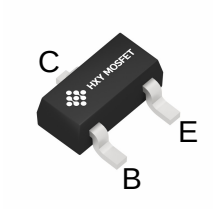
FMMT493

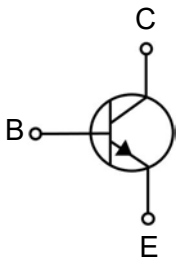
NPN Plastic-Encapsulate Transistors

Features

Complementary Type
FMMT593



SOT-23



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
FMMT493	SOT-23	493	3000

Maximum Ratings (Ta=25°C unless otherwise noted)

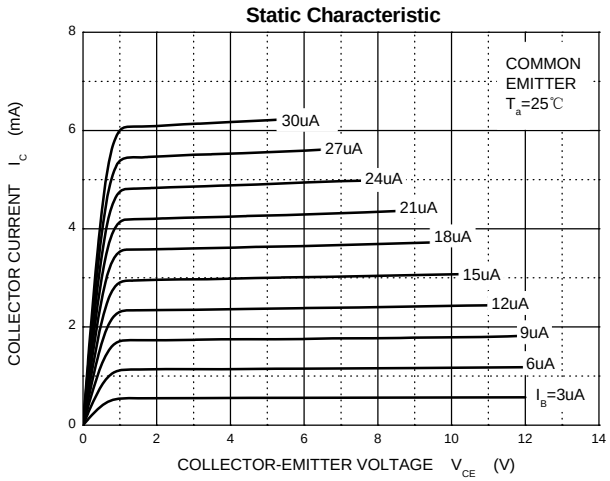
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
I_{CM}	Peak Pulse Current	2	A
P_C	Collector Power Dissipation	250	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	500	℃/W
T_J ,T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

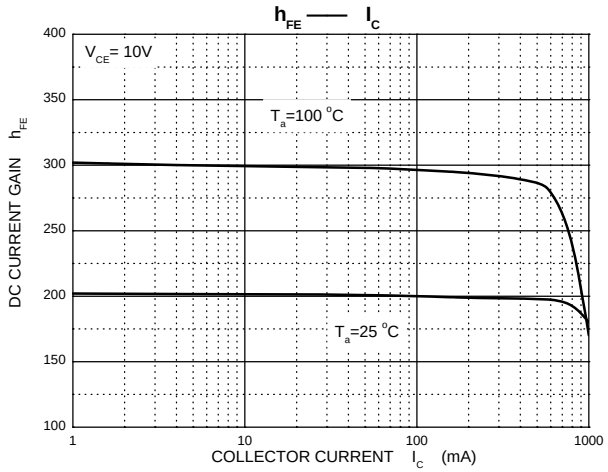
Electrical Characteristics (Ta=25°C unless otherwise noted)

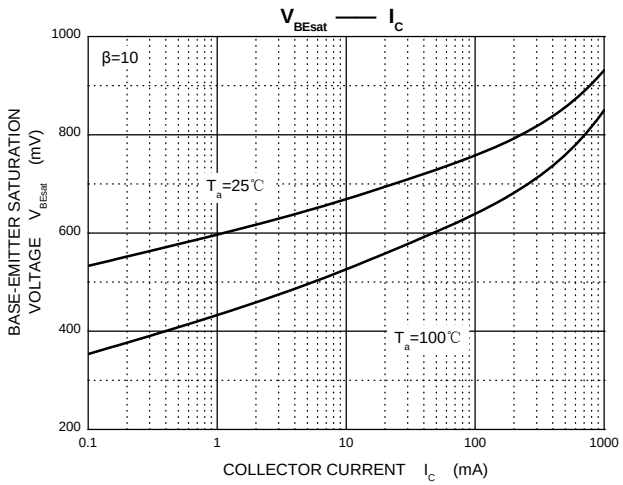
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA, I_E=0	120			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=10mA, I_B=0	100			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA, I_C=0	5			V
I_{CBO}	Collector cut-off current	V_{CB}=100V,I_E=0			100	nA
I_{EBO}	Emitter cut-off current	V_{EB}=4V, I_C=0			100	nA
$h_{FE}(1)$	DC current gain(1)	V_{CE}=10V,I_C =1mA	100			
$h_{FE}(2)$	DC current gain(2)	V_{CE}=10V,I_C=500mA	100		300	
$h_{FE}(3)$	DC current gain(3)	V_{CE}=10V,I_C=1A	60			
$h_{FE}(4)$	DC current gain(4)	V_{CE}=10V,I_C=2A	20			
$V_{CE(sat)}1$	Collector-emitter saturation voltage	I_C=500mA, I_B=50mA			0.3	V
$V_{CE(sat)}2$	Collector-emitter saturation voltage	I_C=1A, I_B=100mA			0.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=1A, I_B=100mA			1.15	V
V_{BE}	Base-emitter voltage	V_{CE}=5V, I_C=1A			1	V
f_T	Transition frequency	V_{CE}=10V, I_C=50mA, f=100MHz	150			MHz
C_{ob}	Collector output capacitance	VCB=10V,f=1MHz			10	pF

