

Plastic-Encapsulate Transistors

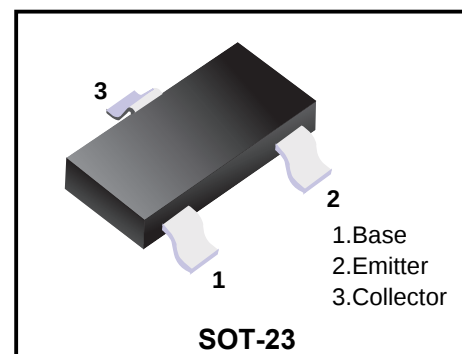
TRANSISTOR(NPN)

FEATURES

- ◆ Low $V_{CE(sat)}$
- ◆ h_{FE} characterized up to 1A for high current hold up
- ◆ For general amplification

MECHANICAL DATA

- ◆ Case: SOT-23
- ◆ Epoxy UL: 94V-0
- ◆ Mounting Position: Any



Marking Code

FMMT495

495

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	170	V
Collector-Emitter Voltage	V_{CEO}	150	V
Emitter -Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	1.0	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

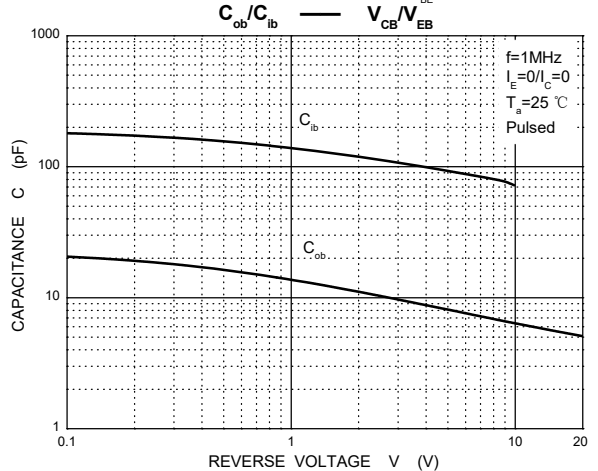
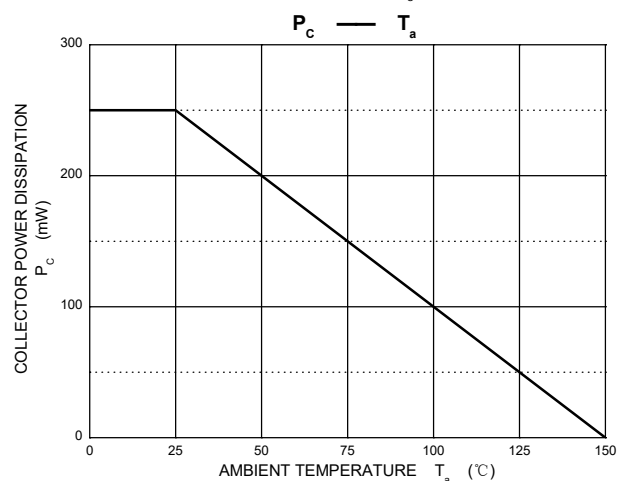
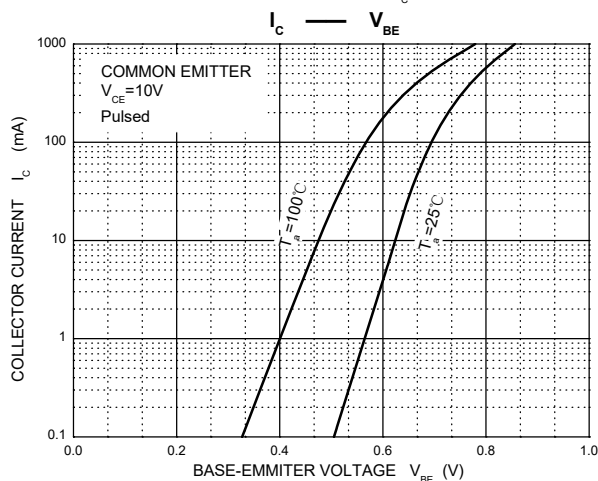
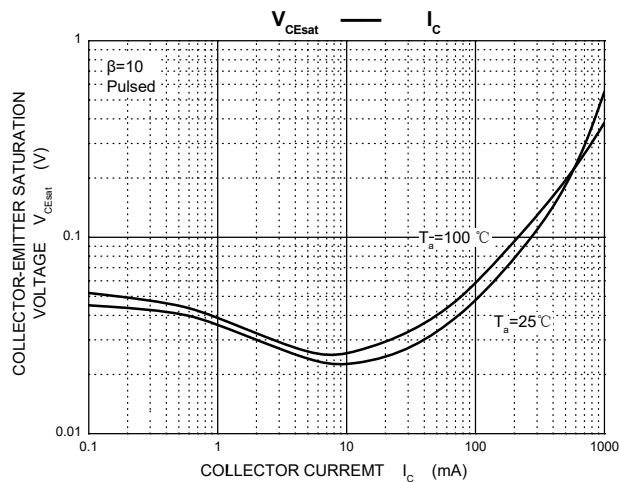
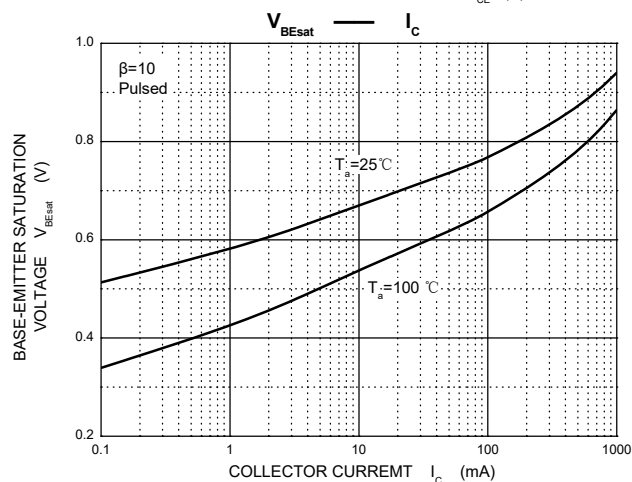
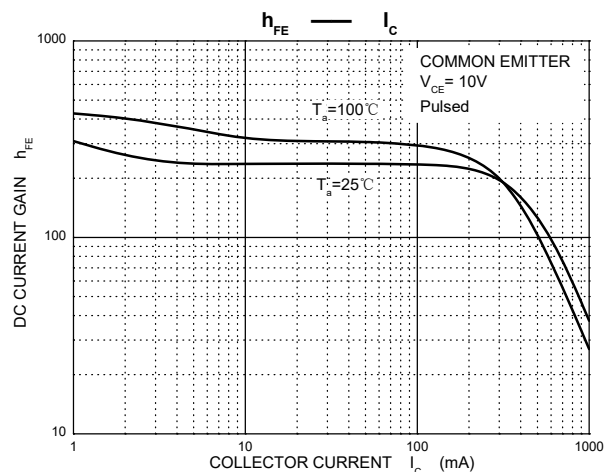
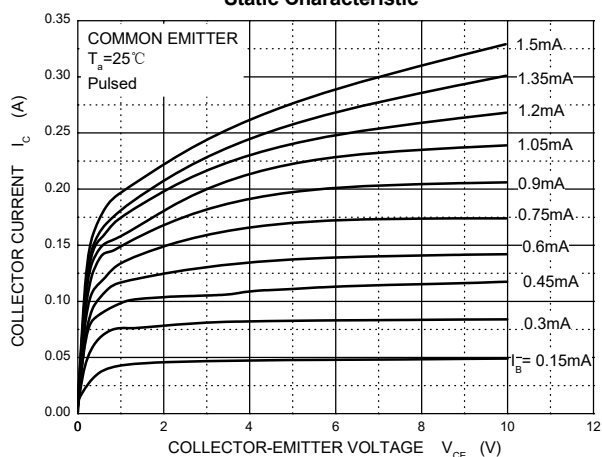
Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified .

