

Plastic-Encapsulate Transistors

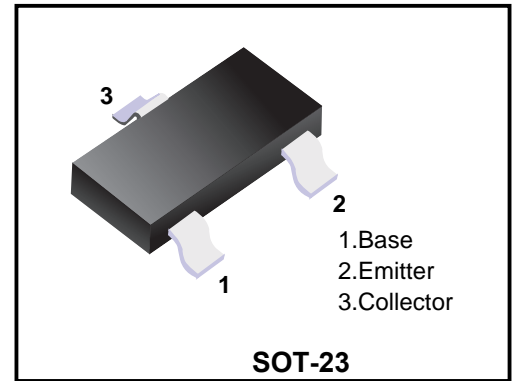
TRANSISTOR(PNP)

Features

- ◆ Low equivalent on-resistance
- ◆ Complementary Type FMMT493
- ◆ High Stability and High Reliability

Mechanical Data

- ◆ SOT-23 Small Outline Plastic Package
- ◆ Epoxy UL: 94V-0
- ◆ Mounting Position: Any



Marking Code	
FMMT593	593

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

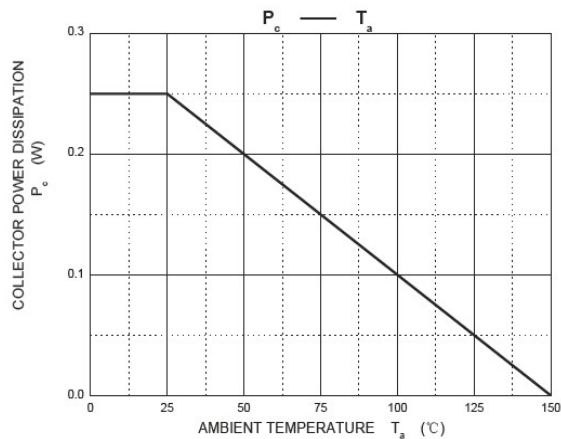
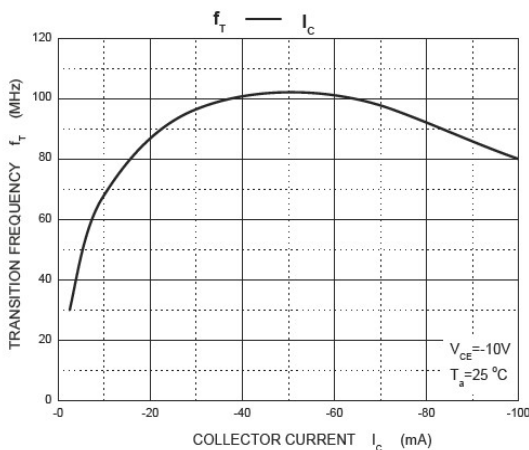
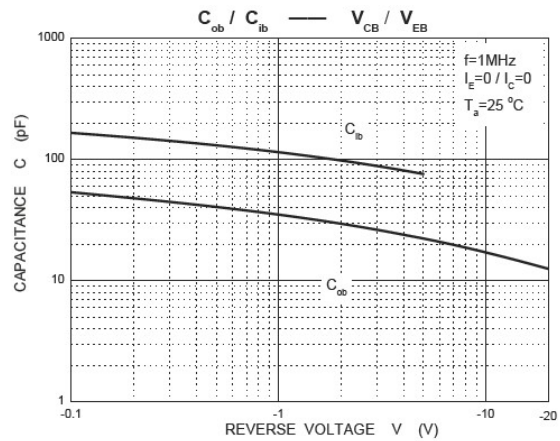
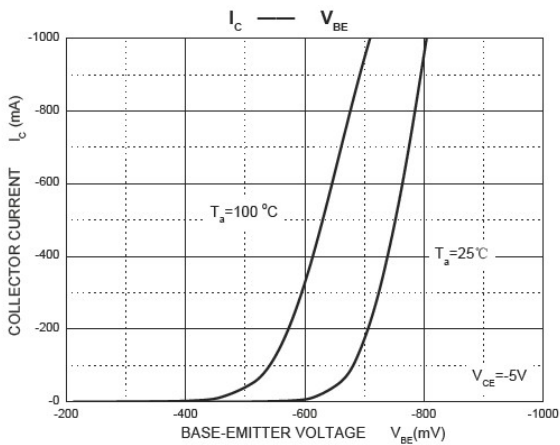
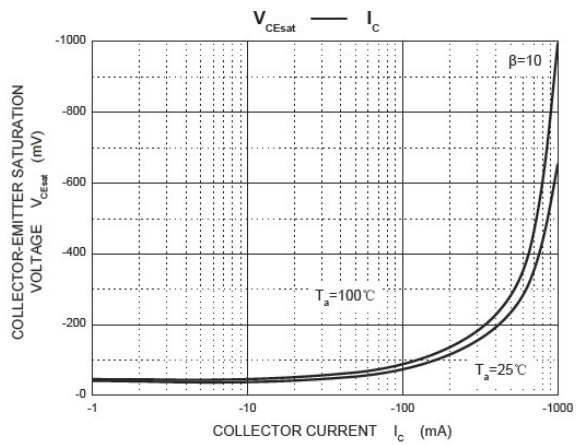
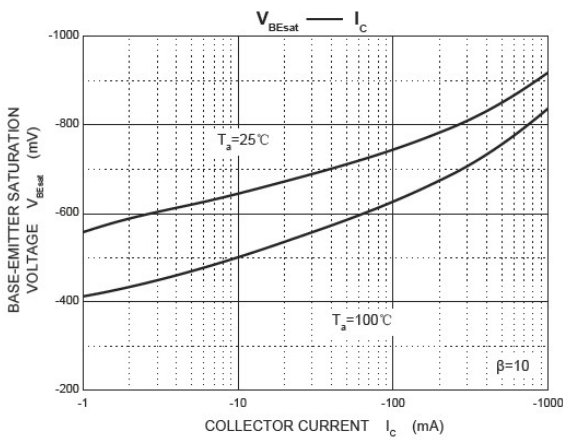
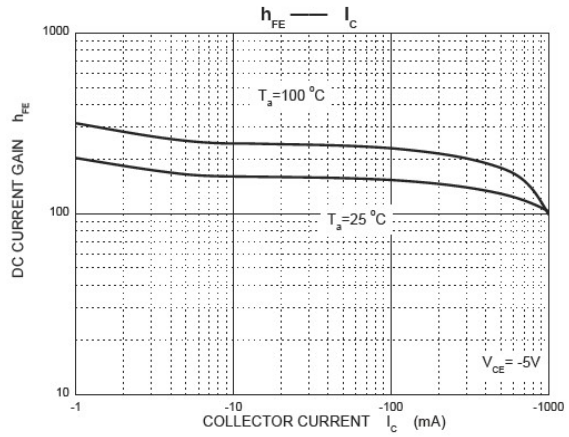
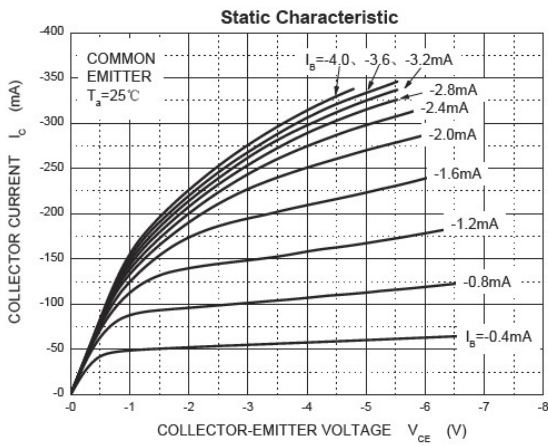
Parameters	Symbol	Value	Unit
Collector - Base Voltage	V_{CB0}	-120	V
Collector-Emitter Voltage	V_{CE0}	-100	V
Emitter - Base Voltage	V_{EB0}	-5	V
Collector Current - Continuous	I_C	-1.0	A
Peak Pulse Current	I_{CM}	2.0	A
Collector Power Dissipation	P_c	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	500	°C/W

