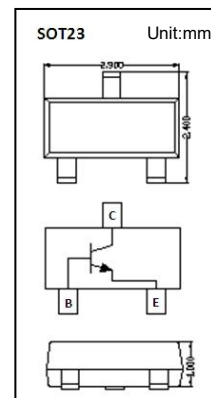


SOT-23 NPN Transistors

FEATURES

- ◇ Capable of 500mWatts of Power Dissipation
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Surface Mount SOT-23 Package
- ◇ RoHS compliant / Green EMC
- ◇ Collector current: $I_C=1.0\text{A}$
- ◇ AEC-Q101 qualified (Automotive grade with suffix " Q".)



Device Marking Code	
FMMT491	491

Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1.0	A
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	500	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	$-55 \sim +150$	$^{\circ}\text{C}$

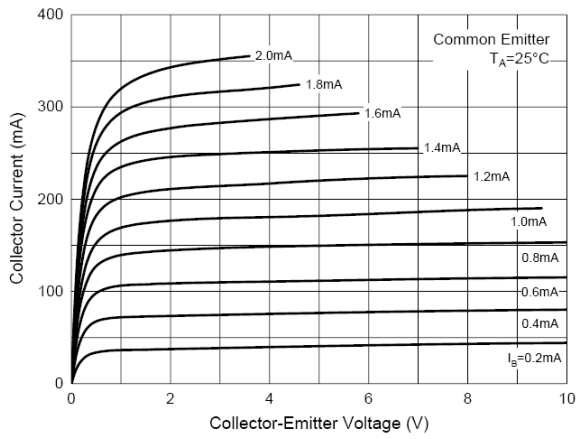
Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10\text{mA}, I_B=0$	60		V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	80		V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu\text{A}, I_C=0$	5.0		V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB}=60\text{V}, I_E=0$		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	$h_{FE(1)}$ $I_C=1.0\text{mA}, V_{CE}=5\text{V}^*$	100		
		$h_{FE(2)}$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$	100	300	
		$h_{FE(3)}$ $I_C=1.0\text{A}, V_{CE}=5\text{V}^*$	80		
		$h_{FE(4)}$ $I_C=2.0\text{A}, V_{CE}=5\text{V}^*$	30		

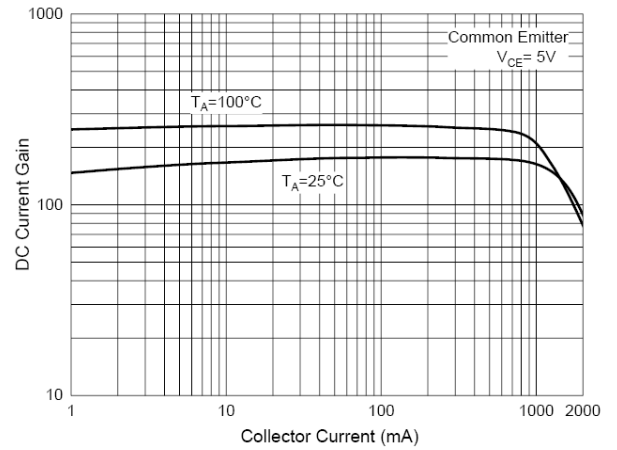
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=500mA, I_B=50mA$		0.25	V
		$I_C=1A, I_B=100mA$		0.5	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1A, I_B=100mA$		1.1	V
V_{BE}	Base-Emitter Voltage	$V_{CE}=5V, I_C=1A$		1.0	V
f_T	Transition frequency	$I_C=50mA,$ $V_{CE}=10V, f=100MHz$	150		MHZ
C_{ob}	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		10	pF

* Measured under pulsed conditions. Pulse width=300us. Duty cycle2%

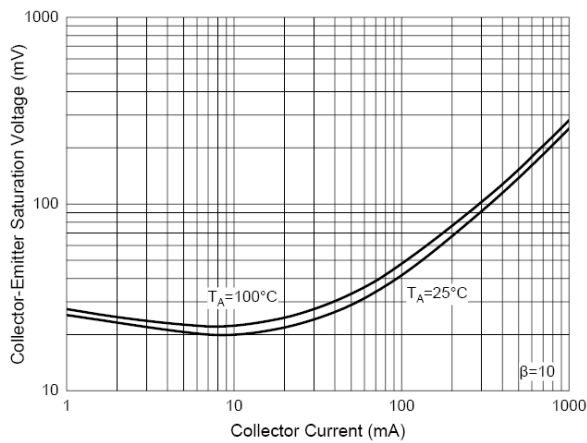
Typical Characteristics



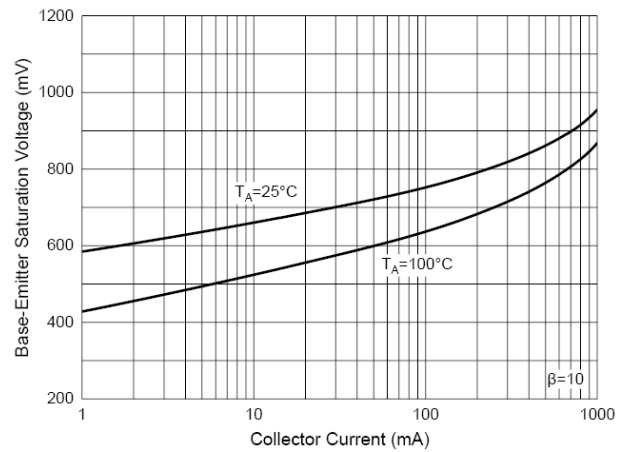
Static Characteristics



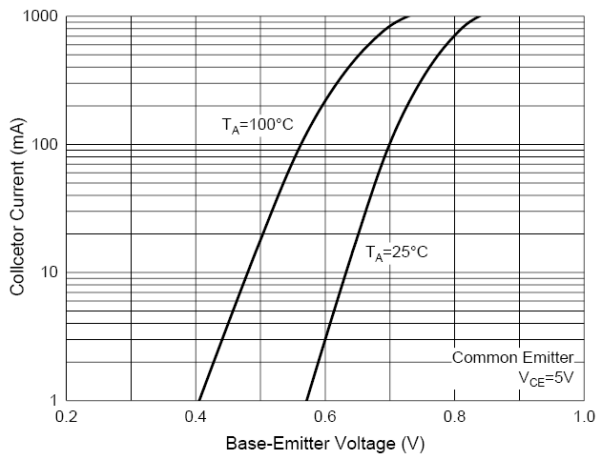
DC Current Gain Characteristics



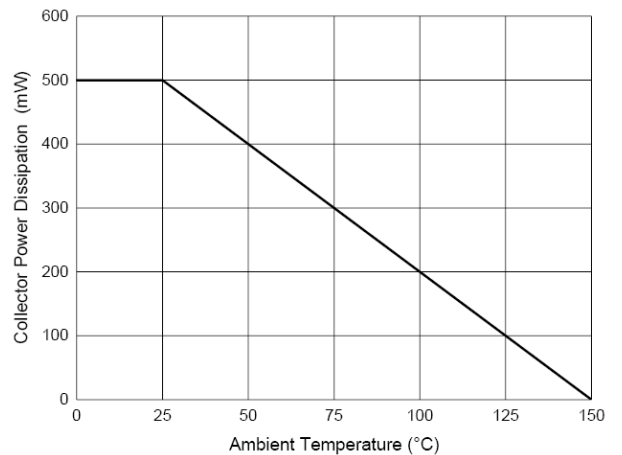
Collector-Emitter Saturation Voltage Characteristics



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
FMMT491	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

Package Dimensions

