

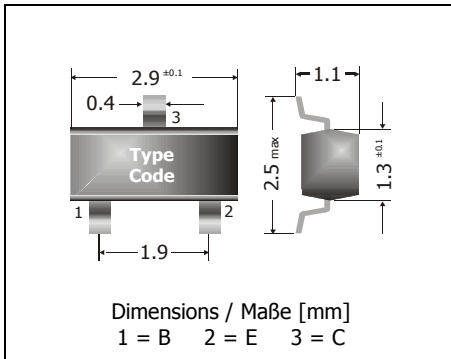
## MMBTA05 / MMBTA06

NPN

Surface mount general purpose Si-epitaxial planar transistors  
 Vielzweck Si-Epitaxial Planar-Transistoren für die Oberflächenmontage

NPN

Version 2007-06-25



Power dissipation  
 Verlustleistung

250 mW

Plastic case  
 Kunststoffgehäuse

SOT-23  
 (TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0  
 Gehäusematerial UL94V-0 klassifiziert



Standard packaging taped and reeled  
 Standard Lieferform gegurtet auf Rolle

### Maximum ratings (T<sub>A</sub> = 25°C)

### Grenzwerte (T<sub>A</sub> = 25°C)

			MMBTA05	MMBTA06
Collector-Emitter-volt. - Kollektor-Emitter-Spannung	B open	V <sub>CEO</sub>	60 V	80 V
Collector-Base-voltage - Kollektor-Basis-Spannung	E open	V <sub>CB0</sub>	60 V	80 V
Emitter-Base-voltage - Emitter-Basis-Spannung	C open	V <sub>EB0</sub>	4 V	
Power dissipation – Verlustleistung		P <sub>tot</sub>	250 mW <sup>1)</sup>	
Collector current – Kollektorstrom (dc)		I <sub>C</sub>	500 mA	
Base current – Basisstrom		I <sub>B</sub>	100 mA	
Peak Base current – Basis-Spitzenstrom		I <sub>BM</sub>	200 mA	
Junction temperature – Sperrschichttemperatur		T <sub>j</sub>	-55...+150°C	
Storage temperature – Lagerungstemperatur		T <sub>S</sub>	-55...+150°C	

### Characteristics (T<sub>j</sub> = 25°C)

### Kennwerte (T<sub>j</sub> = 25°C)

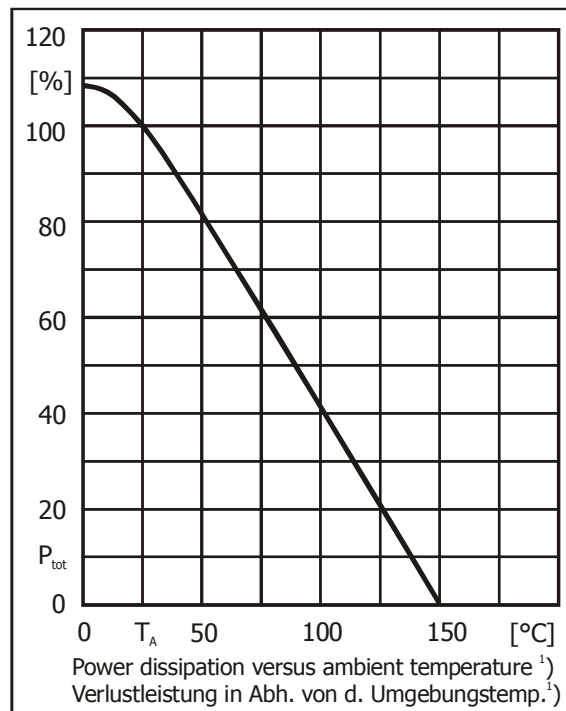
			Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom					
I <sub>E</sub> = 0, V <sub>CB</sub> = 60 V	MMBTA05	I <sub>CB0</sub>	–	–	100 nA
I <sub>E</sub> = 0, V <sub>CB</sub> = 80 V	MMBTA06	I <sub>CB0</sub>	–	–	100 nA
Emitter-Base cutoff current – Emitterreststrom					
I <sub>C</sub> = 0, V <sub>EB</sub> = 4 V		I <sub>EB0</sub>	–	–	100 nA
Collector saturation voltage – Kollektor-Sättigungsspannung <sup>2)</sup>					
I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA		V <sub>CEsat</sub>	–	–	250 mV
Base saturation voltage – Basis-Sättigungsspannung <sup>2)</sup>					
I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA		V <sub>BEsat</sub>	–	–	1.2 V

1 Mounted on P.C. board with 3 mm<sup>2</sup> copper pad at each terminal  
 Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluss

2 Tested with pulses t<sub>p</sub> = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 μs, Schaltverhältnis ≤ 2%

**Characteristics (T<sub>j</sub> = 25°C)**
**Kennwerte (T<sub>j</sub> = 25°C)**

		<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>
DC current gain – Kollektor-Basis-Stromverhältnis				
V <sub>CE</sub> = 1 V, I <sub>C</sub> = 10 mA	h <sub>FE</sub>	100	–	–
V <sub>CE</sub> = 1 V, I <sub>C</sub> = 100 mA	h <sub>FE</sub>	100	–	–
Gain-Bandwidth Product – Transitfrequenz				
V <sub>CE</sub> = 2 V, I <sub>C</sub> = 10 mA, f = 100 MHz	f <sub>T</sub>	100 MHz	–	–
Thermal resistance junction – ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R <sub>thA</sub>	< 420 K/W <sup>1)</sup>		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		MMBTA55, MMBTA56		
Marking - Stempelung		MMBTA05 = 1H MMBTA06 = 1GM		



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