

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.



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.

- 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

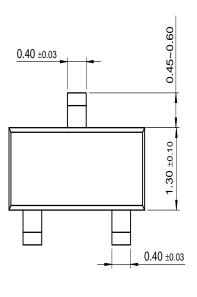
Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characte	eristics	•			
V _{(BR)CEO}	Collector-Emitter Sustaining Voltage *	$I_C = -1.0 \text{mA}, I_B = 0$	-60		V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	$I_{C} = -10\mu A, I_{E} = 0$	-60		V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	$I_E = -10\mu A, I_C = 0$	-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	μΑ
On Characte	eristics *	•			
h _{FE}	DC Current Gain	$V_{CE} = -5V, I_C = -0.1 \text{mA}$ $V_{CE} = -5V, I_C = -1.0 \text{mA}$ $V_{CE} = -5V, I_C = -10 \text{mA}$ $V_{CE} = -5V, I_C = -100 \text{mA}$ $V_{CE} = -5V, I_C = -500 \text{mA}$	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 _{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 Signa	I Characteristics	•			
h _{fe}	Small Signal Current Gain	$I_C = -50 \text{mA}, V_{CE} = -10 \text{V},$ f = 100MHz	1.0	5.0	
NF	Noise Figure	$V_{CE} = -10V$, $I_{C} = -100\mu A$ $R_{S} = 1.0k\Omega$, $f = 1.0KHz$, $B_{W} = 1.0Hz$		2.0	dB
Switching C	haracteristics				
t _{on}	Turn-On Time	I _C = -500mA, V _{CC} = -30V		100	ns
t _{off}	Turn-Off Time	I _{B1} = I _{B2} = -50mA		400	ns

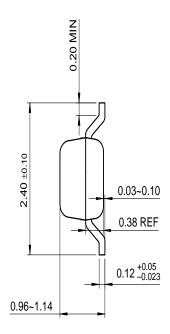
Thermal Characteristics T _a =25°C unless otherwise noted			
Symbol	Parameter	Max.	Units
P _D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

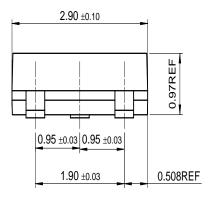
^{*} Device mounted on FR-4PCB 1.6" × 1.6" × 0.06".

Package Dimensions

SOT-23







Dimensions in Millimeters

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