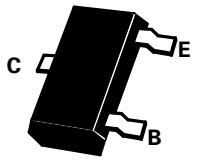
SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FMMT491

ISSUE 3 - OCTOBER 1995 ✪

FEATURES

* Low equivalent on-resistance; **$R_{CE(sat)}$ 210mΩ at 1A**



SOT23

COMPLEMENTARY TYPE - FMMT591
PARTMARKING DETAIL - 491

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1	A
Peak Pulse Current	I_{CM}	2	A
Power Dissipation at T_{amb}=25°C	P_{tot}	500	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

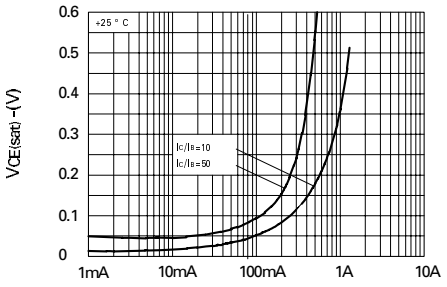
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80		V	I_C=100μA
Collector-Emitter Breakdown Voltage	$V_{CEO(sus)}$	60		V	I_C=10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	I_E=100μA
Collector Cut-Off Current	I_{CBO}		100	nA	V_{CB}=60V
Collector Cut-Off Current	I_{CES}		100	nA	V_{CES}=60V
Emitter Cut-Off Current	I_{EBO}		100	nA	V_{EB}=4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.25 0.50	V V	I_C=500mA, I_B=50mA* I_C=1A, I_B=100mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.1	V	I_C=1A, I_B=100mA*
Base-Emitter Turn On Voltage	$V_{BE(on)}$		1.0	V	I_C=1A, V_{CE}=5V*
Static Forward Current Transfer Ratio	h_{FE}	100 100 80 30	300		I_C=1mA, V_{CE}=5V I_C=500mA, V_{CE}=5V* I_C=1A, V_{CE}=5V* I_C=2A, V_{CE}=5V*
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

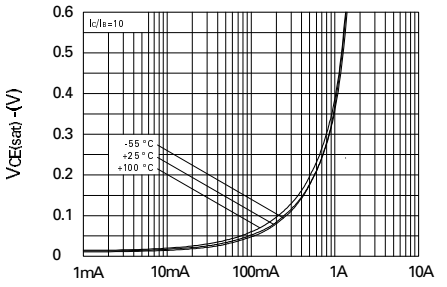
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

FMMT491

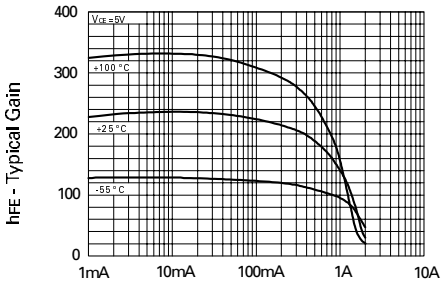
TYPICAL CHARACTERISTICS



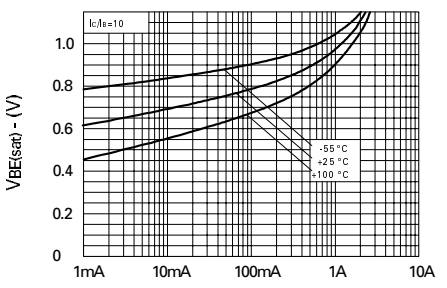
VCE(sat) v IC



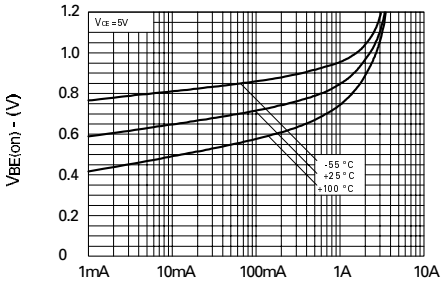
VCE(sat) v IC



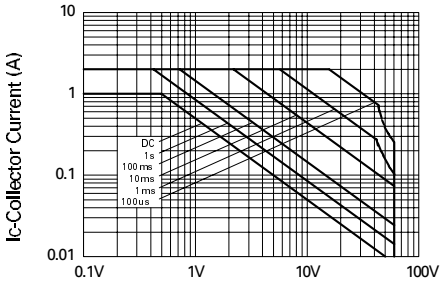
hFE V IC



VBE(sat) v IC



VBE(on) v IC



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