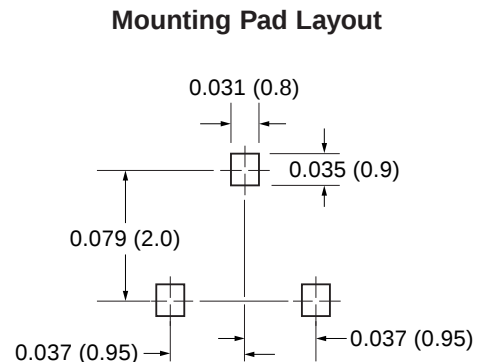
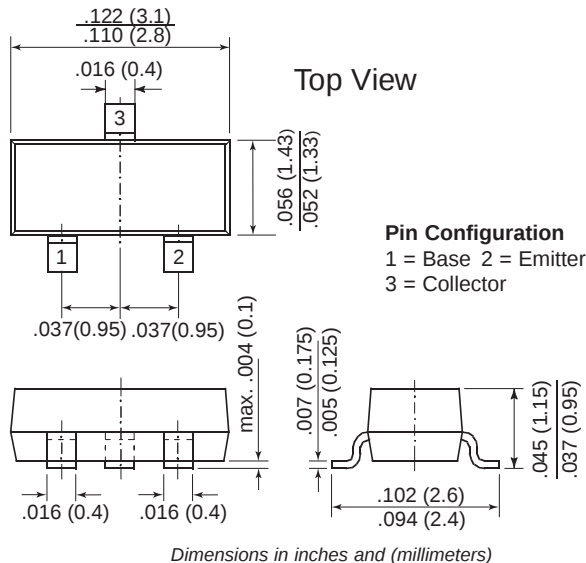




Small Signal Transistor (PNP)



TO-236AB (SOT-23)



Features

- PNP Silicon Epitaxial Planar Transistor for switching and amplifier applications.
- As complementary type, the NPN transistor MMBTA06 is recommended.
- This transistor is also available in the TO-92 case with the type designation MPSA56.

Mechanical Data

Case: SOT-23 Plastic Package**Weight:** approx. 0.008g**Marking Code:** 2GM**Packaging Codes/Options:**

E8/10K per 13" reel (8mm tape), 30K/box

E9/3K per 7" reel (8mm tape), 30K/box

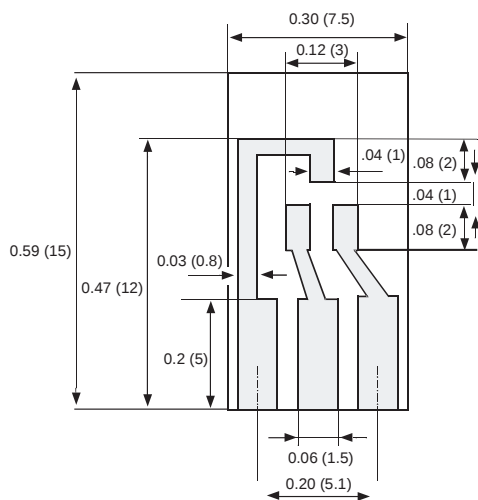
Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$-V_{CBO}$	80	V
Collector-Emitter Voltage	$-V_{CEO}$	80	V
Emitter-Base Voltage	$-V_{EBO}$	4.0	V
Collector Current	$-I_C$	500	mA
Power Dissipation at $T_A = 25^\circ\text{C}$	P_{tot}	277 ⁽¹⁾ 300 ⁽²⁾	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	450 ⁽¹⁾	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$

Notes: (1) Device on fiberglass substrate, see layout.
(2) Device on alumina substrate.

Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}$, $-I_C = 10\text{mA}$ $V_{CE} = 1\text{V}$, $-I_C = 100\text{mA}$	100 100	— —	— —	—
Collector-Emitter Breakdown Voltage	$-V_{(BR)CEO}$	$-I_C = 1\text{mA}$, $I_B = 0\text{mA}$	80	—	—	V
Emitter-Base Breakdown Voltage	$-V_{(BR)EBO}$	$I_E = 100\text{mA}$, $I_C = 0$	4.0	—	—	V
Collector Saturation Voltage	$-V_{CEsat}$	$-I_C = 100\text{mA}$, $-I_B = 10\text{mA}$	—	—	0.25	V
Base-Emitter ON Voltage	$-V_{BE(on)}$	$-I_C = 100\text{mA}$, $-I_B = 10\text{mA}$ $-I_C = 50\text{mA}$, $-I_B = 5\text{mA}$	— —	— —	1.2 1.2	V
Collector-Emitter Cut-off Current	$-I_{CES}$	$-V_{CE} = 60\text{V}$, $-I_B = 0$	—	—	100	nA
Collector-Base Cut-off Current	$-I_{CBO}$	$-V_{CB} = 80\text{V}$, $I_E = 0$	—	—	100	nA
Gain-Bandwidth Product	f_T	$V_{CE} = 1\text{V}$, $I_C = 100\text{mA}$ $f = 100\text{MHz}$	50	—	—	MHz


Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)

Copper leads 0.012 in (0.3 mm)