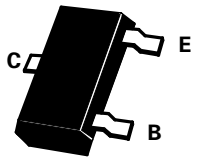
SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

FMMT449

ISSUE 3 - NOVEMBER 1995

FEATURES

* Low equivalent on-resistance; **$R_{CE(sat)}$ 250mΩ at 1A**



COMPLEMENTARY TYPE – FMMT549

PARTMARKING DETAIL – 449

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Pulse Current	I_{CM}	2	A
Continuous Collector Current	I_C	1	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

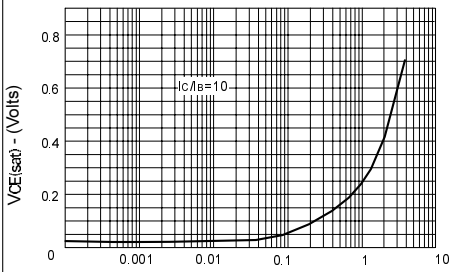
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50		V	I_C=1mA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		V	I_C=10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	I_E=100μA, I_C=0
Collector Cut-Off Current	I_{CBO}		0.1 10	μA μA	V_{CB}=40V, I_E=0 V_{CB}=40V, T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}		0.1	μA	V_{EB}=4V, I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5 1.0	V V	I_C=1A, I_B=100mA* I_C=2A, I_B=200mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.25	V	I_C=1A, I_B=100mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.0	V	I_C=1A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	70 100 80 40	300		I_C=50mA, V_{CE}=2V* I_C=500mA, V_{CE}=2V* I_C=1A, V_{CE}=2V* I_C=2A, V_{CE}=2V*
Transition Frequency	f_T	150		MHz	I_C=50mA, V_{CE}=10V f=100mHz
Output Capacitance	C_{obo}		15	pF	V_{CB}=10V, f=1MHz

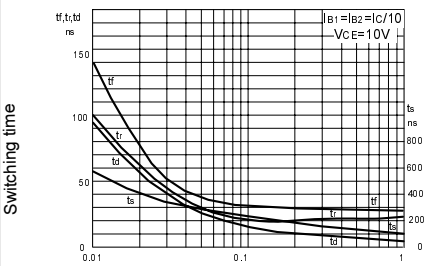
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

Spice parameter data is available upon request for this device

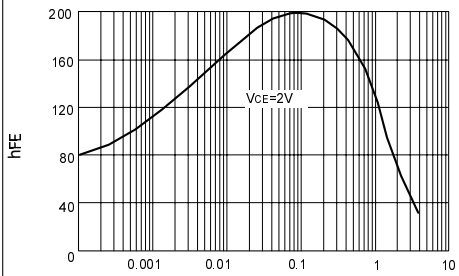
TYPICAL CHARACTERISTICS



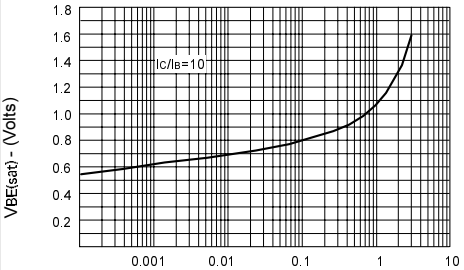
VCE(sat) v IC



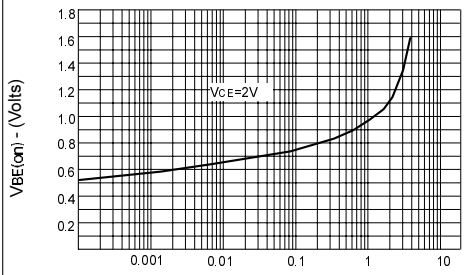
Switching Speeds



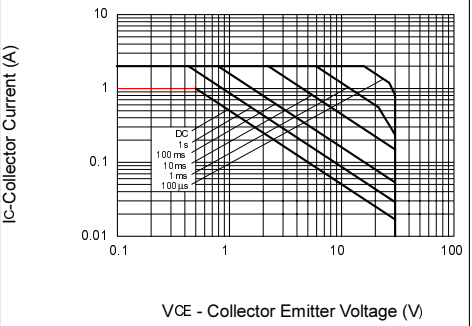
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area