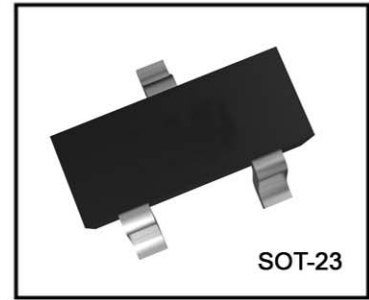


● **FEATURES**

- * **625mW POWER DISSIPATION**
- * **I_C CONT 2.5A**
- * I_C Up To 10A Peak Pulse Current
- * Excellent h_{fe} Characteristics Up To 10A (pulsed)
- * Extremely Low Saturation Voltage E.g. 10mV Typ.
- * Exhibits extremely low equivalent on-resistance; R_{CE(sat)}



DEVICE TYPE	COMPLEMENT	PARTMARKING	R _{CE(sat)}
FMMT717	FMMT617	717	72mΩ at 2.5A
FMMT718	FMMT618	718	97mΩ at 1.5A
FMMT720	FMMT619	720	163mΩ at 1.5A
FMMT722	-	722	-
FMMT723	FMMT624	723	-

● **ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL	FMMT 717	FMMT 718	FMMT 720	FMMT 722	FMMT 723	UNIT
Collector-Base Voltage	V _{CBO}	-12	-20	-40	-70	-100	V
Collector-Emitter Voltage	V _{CEO}	-12	-20	-40	-70	-100	V
Emitter-Base Voltage	V _{EBO}	-5	-5	-5	-5	-5	V
Peak Pulse Current**	I _{CM}	-10	-6	-4	-3	-2.5	A
Continuous Collector Current	I_C	-2.5	-1.5	-1.5	-1.5	-1	A
Base Current	I _B	-500					mA
Power Dissipation at T_{amb}=25°C*	P_{tot}	625					mW
Operating and Storage Temperature Range	T _j :T _{stg}	-55 to +150					°C

*Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x0.6mm

**Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%
Spice parameter data is available upon request for these devices



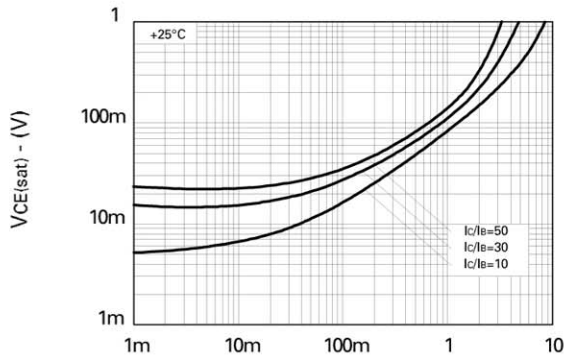
● **ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).**

PARAMETER	SYMBOL	FMMT718			FMMT720			UNIT	CONDITIONS.
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-20	-65		-40	-95		V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-20	-55		-40	-85		V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-8.8		-5	-8.8		V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			-100			-100	nA nA	$V_{CB} = -15\text{V}$ $V_{CB} = -35\text{V}$
Emitter Cut-Off Current	I_{EBO}			-100			-100	nA	$V_{EB} = -4\text{V}$
Collector Emitter Cut-Off Current	I_{CES}			-100			-100	nA nA	$V_{CES} = -15\text{V}$ $V_{CES} = -35\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-16 -130 -145	-40 -200 -220		-25 -150 -245	-40 -220 -330	mV mV mV mV	$I_C = -0.1\text{A}, I_B = -10\text{mA}^*$ $I_C = -1\text{A}, I_B = -20\text{mA}^*$ $I_C = -1\text{A}, I_B = -50\text{mA}^*$ $I_C = -1.5\text{A}, I_B = -50\text{mA}^*$ $I_C = -1.5\text{A}, I_B = -100\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.87	-1.0		-0.89	-1.0	V V	$I_C = -1.5\text{A}, I_B = -50\text{mA}^*$ $I_C = -1.5\text{A}, I_B = -75\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		0.81	-1.0		-0.80	-1.0	V V	$I_C = -2\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -1.5\text{A}, V_{CE} = -2\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	300 300	475 450		300 300 180 60	480 450 290 130			$I_C = -10\text{mA}, V_{CE} = -2\text{V}^*$ $I_C = -0.1\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -1\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -1.5\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -2\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -3\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -4\text{A}, V_{CE} = -2\text{V}^*$ $I_C = -6\text{A}, V_{CE} = -2\text{V}^*$
Transition Frequency	f_T	150	180		150	190		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	C_{obo}		21	30		19	25	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$
Turn-On Time	$t_{(on)}$		40					ns	$V_{CC} = -10\text{V}, I_C = -1\text{A}$
Turn-Off Time	$t_{(off)}$		670					ns	$I_{B1} = I_{B2} = -20\text{mA}$
Turn-On Time	$t_{(on)}$					40		ns	$V_{CC} = -15\text{V}, I_C = -0.75\text{A}$
Turn-Off Time	$t_{(off)}$					435		ns	$I_{B1} = I_{B2} = -15\text{mA}$