Parameter	Test Condition	Symbols	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	$V_{(BR)CBO}$	170		V
Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	$V_{(BR)CEO}^*$	150		V
Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	$V_{(BR)EBO}$	5		V
Collector cut-off current	$V_{CB}=150V, I_E=0$	I_{CBO}		100	nA
Collector cut-off current	$V_{CES}=150V, I_E=0$	I_{CES}		100	nA
Emitter cut-off current	$V_{EB}=4V, I_C=0$	I_{EBO}		100	nA
DC current gain	$V_{CE}=10V, I_C=1mA$	$h_{FE(1)}$	100		
	$V_{CE}=10V, I_C=250mA$	$h_{FE(2)}^*$	100	300	
	$V_{CE}=10V, I_C=500mA$	$h_{FE(3)}^*$	50		
	$V_{CE}=10V, I_C=1000mA$	$h_{FE(4)}^*$	10		
Collector-emitter saturation voltage	$I_C=250mA, I_B=25mA$	$V_{CE(sat)}^*$		0.20	V
	$I_C=500mA, I_B=50mA$			0.30	V
Base -emitter saturation voltage	$I_C=500mA, I_B=50mA$	$V_{BE(sat)}^*$		1.00	V
Base -emitter turn-on voltage	$V_{CE}=10V, I_C=500mA$	$V_{BE(on)}^*$		1.00	V
Transition frequency	$V_{CE}=10V, I_C=50mA, f=100MHz$	f_T	100		MHz
Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$	C_{ob}		10	pF

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

Static Characteristic



Ordering information

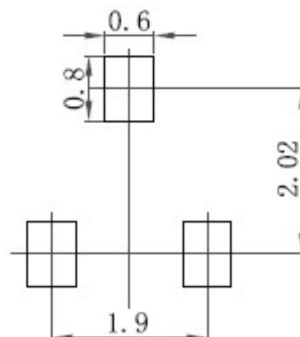
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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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