

SOT23 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

FMMT555

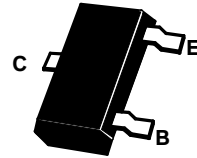
ISSUE 4 – AUGUST 2003

FEATURES

- * 150 Volt V_{CEO}
- * 1 Amp continuous current

COMPLEMENTARY TYPE – FMMT455

PARTMARKING DETAIL – 555



SOT23

ABSOLUTE MAXIMUM RATINGS.

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

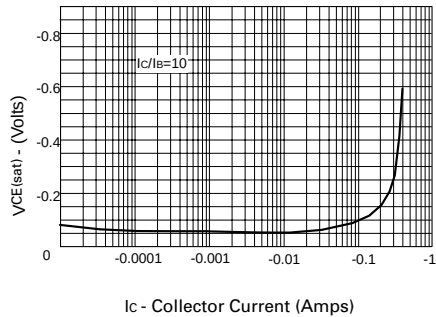
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-160		V	$I_C = -10\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-150		V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		V	$I_E = -10\mu\text{A}$
Collector Cut-Off Current	I_{CBO}		-0.1 -10	μA nA	$V_{CB} = -140\text{V}$ $V_{CB} = -140\text{V}, T_{amb} = 100^\circ\text{C}$
Emitter Cut-Off Current	I_{EBO}		-0.1	nA	$V_{EB} = -4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.3	V	$I_C = -100\text{mA}, I_B = -10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1	V	$I_C = -100\text{mA}, I_B = -10\text{mA}^*$
Base-Emitter Turn-on Voltage	$V_{BE(on)}$		-1	V	$I_C = -100\text{mA}, V_{CE} = -10\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	50 50	300		$I_C = -10\text{mA}, V_{CE} = -10\text{V}^*$ $I_C = -300\text{mA}, V_{CE} = -10\text{V}^*$
Transition Frequency	f_T	100		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	C_{obo}		10	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$

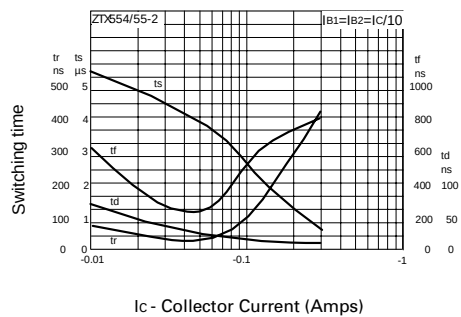
* Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $> 2\%$
Spice parameter data is available upon request for this device



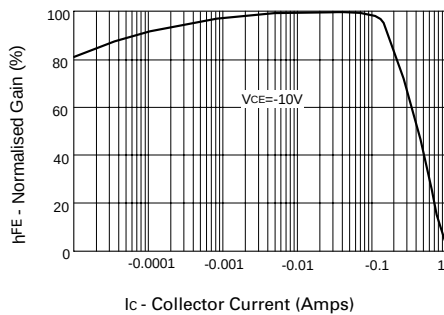
TYPICAL CHARACTERISTICS



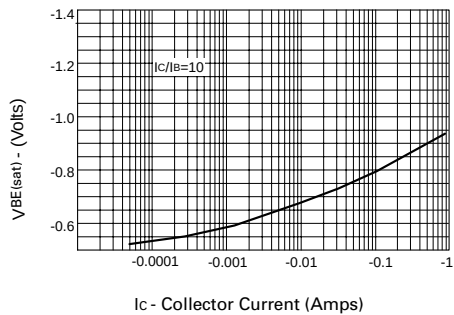
$V_{CE(sat)}$ v I_C



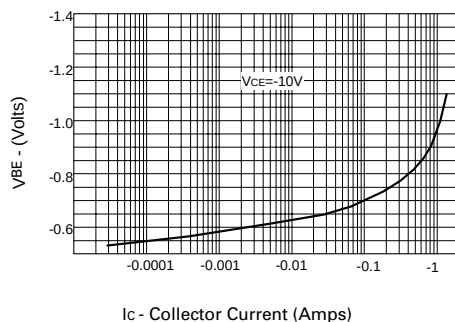
Switching Speeds



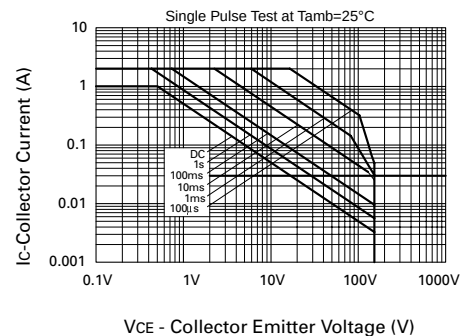
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area