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FMMT458 TRANSISTOR (NPN)

SOT-23 Plastic-Encapsulate Transistors

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客户确认：

公司签章：

部门	工程部	品保部	采购部
签名			
日期			



SOT-23 Plastic-Encapsulate Transistors

FMMT458 TRANSISTOR (NPN)

FEATURES

* 400 Volt V_{CEO}

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	$^{\circ}C$

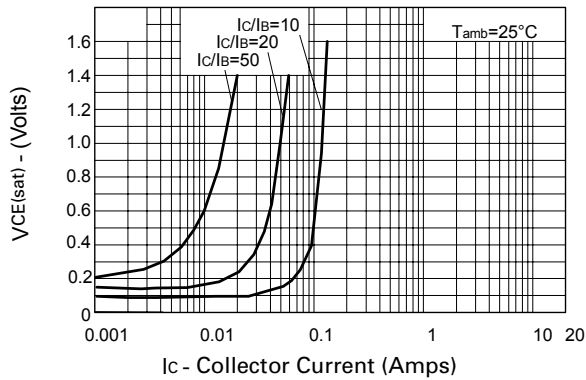
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

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	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	C_{obo}		5	pF	$V_{CB}=20V, f=1MHz$
Switching times	t_{on} t_{off}		135 Typical 2260 Typical	ns ns	$I_C=50mA, V_{CC}=100V$ $I_{B1}=5mA, I_{B2}=-10mA$

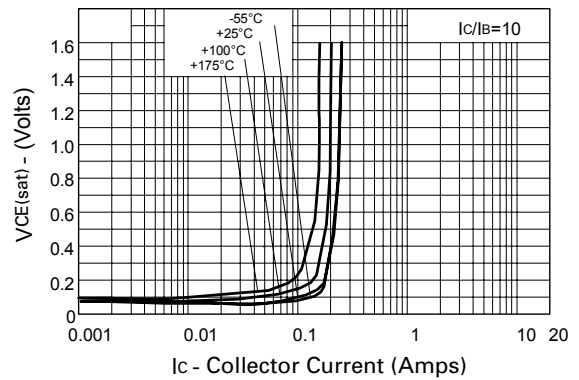
*Measured under pulsed conditions.

Spice parameter data is available upon request for this device

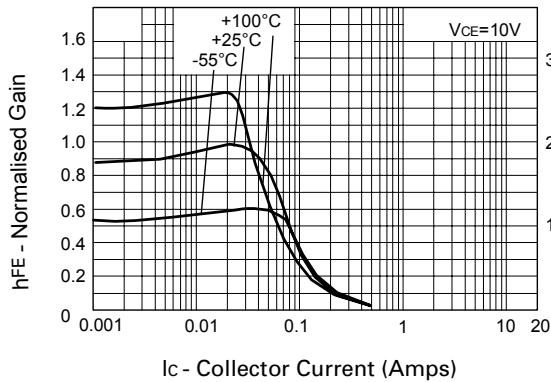
TYPICAL CHARACTERISTICS



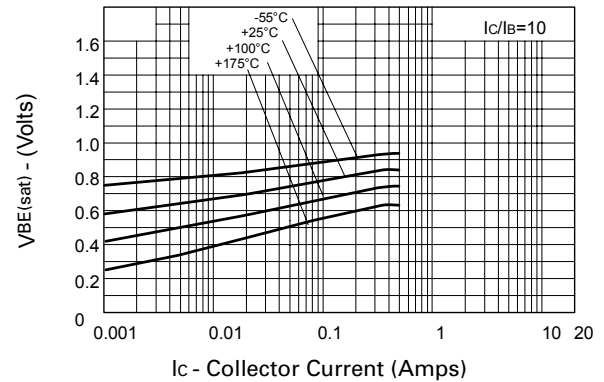
$V_{CE(sat)}$ v I_C



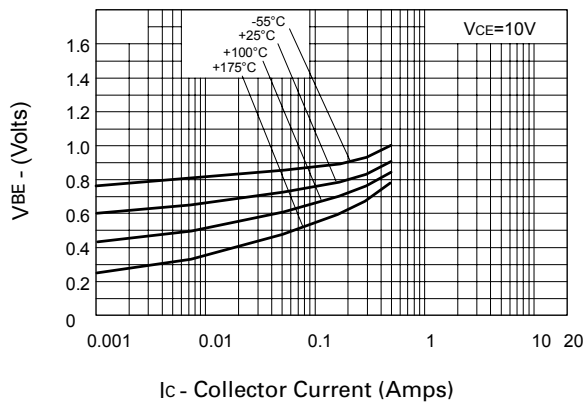
$V_{CE(sat)}$ v I_C



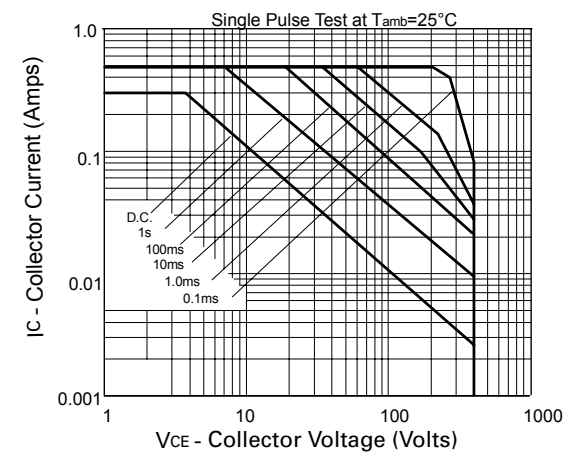
h_{FE} v I_C



$V_{BE(sat)}$ v I_C

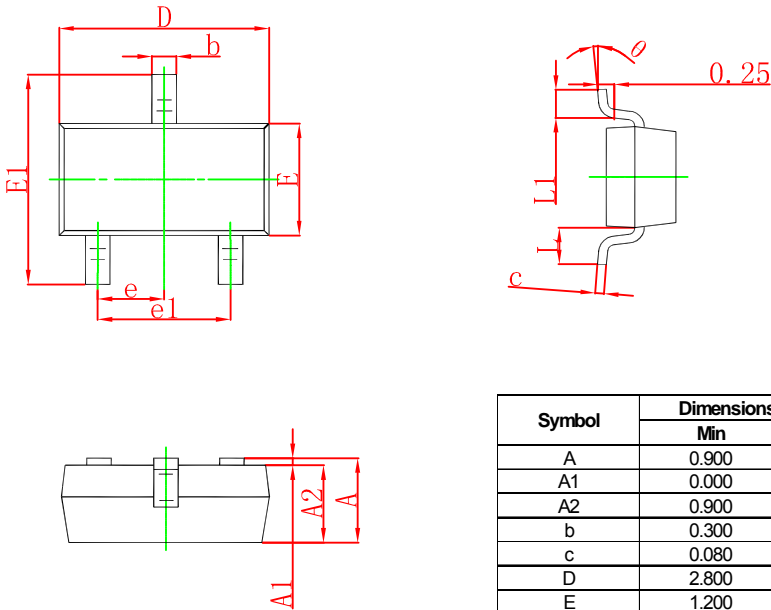


$V_{BE(on)}$ v I_C



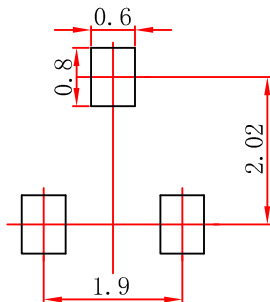
Safe Operating Area

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.