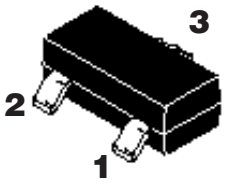
Semiconductor *Data Sheet*

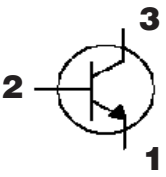
NPN Epitaxial Planar Transistor

FMMT458

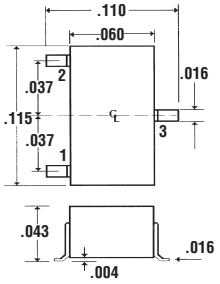
Description



SOT-23



Mechanical Dimensions



Maximum Ratings

Ratings	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	400	V
Collector - Base Voltage	V_{CBO}	400	V
Emitter - Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	225	mA
Total Device Dissipation T_A = 25°C	P_D	500	mW
Junction and Storage Temperature	T_J, T_{STG}	-55 to 150	°C

Electrical Characteristics @ 25°C

Characteristic	Symbol	Min	Max	Unit
Collector - Emitter Breakdown Voltage (I_C = 10mA)	$V_{BR(CEO)}$	400	---	V
Collector - Base Breakdown Voltage (I_C = 100µA)	$V_{BR(CBO)}$	400	---	V
Emitter - Base Breakdown Voltage (I_E = 100µA)	$V_{BR(EBO)}$	5.0	---	V
Collector Cutoff Current (V_{CB} = 320V, I_E = 0)	I_{CBO}	---	0.1	µA
Emitter Cutoff Current (V_{EB} = 4.0V, I_C = 0)	I_{EBO}	---	0.1	µA
Static Forward Current Transfer Ratio	h_{FE}			
(I_C = 1.0 mA, V_{CE} = 10 V)		100		
(I_C = 50 mA, V_{CE} = 10 V)		100	300	
(I_C = 100 mA, V_{CE} = 10 V)		15		
Collector - Emitter Saturation Voltage (I_C = 50 mA, I_B = 6.0 mA)	$V_{CE(sat)}$	---	0.5	V
Base - Emitter Saturation Voltage (I_C = 50 mA, I_B = 5.0 mA)	$V_{BE(sat)}$	---	0.9	V
Current - Gain - Bandwidth Product (I_C = 10 mA, V_{CE} = 20 V, f = 100 MHz)	f_T	50	---	MHz
Output Capacitance (V_{CB} = 20 V, f = 1.0 MHz)	C_{ob}	---	5.0	pF
Switching Characteristics (I_C = 50 mA, V_{CC} = 100 V)	T_{on}	35 (TYP)		ns
(I_{B1} = 5.0 mA, I_{B2} = 10 mA)	T_{off}	2260 (TYP)		ns