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
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}	$V_{CB}=-100V, I_E=0$			-100	nA
Collector cut-off current	I_{CES}	$V_{CE}=-100V, I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4V, I_C=0$			-100	nA
DC current gain	$hFE(1)$	$V_{CE}=-5V, I_C=-1mA$	100			
	$hFE(2)^*$	$V_{CE}=-5V, I_C=250mA$	100			
	$hFE(3)^*$	$V_{CE}=-5V, I_C=-500mA$	100		300	
	$hFE(4)^*$	$V_{CE}=-5V, I_C=-1000mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=-250mA, I_B=-25mA$			-0.20	V
		$I_C=-500mA, I_B=-50mA$			-0.30	V
Base -emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-500mA, I_B=-50mA$			-1.10	V
Base -emitter voltage	V_{BE}^*	$V_{CE}=-5V, I_C=-1mA$			-1.00	V
Transition frequency	f_T	$V_{CE}=-10V, I_C=-50mA, f=100MHz$	50			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=1MHz$		5		pF

* Measured under pulsed conditions, Pulse width=300us, Duty cycle ≤ 2%

Typical characteristics



Ordering information

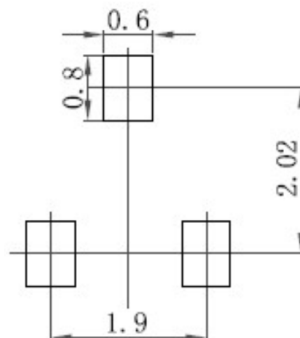
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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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