

SuperSOT

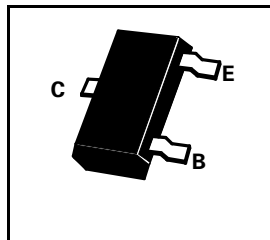
SOT23 PNP SILICON POWER (SWITCHING) TRANSISTORS

FMMT717 FMMT718
FMMT720 FMMT722
FMMT723

ISSUE 3 JUNE 1996

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

FMMT722 FMMT723

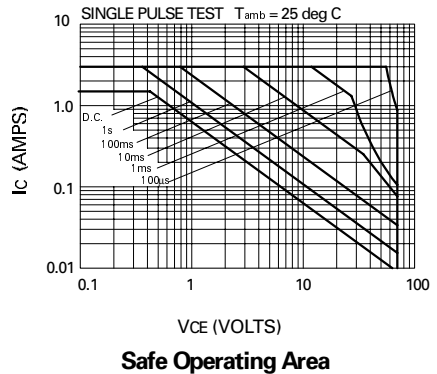
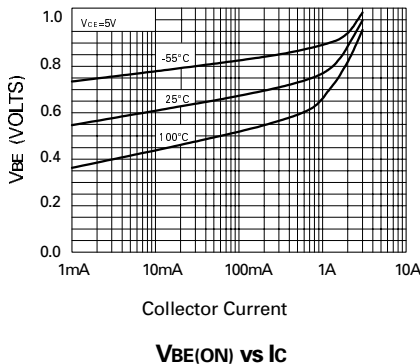
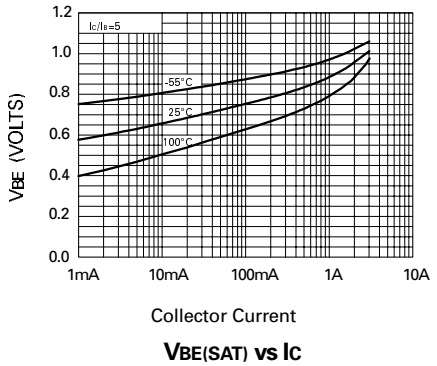
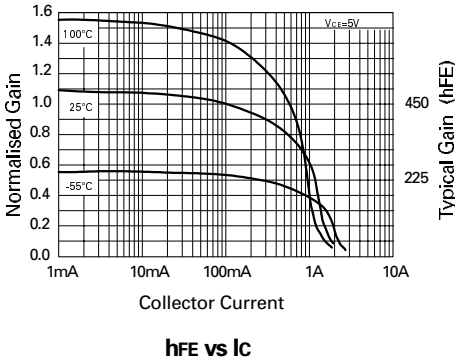
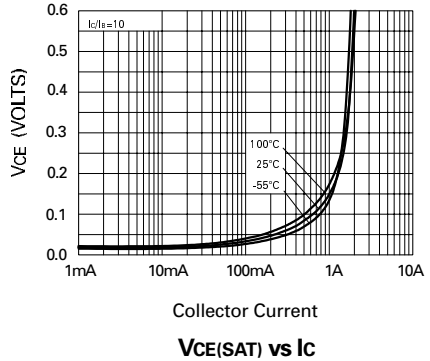
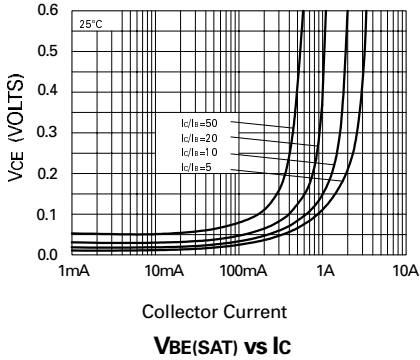
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	FMMT722			FMMT723			UNIT	CONDITIONS.	
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.			
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-70	-150		-100	-200		V	$I_C = -100\mu\text{A}$	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-70	-125		-100	-160		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	$V_{CB} = -60\text{V}$ $V_{CB} = -80\text{V}$	
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	$V_{CES} = -60\text{V}$ $V_{CES} = -80\text{V}$	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-35	-50		-50	-80	mV	$I_C = -0.1\text{A}, I_B = -10\text{mA}^*$	
			-135	-200		-125	-200	mV	$I_C = -0.5\text{A}, I_B = -20\text{mA}^*$	
			-140	-220		-210	-330	mV	$I_C = -0.5\text{A}, I_B = -50\text{mA}^*$	
								mV	$I_C = -1\text{A}, I_B = -100\text{mA}^*$	
			-175	-260				mV	$I_C = -1\text{A}, I_B = -150\text{mA}^*$ $I_C = -1.5\text{A}, I_B = -200\text{mA}^*$	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.94	-1.05		-0.89	-1.0	V	$I_C = -1\text{A}, I_B = -150\text{mA}^*$ $I_C = -1.5\text{A}, I_B = -200\text{mA}^*$	
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.78	-1.0		-0.71	-1.0	V	$I_C = -1\text{A}, V_{CE} = -10\text{V}^*$ $I_C = -1.5\text{A}, V_{CE} = -5\text{V}^*$	
Static Forward Current Transfer Ratio	h_{FE}	300	470		300	475			$I_C = -10\text{mA}, V_{CE} = -5\text{V}^*$	
		300	450		300	450			$I_C = -10\text{mA}, V_{CE} = -10\text{V}^*$	
					300	450				$I_C = -0.1\text{A}, V_{CE} = -5\text{V}^*$
					250	375				$I_C = -0.1\text{A}, V_{CE} = -10\text{V}^*$
		175	275			250				$I_C = -0.5\text{A}, V_{CE} = -10\text{V}^*$
		40	60			30				$I_C = -1\text{A}, V_{CE} = -5\text{V}^*$ $I_C = -1\text{A}, V_{CE} = -10\text{V}^*$ $I_C = -1.5\text{A}, V_{CE} = -5\text{V}^*$ $I_C = -1.5\text{A}, V_{CE} = -10\text{V}^*$ $I_C = -3\text{A}, V_{CE} = -5\text{V}^*$
	10									
Transition Frequency	f_T	150	200		150	200		MHz	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $f = 100\text{MHz}$	
Output Capacitance	C_{obo}		14	20		13	20	pF	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	
Turn-On Time	$t_{(on)}$		40			50		ns	$V_{CC} = -50\text{V}, I_C = -0.5\text{A}$	
Turn-Off Time	$t_{(off)}$		700			760		ns	$I_{B1} = I_{B2} = -50\text{mA}$	

