE 2 – MARCH 1995

PARTMARKING DETAIL – ZD

FMMT4125



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CB0}	-30	V
Collector-Emitter Voltage	V_{CE0}	-30	V
Emitter-Base Voltage	V_{EB0}	-4	V
Continuous Collector Current	I_C	-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	$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-30		V	$I_C = 10\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-30		V	$I_C = 1\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-4		V	$I_E = 10\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		-50	nA	$V_{CE} = -20\text{V}$
Emitter Cut-Off Current	I_{EBO}		-50	nA	$V_{EB} = -3\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.4	V	$I_C = 50\text{mA}, I_B = 5\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.95	V	$I_C = 50\text{mA}, I_B = 5\text{mA}^*$
Static Forward Current Transfer Ratio	h_{FE}	50	150		$I_C = 2\text{mA}, V_{CE} = -1\text{V}^*$ $I_C = 50\text{mA}, V_{CE} = -1\text{V}^*$
Transition Frequency	f_T	200		MHz	$I_C = 10\text{mA}, V_{CE} = -20\text{V}, f = 100\text{MHz}$
Output Capacitance	C_{ob0}		4.5	pF	$V_{CE} = -5\text{V}, I_E = 0, f = 140\text{KHz}$
Input Capacitance	C_{ibo}		10	pF	$V_{BE} = -0.5\text{V}, I_E = 0, f = 140\text{KHz}$
Noise Figure	N		5	dB	$I_C = 200\mu\text{A}, V_{CE} = -5\text{V}, R_g = 2\text{k}\Omega$ $f = 30\text{Hz to } 15\text{KHz at } 3\text{dB points}$
Small Signal Current Transfer	h_{fe}	50	200		$I_C = 2\text{mA}, V_{CE} = -1\text{V}, f = 1\text{KHz}$

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

PARAMETER	SYMBOL	TYP.	UNIT	CONDITIONS
Delay Time	t_d	25	ns	$V_{CC} = -3\text{V}, V_{BE(off)} = -0.5\text{V}$
Rise Time	t_r	18	ns	$I_C = 10\text{mA}, I_B = -1\text{mA}$
Storage Time	t_s	140	ns	$V_{CC} = -3\text{V}, I_C = 10\text{mA}$
Fall Time	t_f	15	ns	$I_B = I_{B2} = -1\text{mA}$

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

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