

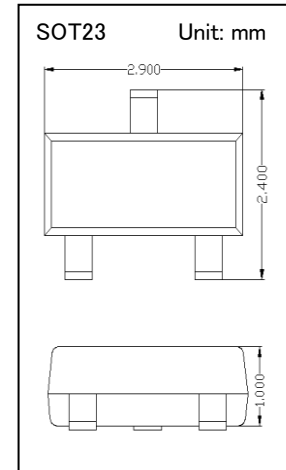
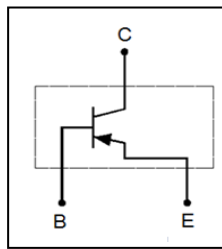
DATA SHEET (Preliminary)

FMMT593

- ◇Epoxy Meets UL 94 V-0 Flammability Rating
- ◇Surface Mount SOT-23 Package
- ◇Rohs Compliant / Green EMC

Device Marking Code	
FMMT593	593

Equivalent Circuit



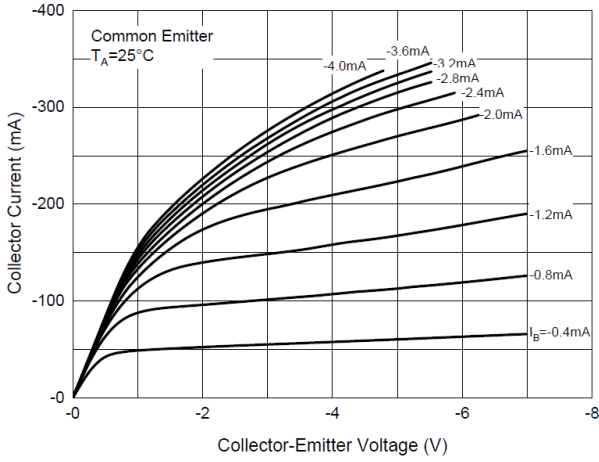
Maximum Ratings (Ta=25°C Unless Otherwise Noted)

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
P_D	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	500	°C/W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C

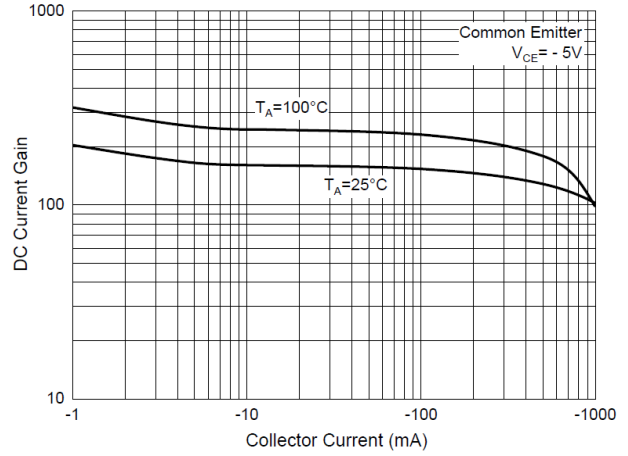
Electrical Characteristics@ 25°C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-100			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB} = -100\text{V}, I_E = 0$			-0.1	μA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	μA
h_{FE}	DC Current Gain	$I_C = -1\text{mA}, V_{CE} = -5\text{V}$	100			
		$I_C = -250\text{mA}, V_{CE} = -5\text{V}$	100			
		$I_C = -0.5\text{A}, V_{CE} = -5\text{V}$	100		300	
		$I_C = -1\text{A}, V_{CE} = -5\text{V}$	50			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -250\text{mA}, I_B = -25\text{mA}$			-0.2	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.3	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.1	V
V_{BE}	Base-Emitter Voltage	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$			-1.0	V
f_T	Transition Frequency	$I_C = -50\text{mA},$ $V_{CE} = -10\text{V}, f = 100\text{MHz}$	150			MHz
C_{Ob}	Collector-Base Capacitance	$V_{CB} = -10\text{V}, I_E = 0,$ $f = 1.0\text{MHz}$			5	pF

