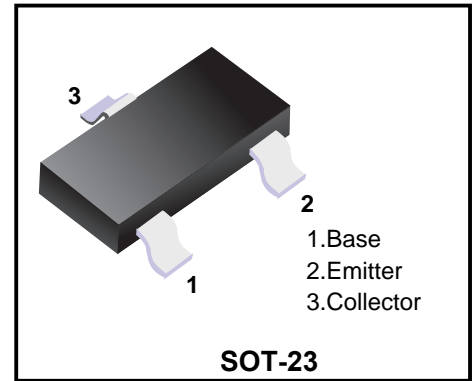


**NPN Silicon Epitaxial Planar Transistor**

**FEATURES**

- Medium power transistor.
- Complementary To FMMT593.
- MSL 1



**Marking Code**

FMMT493	493
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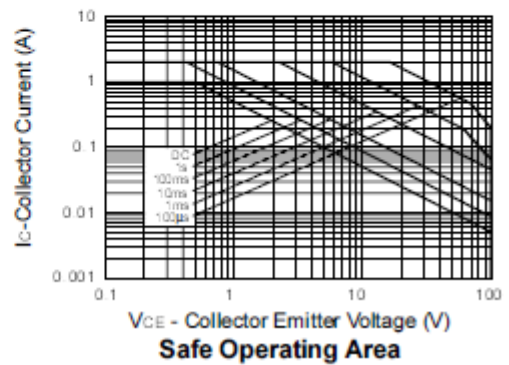
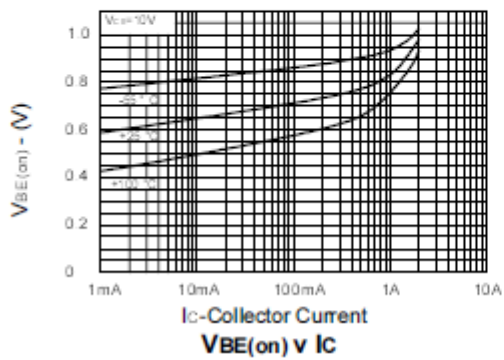
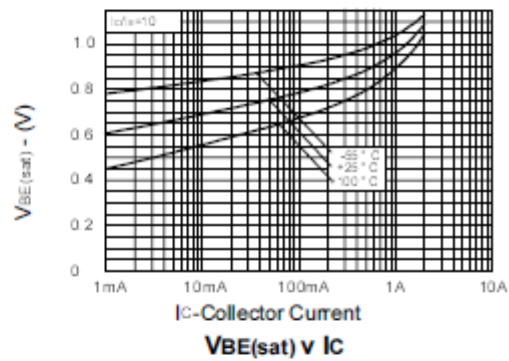
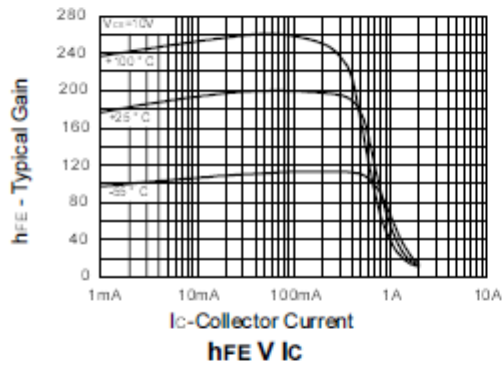
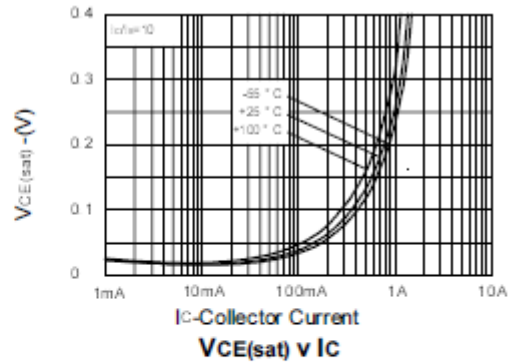
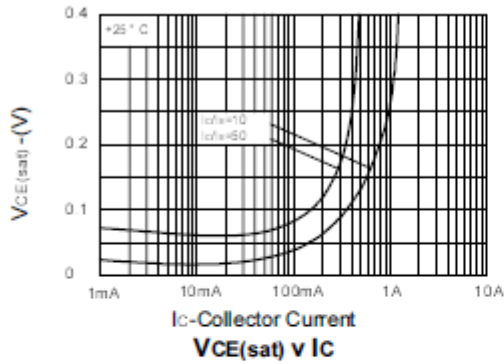
**MAXIMUM RATING @ Ta=25°C unless otherwise specified**

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	120	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	1	A
$I_{CM}$	Peak Pulse Current	2	A
$P_C$	Collector Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance Junction-to-Air <sup>*1</sup>	336	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-to-Case <sup>*1</sup>	156	°C/W
$R_{\theta JL}$	Thermal Resistance Junction-to-Lead <sup>*1</sup>	136	°C/W
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=100V, I_E=0$			0.1	$\mu A$
Collector cut-off current	$I_{CES}$	$V_{CES}=100V$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=10V, I_C=1mA$	100			
		$V_{CE}=10V, I_C=250mA$	100		300	
		$V_{CE}=10V, I_C=500mA$	60			
		$V_{CE}=10V, I_C=1A$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$ $I_C=1A, I_B=100mA$			0.3 0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1A, I_B=100mA$			1.15	V
Base-emitter voltage	$V_{BE(on)}$	$I_C=1A, V_{CE}=10V$			1.0	V
Transition frequency	$f_T$	$V_{CE}=10V, I_C=50mA$ $f=100MHz$	150			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$			10	pF

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



**Ordering information**

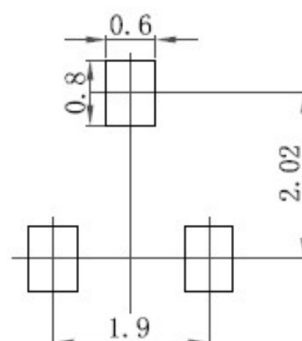
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-23**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

**The recommended mounting pad size**



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