

SOT23 NPN SILICON PLANAR HIGH PERFORMANCE TRANSISTOR

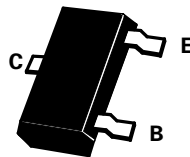
FMMT455

ISSUE 3 – FEBRUARY 1996

FEATURES

- * 140 Volt V_{CEO}
- * 1 Amp continuous current
- * $P_{tot} = 500$ mW

PARTMARKING DETAIL – 455



SOT23

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	140	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 $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

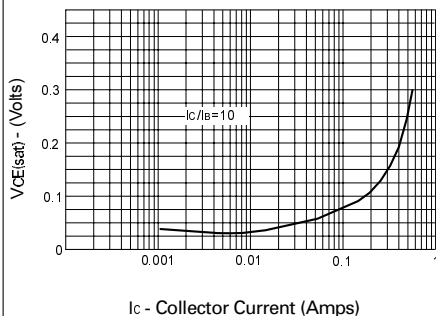
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	160		V	$I_C = 100\mu A$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	140		V	$I_C = 10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}		0.1	μA	$V_{CB} = 140V$
Emitter Cut-Off Current	I_{EBO}		0.1	μA	$V_{EB} = 4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.7	V	$I_C = 150mA, I_B = 15mA$
Static Forward Current Transfer Ratio	h_{FE}	100 10 Typ	300		$I_C = 150mA, V_{CE} = 10V^*$ $I_C = 1A, V_{CE} = 10V^*$
Transition Frequency	f_T	100		MHz	$I_C = 50mA, V_{CE} = 10V$ $f = 100MHz$
Output Capacitance	C_{obo}		15	pF	$V_{CB} = 10V, f = 1MHz$

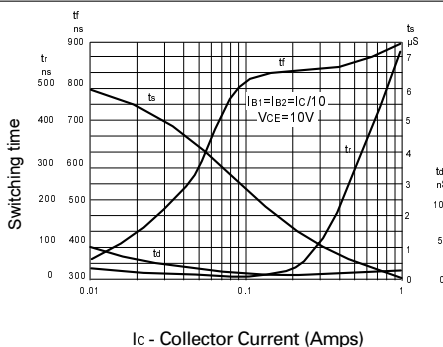
* Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

Spice parameter data is available upon request for this device

TYPICAL CHARACTERISTICS

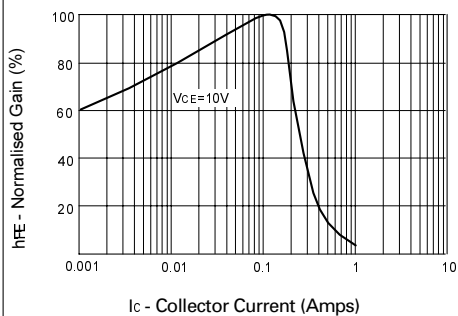


$V_{CE(sat)}$ v I_C

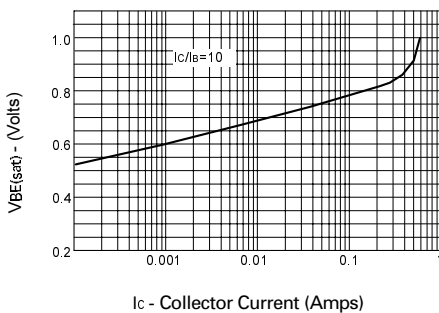


I_C - Collector Current (Amps)

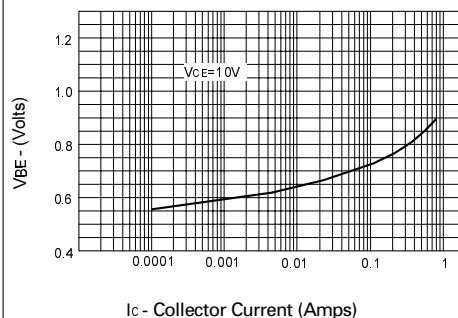
Typical Switching Speeds



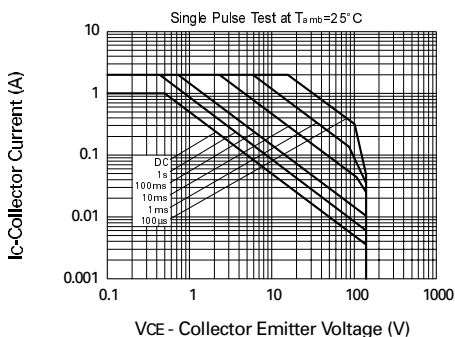
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area