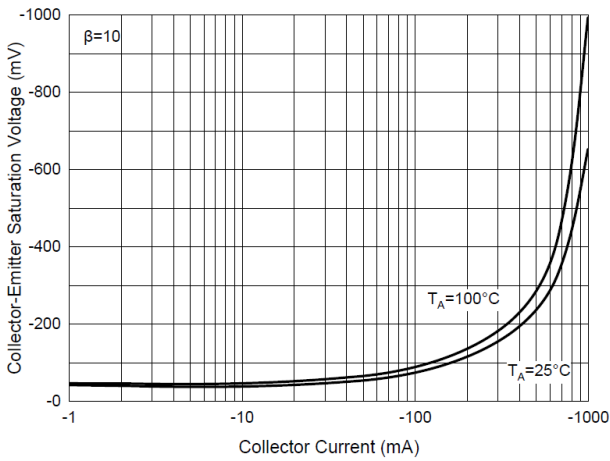
Curve Characteristics



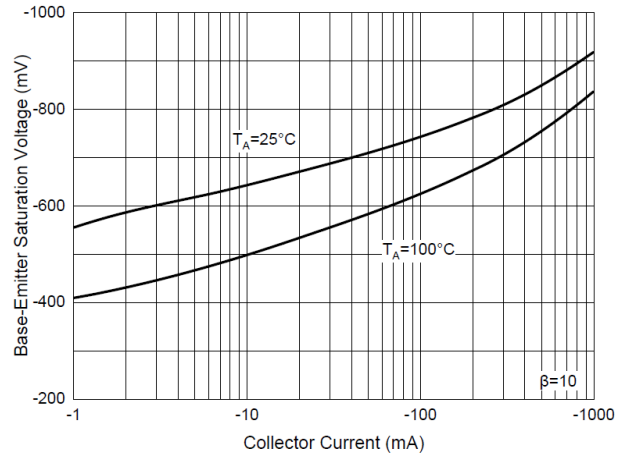
Static Characteristics



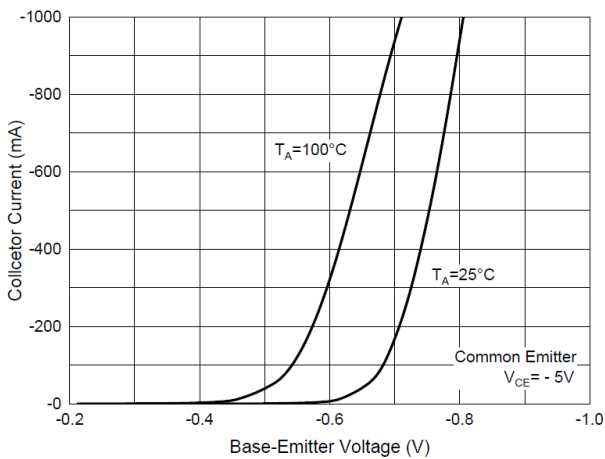
DC Current Gain Characteristics



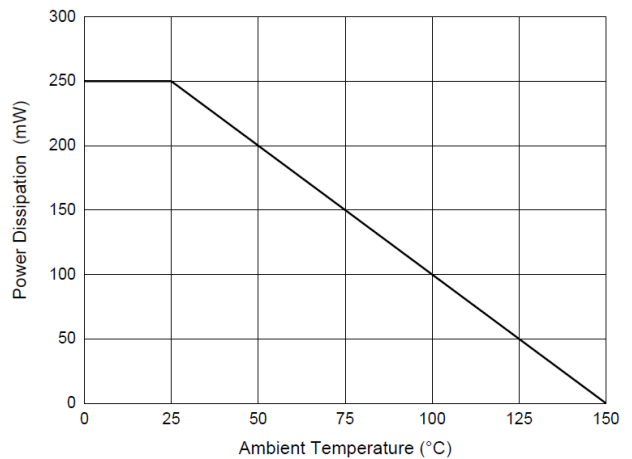
Collector-Emitter Saturation Voltage Characteristics



Base-Emitter Saturation Voltage Characteristics



Base-Emitter Voltage Characteristics



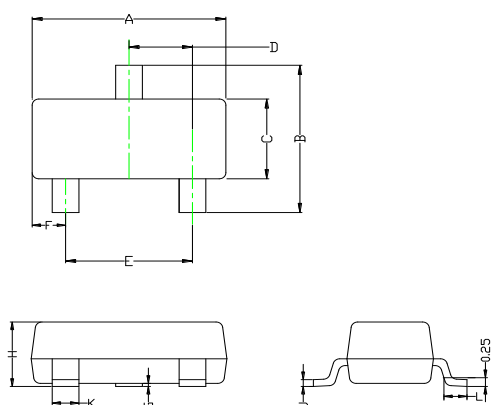
Collector Power Derating Curve

Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
FMMT593	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

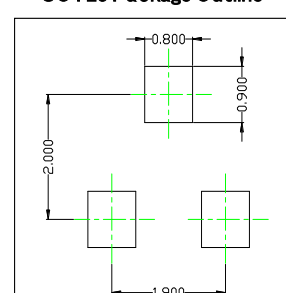
Package Dimensions

Package outline : SOT23



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.085	0.180
K	0.370	0.510
L	0.300	0.500

SOT23 Package Outline



Land Pattern Recommendation

Notice:

- Lead plating: Pb free solder
- Lead thickness includes solder plating
- Lead frame: CAC-5
- Other Tolerance: ± 0.05

NOTICE

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