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

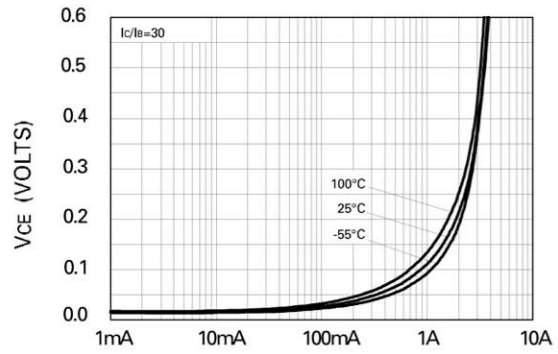


TYPICAL CHARACTERISTICS



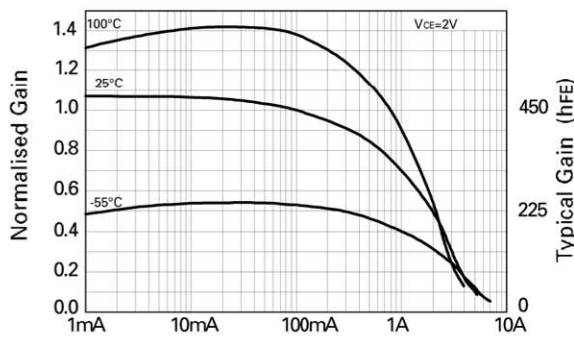
IC - Collector Current (A)

