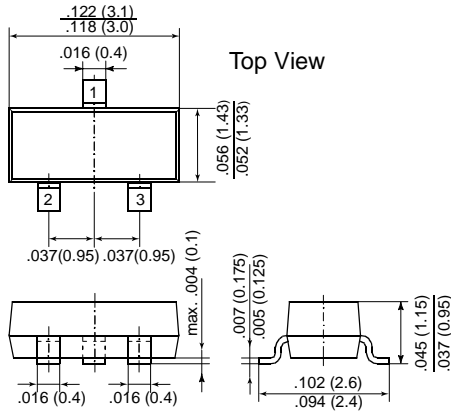


MMBTA56

Small Signal Transistors (PNP)

SOT-23



Dimensions in inches and (millimeters)

Pin configuration

1 = Base, 2 = Emitter, 3 = Collector.

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	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}	225 ⁽¹⁾ 300 ⁽²⁾	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	560 ⁽¹⁾	K/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_s	- 55 to +150	°C

¹⁾ Device on fiberglass substrate, see layout

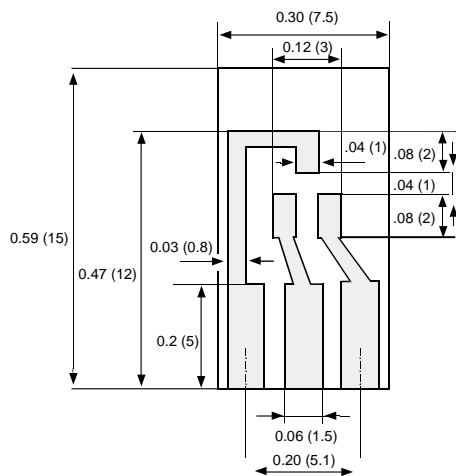
²⁾ Device on alumina substrate.

MMBTA56

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOL	MIN.	.MAX.	UNIT
Collector-Emitter Breakdown Voltage at $-I_C = 1 \text{ mA}$, $I_B = 0 \text{ mA}$	$-V_{BR}(CEO)$	80	–	V
Emitter-Base Breakdown Voltage at $I_E = 100 \text{ mA}$, $I_C = 0$	$-V_{(BR)}EBO$	4.0	–	V
Collector-Emitter Cutoff Current $-V_{CE} = 60 \text{ V}$, $-I_B = 0$	$-I_{CES}$	–	100	nA
Collector-Base Cutoff Current $-V_{CB} = 80 \text{ V}$, $I_E = 0$	$-I_{CBO}$	–	100	nA
Collector Saturation Voltage at $-I_C = 100 \text{ mA}$, $-I_B = 10 \text{ mA}$	$-V_{CEsat}$	–	0.25	V
Base-Emitter On Voltage at $-I_C = 100 \text{ mA}$, $-I_B = 10 \text{ mA}$ at $-I_C = 50 \text{ mA}$, $-I_B = 5 \text{ mA}$	$-V_{BE}(on)$ $-V_{BE}(on)$	– –	1.2 1.2	V V
DC Current Gain at $V_{CE} = 1 \text{ V}$, $-I_C = 10 \text{ mA}$ at $V_{CE} = 1 \text{ V}$, $-I_C = 100 \text{ mA}$	h_{FE} h_{FE}	100 100	– –	– –
Gain-Bandwidth Product at $V_{CE} = 1 \text{ V}$, $I_C = 100 \text{ mA}$, $f = 100 \text{ MHz}$	f_T	50	–	MHz



Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)

Copper leads 0.012 in (0.3 mm)