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

FMMT722

TYPICAL CHARACTERISTICS

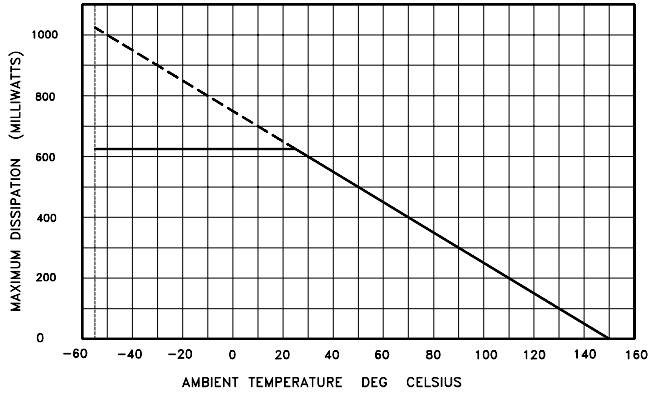


FMMT617 FMMT624
 FMMT618 FMMT625
 FMMT619

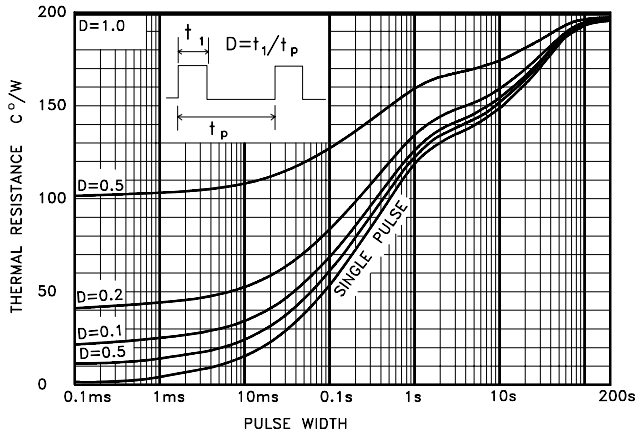
SuperSOT Series

FMMT717 FMMT722
 FMMT718 FMMT723
 FMMT720

THERMAL CHARACTERISTICS AND DERATING INFORMATION



DERATING CURVE



MAXIMUM TRANSIENT THERMAL RESISTANCE

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



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.