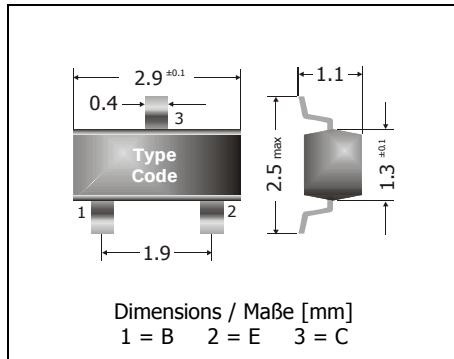


MMBTA42 / MMBTA43**NPN**
Surface mount High Voltage Transistors
Hochspannungs-Transistoren für die Oberflächenmontage
NPN

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_A = 25°C)****Grenzwerte (T_A = 25°C)**

			MMBTA42	MMBTA43
Collector-Emitter-volt. - Kollektor-Emitter-Spannung	B open	V _{CEO}	300 V	200 V
Collector-Base-voltage - Kollektor-Basis-Spannung	E open	V _{CBO}	300 V	200 V
Emitter-Base-voltage - Emitter-Basis-Spannung	C open	V _{EB0}	6 V	
Power dissipation – Verlustleistung		P _{tot}	250 mW ¹⁾	
Collector current – Kollektorstrom (dc)		I _C	500 mA	
Junction temperature – Sperrschichttemperatur		T _j	-65...+150°C	
Storage temperature – Lagerungstemperatur		T _s	-65...+150°C	

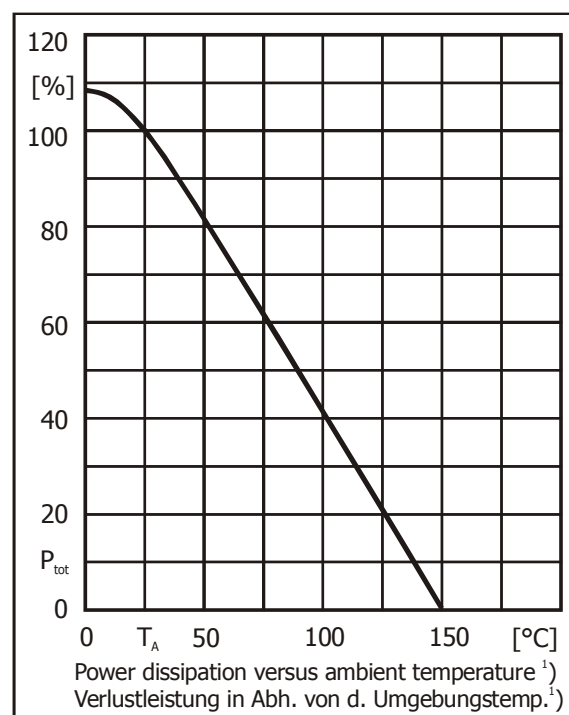
Characteristics (T_j = 25°C)**Kennwerte (T_j = 25°C)**

			Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom					
I _E = 0, V _{CB} = 200 V	MMBTA42	I _{CB0}	–	–	100 nA
I _E = 0, V _{CB} = 160 V	MMBTA43	I _{CB0}	–	–	100 nA
Emitter-Base cutoff current – Emitterreststrom					
I _C = 0, V _{EB} = 6 V	MMBTA42	I _{EB0}	–	–	100 nA
I _C = 0, V _{EB} = 4 V	MMBTA43	I _{EB0}	–	–	100 nA
Collector saturation voltage – Kollektor-Sättigungsspannung ²⁾					
I _C = 20 mA, I _B = 2 mA		V _{CEsat}	–	–	500 mV
Base saturation voltage – Basis-Sättigungsspannung ²⁾					
I _C = 20 mA, I _B = 2 mA		V _{BEsat}	–	–	900 mV

1 Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluss

2 Tested with pulses t_p = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 μs, Schaltverhältnis ≤ 2%

Characteristics (T _J = 25°C)			Kennwerte (T _J = 25°C)		
			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis					
V _{CE} = 10 V, I _C = 1 mA	h _{FE}		25	–	–
V _{CE} = 10 V, I _C = 10 mA	h _{FE}		40	–	–
V _{CE} = 10 V, I _C = 30 mA	h _{FE}		40	–	–
Gain-Bandwidth Product – Transitfrequenz					
V _{CE} = 10 V, I _C = 20 mA, f = 100 MHz	f _T		50 MHz	–	–
Collector-Base capacitance – Kollektor-Basis-Kapazität					
V _{CB} = 20 V, I _E = i _e = 0, f = 1 MHz	MMBTA42	C _{CB0}	–	–	3 pF
	MMBTA43	C _{CB0}	–	–	4 pF
Thermal resistance junction – ambient air Wärmewiderstand Sperrschicht – umgebende Luft		R _{thA}	< 420 K/W ¹⁾		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren			MMBTA92, MMBTA93		
Marking - Stempelung			MMBTA42 = 1D MMBTA43 = 1E		



1 Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss