

SOT23 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

FMMT458

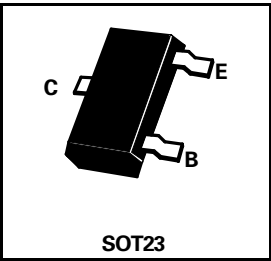
ISSUE 3 – OCTOBER 1995

FEATURES

* 400 Volt V_{CE0}

COMPLEMENTARY TYPE – FMMT558

PARTMARKING DETAIL – 458



ABSOLUTE MAXIMUM RATINGS.

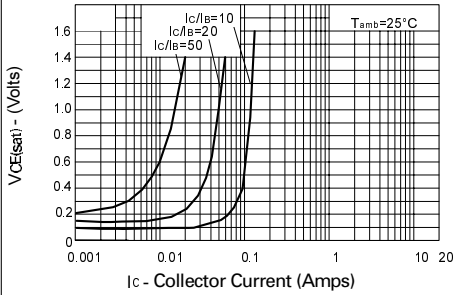
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	225	mA
Peak Pulse Current	I_{CM}	1	A
Base Current	I_B	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

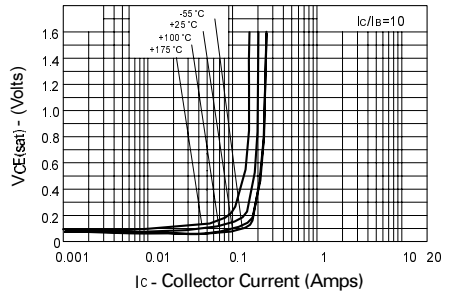
PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	400		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{CEO(sus)}$	400		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}		100	nA	$V_{CB}=320V$
Collector Cut-Off Current	I_{CES}		100	nA	$V_{CE}=320V$
Emitter Cut-Off Current	I_{EBO}		100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.2 0.5	V	$I_C=20mA, I_B=2mA^*$ $I_C=50mA, I_B=6mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	V	$I_C=50mA, I_B=5mA^*$
Base-Emitter Turn On Voltage	$V_{BE(on)}$		0.9	V	$I_C=50mA, V_{CE}=10V^*$
Static Forward Current Transfer Ratio	h_{FE}	100 100 15	300		$I_C=1mA, V_{CE}=10V$ $I_C=50mA, V_{CE}=10V^*$ $I_C=100mA, V_{CE}=10V^*$
Transition Frequency	f_T	50		MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Collector-Base Breakdown Voltage	C_{obo}		5	pF	$V_{CB}=20V, f=1MHz$
Switching times	t_{on} t_{off}		135 Typical 2260 Typical	ns ns	$I_C=50mA, V_{CC}=100V$ $I_{B1}=5mA, I_{B2}=10mA$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

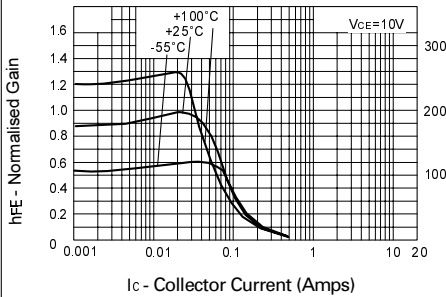
TYPICAL CHARACTERISTICS



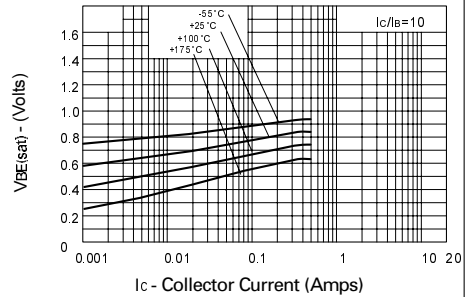
$V_{CE(sat)}$ v I_C



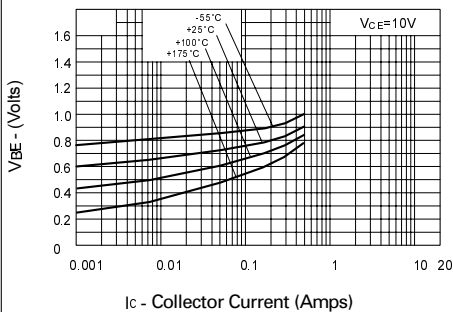
$V_{CE(sat)}$ v I_C



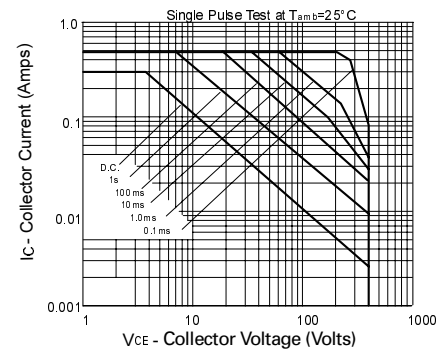
hFE v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area