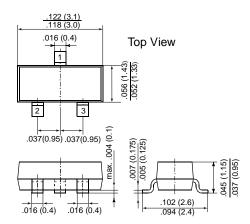
## **MMBTA06**

## **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	Vсво	80	V
Collector-Emitter Voltage	VCEO	80	V
Emitter-Base Voltage	VEBO	4.0	V
Collector Current	Ic	500	mA
Power Dissipation at T <sub>A</sub> = 25 °C	Ptot	255 <sup>(1)</sup> 300 <sup>(2)</sup>	mW
Thermal Resistance Junction to Ambient Air	R <sub>θ</sub> JA	560 <sup>1)</sup>	K/W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Ts	-65 to +150	°C

<sup>1)</sup>Device on fiberglass substrate, see layout



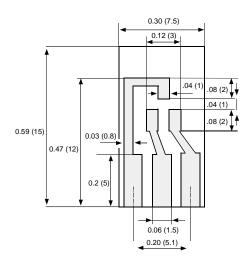
<sup>2)</sup> Device on alumina subtrate

# **MMBTA06**

### **ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified

	SYMBOL	MIN.	.MAX.	UNIT
Collector-Emitter Breakdown Voltage at Ic = 1 mA, IB = 0	V(BR)CEO	80	_	V
Emitter-Base Breakdown Voltage at $I_E = 100 \mu A$ , $I_C = 0$	V <sub>(BR)EBO</sub>	4.0	_	V
Collector-Emitter Cutoff Current V <sub>CE</sub> = 60 V, I <sub>B</sub> = 0	Ices	-	100	nA
Collector-Base Cutoff Current VCB = 80 V, IE = 0	Ісво	-	100	nA
Collector Saturation Voltage at I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA	VCEsat	-	0.25	V
Base-Emitter On Voltage at I <sub>C</sub> = 10 mA, I <sub>B</sub> = 1 mA	VBE(on)	-	1.2	V
DC Current Gain at V <sub>CE</sub> = 1 V, I <sub>C</sub> = 10 mA at V <sub>CE</sub> = 1 V, I <sub>C</sub> = 100 mA	hFE hFE	100 100	_ _	- -
Gain-Bandwidth Product at Vce = 2 V, Ic = 10 mA, f = 100 MHz	fτ	100	_	MHz



## Layout for $R_{thJA}$ test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

