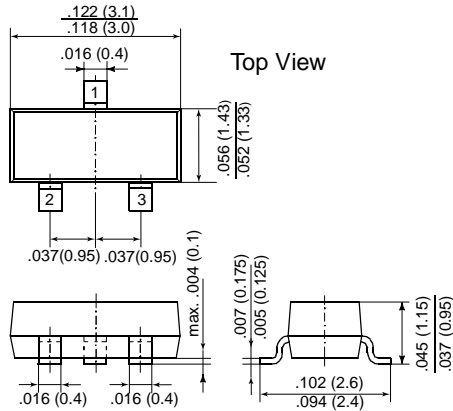


MMBTA06

Small Signal Transistors (NPN)

SOT-23



Dimensions in inches and (millimeters)

Pin configuration

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

FEATURES

- ◆ NPN Silicon Epitaxial Planar Transistor for switching and amplifier applications.
- ◆ As complementary type, the PNP transistor MMBTA56 is recommended.
- ◆ This transistor is also available in the TO-92 case with the type designation MPSA06.



MECHANICAL DATA

Case: SOT-23 Plastic Package

Weight: approx. 0.008g

Marking code: 1GM

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CB0}	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 °C	P _{tot}	255 ⁽¹⁾ 300 ⁽²⁾	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	560 ⁽¹⁾	K/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _S	-65 to +150	°C

¹⁾Device on fiberglass substrate, see layout

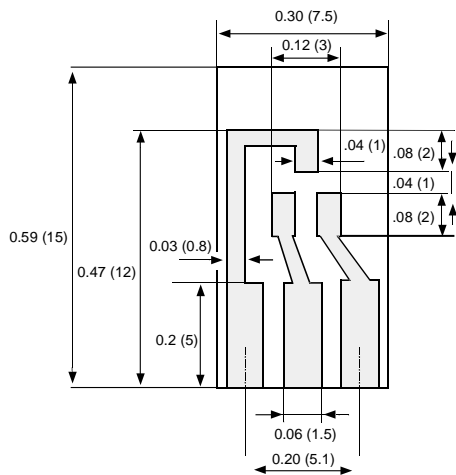
²⁾Device on alumina substrate

MMBTA06

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOL	MIN.	.MAX.	UNIT
Collector-Emitter Breakdown Voltage at $I_C = 1 \text{ mA}$, $I_B = 0$	$V_{(BR)CEO}$	80	–	V
Emitter-Base Breakdown Voltage at $I_E = 100 \mu\text{A}$, $I_C = 0$	$V_{(BR)EBO}$	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 $I_C = 10 \text{ mA}$, $I_B = 1 \text{ mA}$	$V_{BE(on)}$	–	1.2	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 $V_{CE} = 2 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 100 \text{ MHz}$	f_T	100	–	MHz



Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)

Copper leads 0.012 in (0.3 mm)