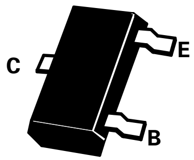
SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

ISSUE 3 - NOVEMBER 1995 ✪

FMMT493

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°C	P_{tot}	500	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.
Breakdown Voltages	$V_{(BR)CBO}$	120		V	I_C=100µA
	$V_{CEO(sus)}$	100		V	I_C=10mA*
	$V_{(BR)EBO}$	5		V	I_E=100µA
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 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=300µs. Duty cycle ≤ 2%

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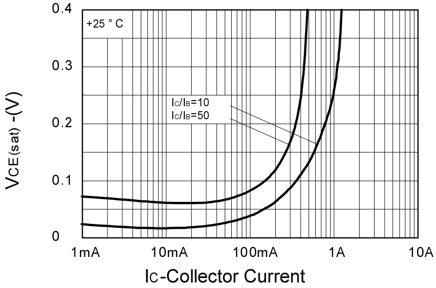
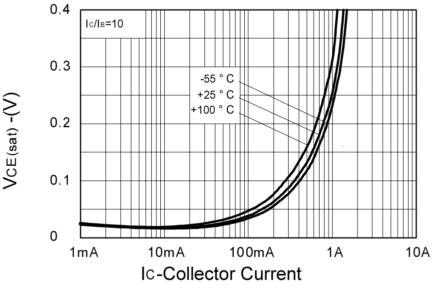
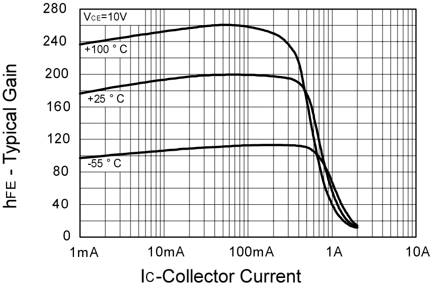
TYPICAL CHARACTERISTICS



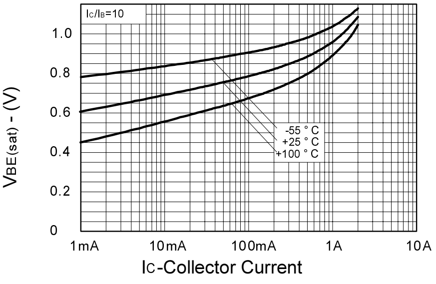
$V_{CE(sat)}$ v I_C



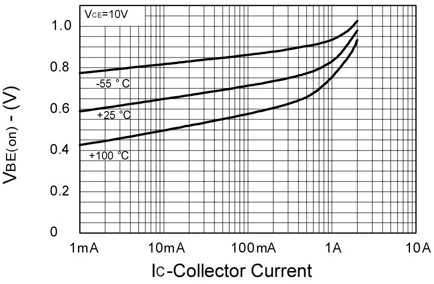
$V_{CE(sat)}$ v I_C



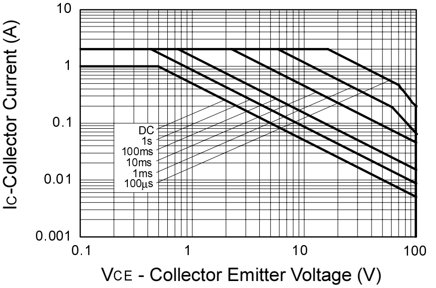
h_{FE} V I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area