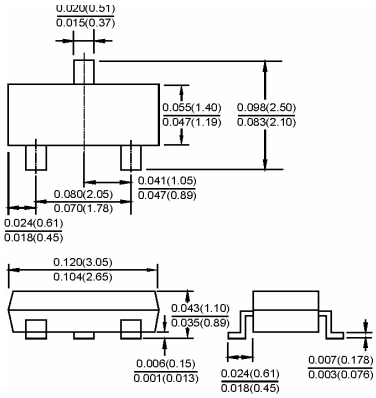
MMBT589

SOT-23 Transistor(PNP)

1. BASE
2. EMITTER
3. COLLECTOR

SOT-23



Dimensions in inches and (millimeters)

Features

✧ High current surface mount PNP silicon switching transistor for Load management in portable applications

MARKING :589

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
P_C	Collector Power Dissipation	310	mW
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	403	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-30V,I_E=0			-0.1	μA
Collector-emitter cut-off current	I_{CES}	V_{CES}=-30V			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_C=0			-0.1	μA
DC current gain	h_{FE1}	V_{CE}=-2V,I_C=-1mA	100			
	h_{FE2}	V_{CE}=-2V,I_C=-500mA	100		300	
	h_{FE3}	V_{CE}=-2V,I_C=-1A	80			
	h_{FE4}	V_{CE}=-2V,I_C=-2A	40			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C= -500mA, I_B=-50mA			-0.25	V
	$V_{CE(sat)2}$	I_C= -1A, I_B=-100mA			-0.3	V
	$V_{CE(sat)3}$	I_C= -2A, I_B=-200mA			-0.65	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C= -1A, I_B=-100mA			-1.2	V
Base-emitter Turn-on voltage	$V_{BE(on)}$	V_{CE}=-2V, I_C=-1A			-1.1	V
Transition frequency	f_T	V_{CE}=-5V, I_C=-100mA , f =100MHz	100			MHz
Collector Output Capacitance	Cob	f=1MHz			15	pF

Typical Characteristics