

SOT23 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

FMMT458

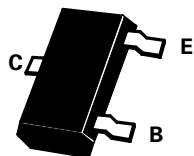
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FEATURES

* 400 Volt V_{CEO}

COMPLEMENTARY TYPE – FMMT558

PARTMARKING DETAIL – 458



SOT23

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 $T_{amb}=25^\circ\text{C}$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^\circ\text{C}$

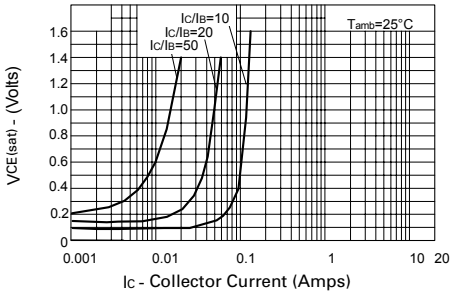
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$).

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

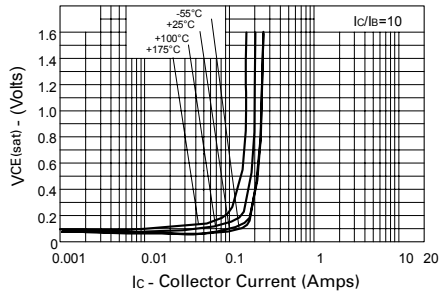
*Measured under pulsed conditions.

Spice parameter data is available upon request for this device

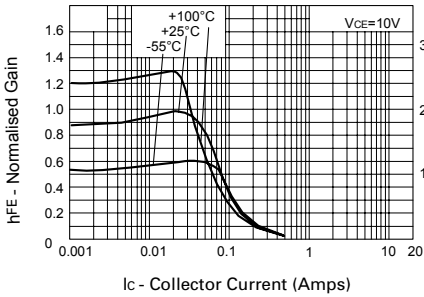
TYPICAL CHARACTERISTICS



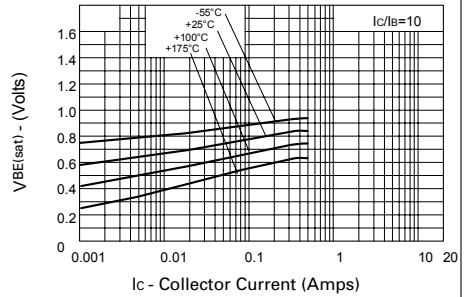
$V_{CE(sat)}$ v I_C



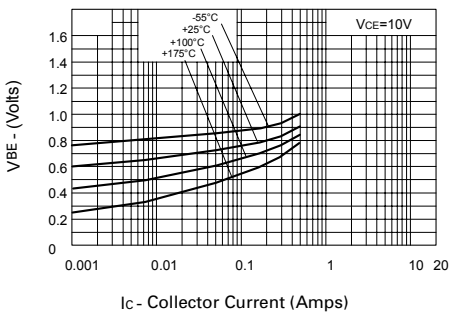
$V_{CE(sat)}$ v I_C



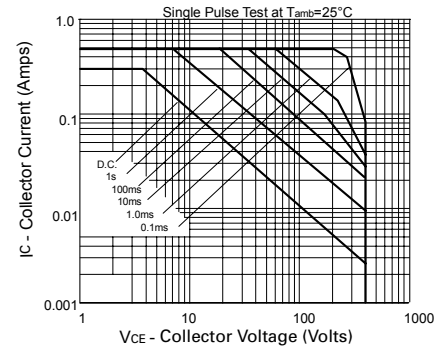
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area