VCE(SAT) v IC



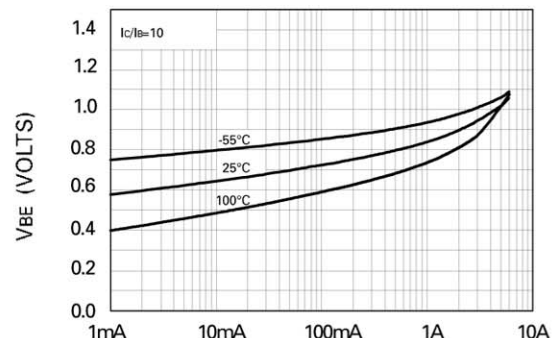
Collector Current

VCE(SAT) vs IC



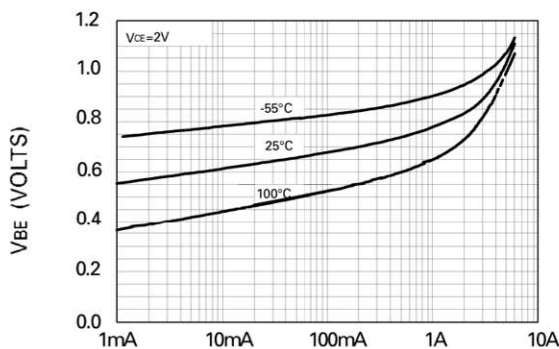
Collector Current

hFE vs IC



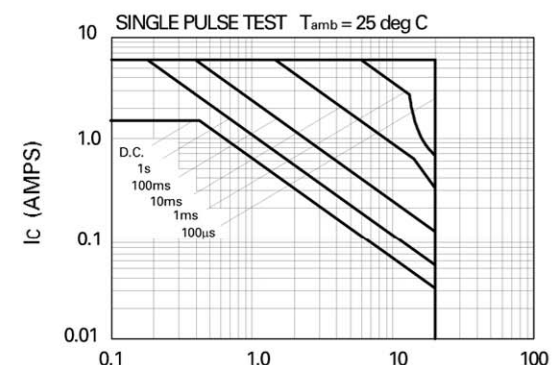
Collector Current

VBE(SAT) vs IC



Collector Current

VBE(ON) vs IC

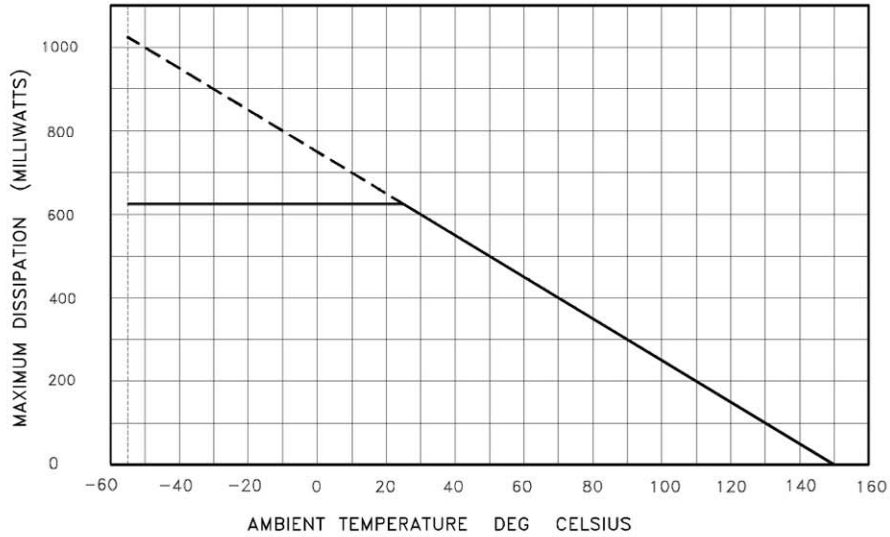


VCE (VOLTS)

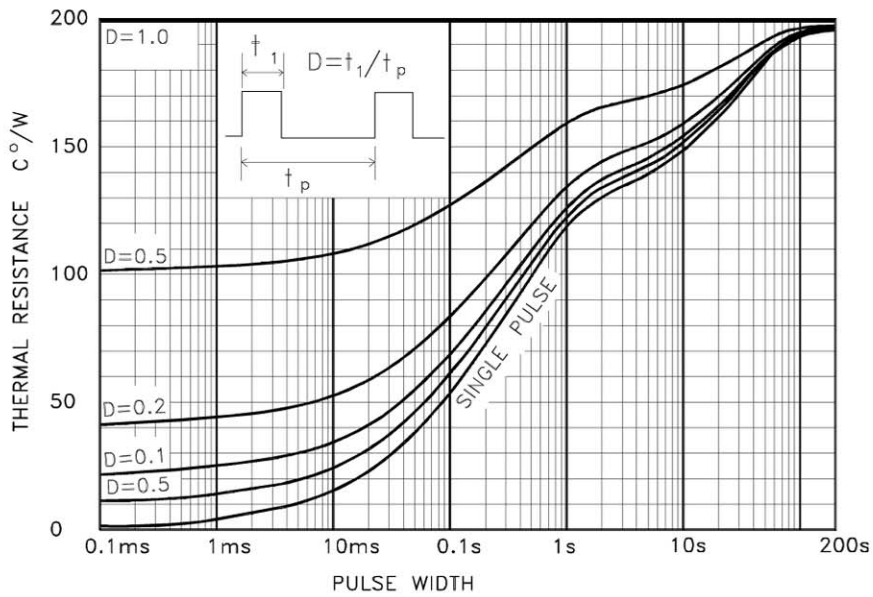
Safe Operating Area



THERMAL CHARACTERISTICS AND DERATING INFORMATION



DERATING CURVE



MAXIMUM TRANSIENT THERMAL RESISTANCE

* Reference above figures, Devices were mounted on a 15mmx15mm ceramic substrate

