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FAIRCHILD
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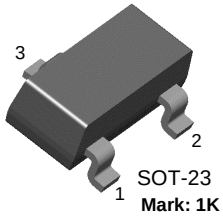
MMBT6428

NPN General Purpose Amplifier

- This device designed for general pupose amplifier applications at collector currents to 300mA
- Sourced from process 10.



SOT-23
Mark: 1K

1. Base 2. Emitter 3. Collector

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

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	50	V
V_{CBO}	Collector-Base Voltage	60	V
I_C	Collector Current - Continuous	500	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.

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	I_C = 1.0mA, I_B = 0	50		V
$V_{(BR)CBO}$	Collector-Base BreakdownVoltage	I_C = 100µA, I_E = 0	60		V
I_{CEO}	Collector Cut-off Current	V_{CE} = 30V, I_B = 0		0.1	µA
I_{CBO}	Collector Cut-off Current	V_{CB} = 30V, I_E = 0		10	nA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5.0V, I_B = 0		10	nA
On Characteristics					
h_{FE}	DC Current Gain	V_{CE} = 5.0V, I_C = 10µA V_{CE} = 5.0V, I_C = 100µA V_{CE} = 5.0V, I_C = 1.0mA V_{CE} = 5.0V, I_C = 10mA	250 250 250 250	 650 	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5.0mA		0.2 0.6	V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = 5.0V, I_C = 1.0mA	0.56	0.66	V
Small Signal Characteristics					
f_T	Current gain Bandwidth Product	V_{CE} = 5.0V, I_C = 1.0mA, f = 100MHz	100	700	MHz
C_{obo}	Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1.0MHz		3.0	pF
C_{ibo}	Input Capacitance	V_{EB} = 0.5V, I_C = 0, f = 1.0MHz		8.0	pF

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0%

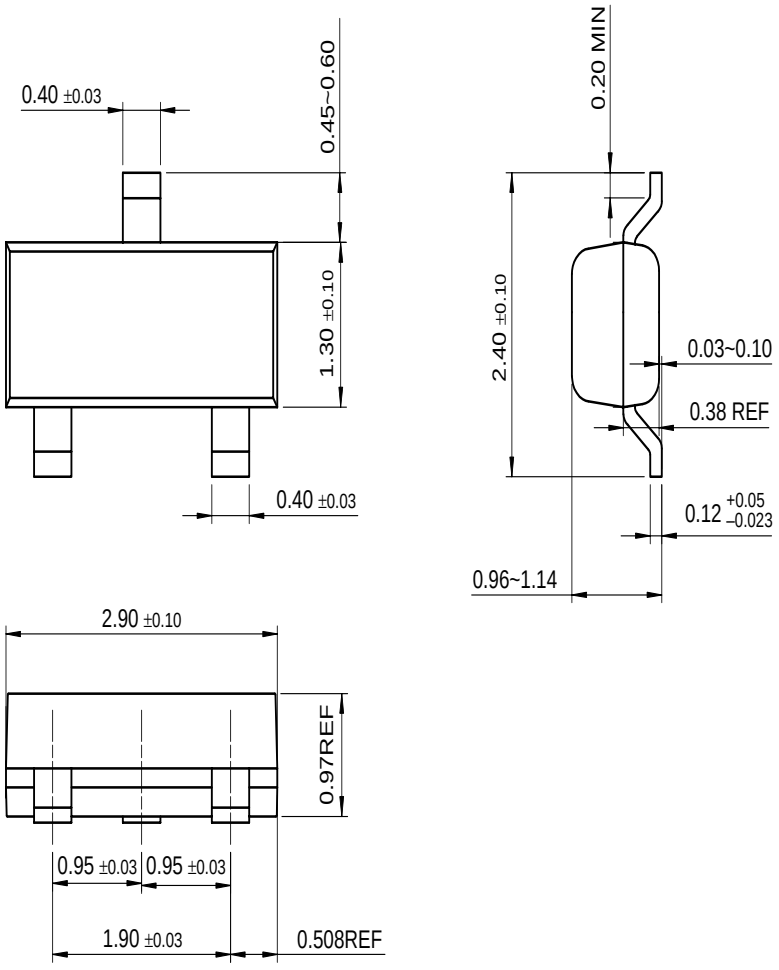
Thermal Characteristics T_A=25°C unless otherwise noted

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-4 PCB 1.6" X 1.6" X 0.06."

Package Dimensions

SOT-23



Dimensions in Millimeters

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Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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