

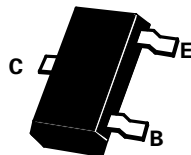
# SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

## FMMT493

ISSUE 3 - NOVEMBER 1995

COMPLEMENTARY TYPE – FMMT593

PARTMARKING DETAIL – 493



SOT23

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	120	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	1	A
Peak Pulse Current	$I_{CM}$	2	A
Base Current	$I_B$	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	120		V	$I_C=100\mu A$
	$V_{CEO(sus)}$	100		V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$		100	nA	$V_{CB}=100V$
Collector Cut-Off Current	$I_{CES}$		100	nA	$V_{CES}=100V$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=4V$
Saturation Voltages	$V_{CE(sat)}$		0.3 0.6	V	$I_C=500mA, I_B=50mA$ $I_C=1A, I_B=100mA$
	$V_{BE(sat)}$		1.15	V	$I_C=1A, I_B=100mA$
Base-Emitter Turn On Voltage	$V_{BE(on)}$		1.0	V	$I_C=1A, V_{CE}=10V$
Static Forward Current Transfer Ratio	$h_{FE}$	100 100 60 20	300		$I_C=1mA, V_{CE}=10V^*$ $I_C=250mA, V_{CE}=10V^*$ $I_C=500mA, V_{CE}=10V^*$ $I_C=1A, V_{CE}=10V^*$
Transition Frequency	$f_T$	150		MHz	$I_C=50mA, V_{CE}=10V$ $f=100MHz$
Collector-Base Breakdown Voltage	$C_{obo}$		10	pF	$V_{CB}=10V, f=1MHz$

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

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## TYPICAL CHARACTERISTICS