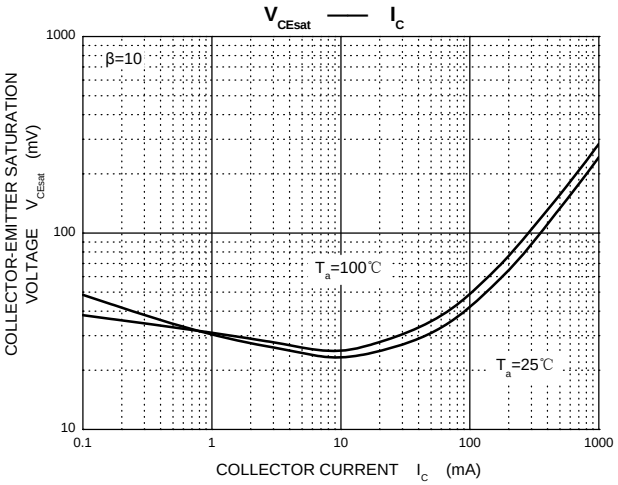
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

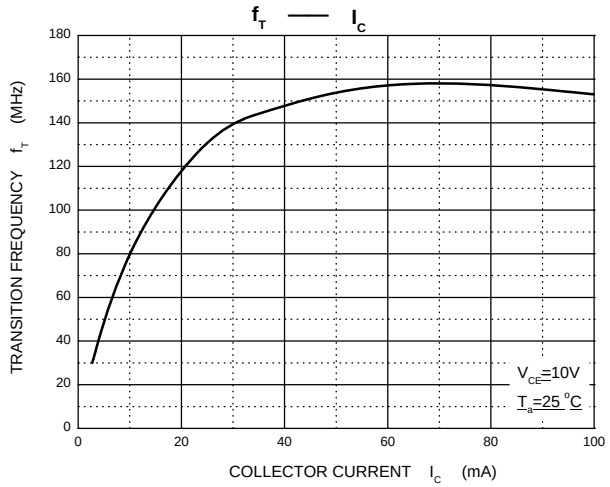
Typical Characteristics

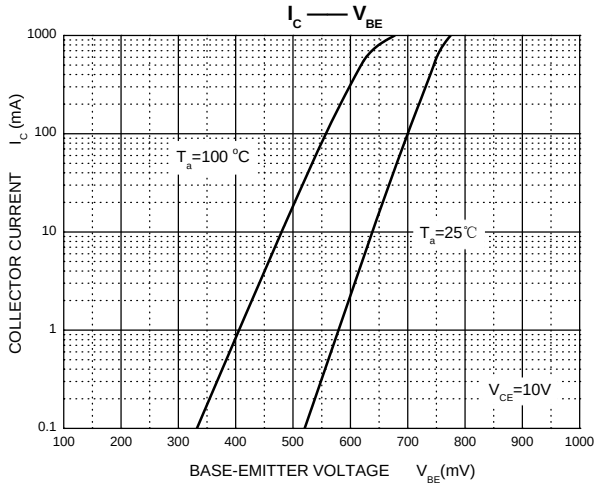


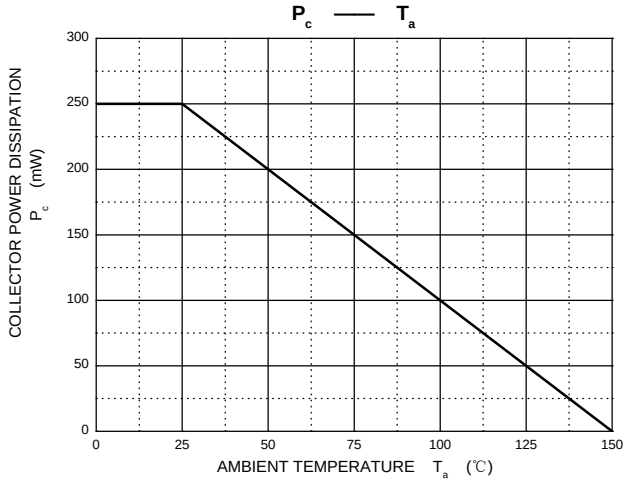




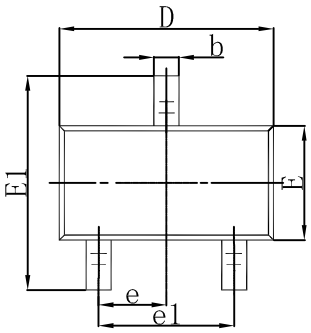


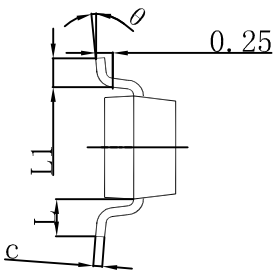


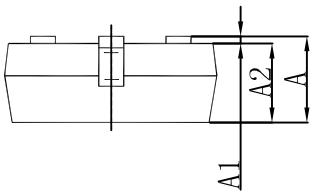




SOT-23 Package Outline Dimensions







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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