

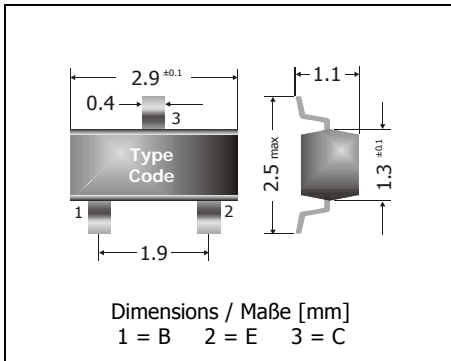
## MMBTA42 / MMBTA43

NPN

**Surface mount High Voltage Transistors**  
**Hochspannungs-Transistoren für die Oberflächenmontage**

NPN

Version 2005-06-21


 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 getupet auf Rolle

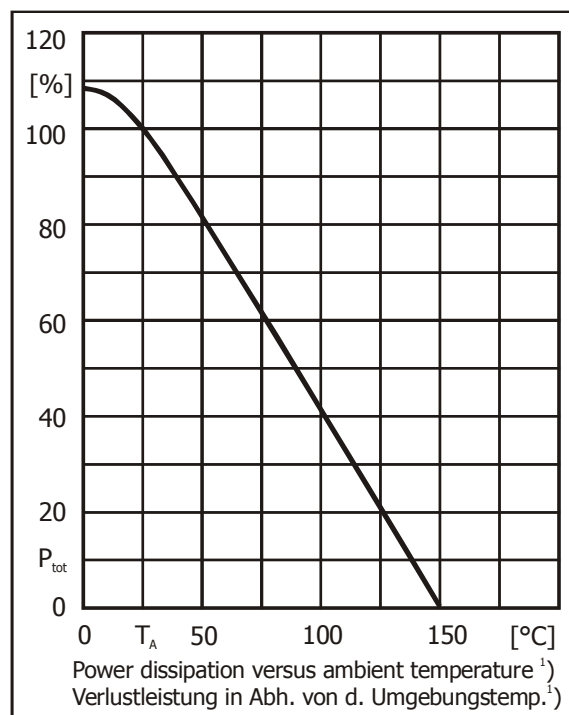

Maximum ratings (T <sub>A</sub> = 25°C)			Grenzwerte (T <sub>A</sub> = 25°C)	
			MMBTA42	MMBTA43
Collector-Emitter-volt. - Kollektor-Emitter-Spannung	B open	V <sub>CEO</sub>	300 V	200 V
Collector-Base-voltage - Kollektor-Basis-Spannung	E open	V <sub>CBO</sub>	300 V	200 V
Emitter-Base-voltage - Emitter-Basis-Spannung	C open	V <sub>EB0</sub>	6 V	
Power dissipation – Verlustleistung		P <sub>tot</sub>	250 mW <sup>1)</sup>	
Collector current – Kollektorstrom (dc)		I <sub>C</sub>	500 mA	
Junction temperature – Sperrschichttemperatur		T <sub>j</sub>	-65...+150°C	
Storage temperature – Lagerungstemperatur		T <sub>S</sub>	-65...+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> = 200 V	MMBTA42	I <sub>CB0</sub>	–	–	100 nA
I <sub>E</sub> = 0, V <sub>CB</sub> = 160 V	MMBTA43	I <sub>CB0</sub>	–	–	100 nA
Emitter-Base cutoff current – Emitterreststrom					
I <sub>C</sub> = 0, V <sub>EB</sub> = 6 V	MMBTA42	I <sub>EB0</sub>	–	–	100 nA
I <sub>C</sub> = 0, V <sub>EB</sub> = 4 V	MMBTA43	I <sub>EB0</sub>	–	–	100 nA
Collector saturation voltage – Kollektor-Sättigungsspannung <sup>2)</sup>					
I <sub>C</sub> = 20 mA, I <sub>B</sub> = 2 mA		V <sub>CEsat</sub>	–	–	500 mV
Base saturation voltage – Basis-Sättigungsspannung <sup>2)</sup>					
I <sub>C</sub> = 20 mA, I <sub>B</sub> = 2 mA		V <sub>BEsat</sub>	–	–	900 mV

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 (Lötpad) 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)		
		Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis				
V <sub>CE</sub> = 10 V, I <sub>C</sub> = 1 mA	h <sub>FE</sub>	25	–	–
V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA	h <sub>FE</sub>	40	–	–
V <sub>CE</sub> = 10 V, I <sub>C</sub> = 30 mA	h <sub>FE</sub>	40	–	–
Gain-Bandwidth Product – Transitfrequenz				
V <sub>CE</sub> = 10 V, I <sub>C</sub> = 20 mA, f = 100 MHz	f <sub>T</sub>	50 MHz	–	–
Collector-Base capacitance – Kollektor-Basis-Kapazität				
V <sub>CB</sub> = 20 V, I <sub>E</sub> = i <sub>e</sub> = 0, f = 1 MHz	MMBTA42 MMBTA43	C <sub>CB0</sub> C <sub>CB0</sub>	– –	3 pF 4 pF
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		MMBTA92, MMBTA93		
Marking - Stempelung		MMBTA42 = 1D MMBTA43 = 1E		



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