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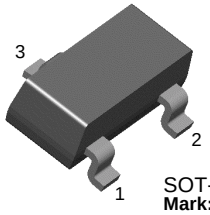
MMBT4354

PNP General Purpose Amplifier

- This device is deisgned for use as general purpose amplifiers and switch requiring collector currents to 500mA.
- Sourced from process 67.
- TN4033A for characteristics.



SOT-23
Mark: 79

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current - Continuous	-800	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Sustaining Voltage *	I_C = -1.0mA, I_B = 0	-60		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = -10μA, I_E = 0	-60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = -10μA, I_C = 0	-5.0		V
I_{CBO}	Collector Cut-off Current	V_{CB} = -50V, I_E = 0		-50	nA
I_{EBO}	Emitter Cut-off Current	V_{EB} = -5.0V, V_{CE} = 0		-10	μA
On Characteristics *					
h_{FE}	DC Current Gain	V_{CE} = -5V, I_C = -0.1mA V_{CE} = -5V, I_C = -1.0mA V_{CE} = -5V, I_C = -10mA V_{CE} = -5V, I_C = -100mA V_{CE} = -5V, I_C = -500mA	25 40 50 40 30	 500 	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -150mA, I_B = -15mA I_C = -500mA, I_B = -50mA		-0.15 -0.50	V V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = -150mA, I_B = -15mA I_C = -500mA, I_B = -50mA		-0.9 -1.1	V V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = -0.5V, I_C = -500mA		-1.1	V
Small Signal Characteristics					
h_{fe}	Small Signal Current Gain	I_C = -50mA, V_{CE} = -10V, f = 100MHz	1.0	5.0	
NF	Noise Figure	V_{CE} = -10V, I_C = -100μA R_S = 1.0kΩ, f = 1.0KHz, B_W = 1.0Hz		2.0	dB
Switching Characteristics					
t_{on}	Turn-On Time	I_C = -500mA, V_{CC} = -30V I_{B1} = I_{B2} = -50mA		100	ns
t_{off}	Turn-Off Time			400	ns

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1.0%

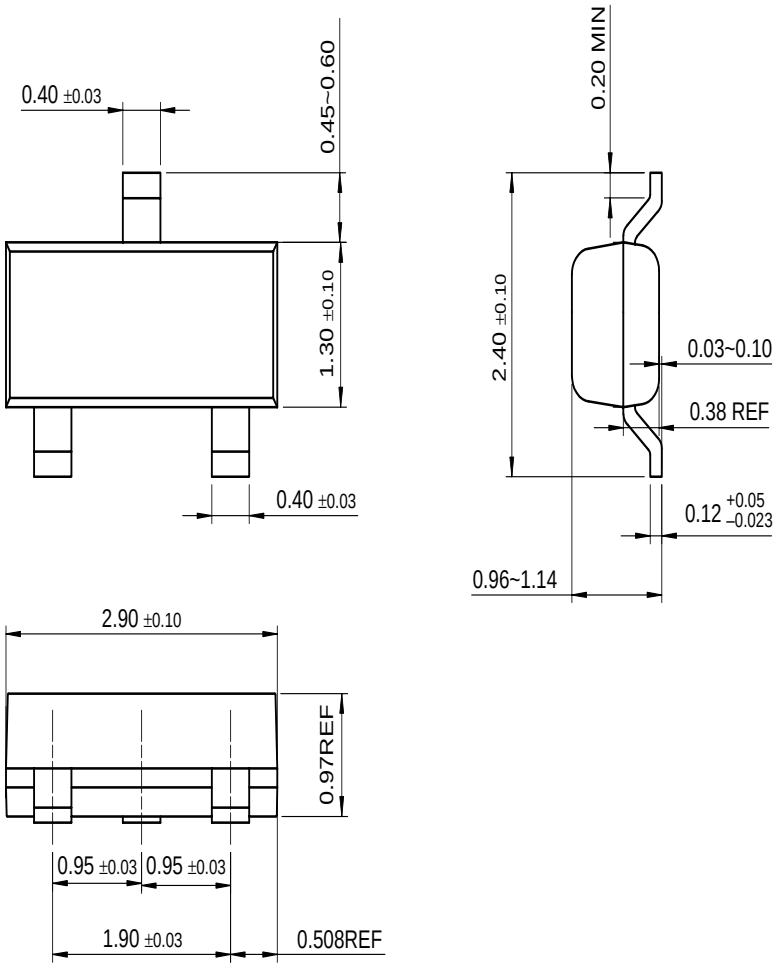
Thermal Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

* Device mounted on FR-4PCB 1.6" × 1.6" × 0.06".

Package Dimensions

SOT-23



Dimensions in Millimeters

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