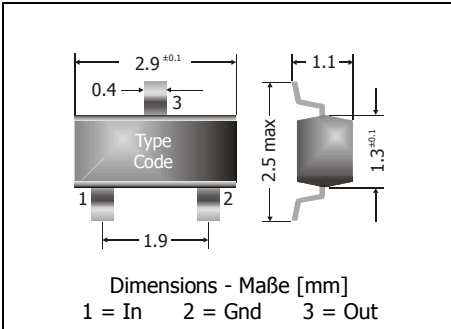


MMBTRC101SS ... MMBTRC106SS
Surface Mount Bias Resistor Transistors
SMD Transistoren mit Eingangsspannungsteiler

NPN

NPN

Version 2011-02-10



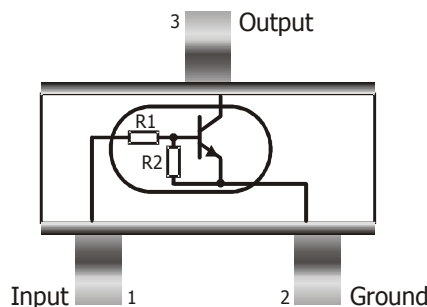
Power dissipation – Verlustleistung 200 mW
 Plastic case SOT-23
 Kunststoffgehäuse (TO-236)
 Weight approx. – Gewicht ca. 0.01 g
 Plastic material has UL classification 94V-0
 Gehäusematerial UL94V-0 klassifiziert
 Standard packaging taped and reeled
 Standard Lieferform getupet auf Rolle



Maximum ratings and characteristics (T_A = 25°C)

Grenz- und Kennwerte (T_A = 25°C)

Resistor combinations – Widerstandskombinationen		R1 [kΩ]	R2 [kΩ]
	MMBTRC101SS	4.7	4.7
	MMBTRC102SS	10	10
	MMBTRC103SS	22	22
	MMBTRC104SS	47	47
	MMBTRC105SS	2.2	47
	MMBTRC106SS	4.7	47
Input-voltage – Eingangs-Spannung	V _i		
	MMBTRC101SS	-10 ... +20 V	
	MMBTRC102SS	-10 ... +30 V	
	MMBTRC103SS	-10 ... +40 V	
	MMBTRC104SS	-10 ... +40 V	
	MMBTRC105SS	-5 ... +12 V	
	MMBTRC106SS	-5 ... +20 V	
Output voltage – Ausgangs-Spannung	V _o	50 V	
Output current – Ausgangs-Strom	I _o	100 mA	
Power dissipation – Verlustleistung	P _{tot}	200 mW ¹⁾	
Junction temperature – Sperrschichttemperatur	T _j	-55...+150°C	
Storage temperature – Lagerungstemperatur	T _s	-55...+150°C	



¹ Valid, if leads are kept at ambient temperature at a distance of 2 mm from case
 Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

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

		Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾ V ₀ = 5 V, I ₀ = 10 mA	G _T			
	MMBTRC101SS	30	–	–
	MMBTRC102SS	50	–	–
	MMBTRC103SS	70	–	–
	MMBTRC104SS	80	–	–
	MMBTRC105SS	80	–	–
	MMBTRC106SS	80	–	–
Output cutoff current – Ausgangs-Reststrom	I _{O(off)}	–	–	500 nA
Input current – Eingangsstrom V _I = 5 V	I _I			
	MMBTRC101SS	–	–	1.8 mA
	MMBTRC102SS	–	–	0.88 mA
	MMBTRC103SS	–	–	0.36 mA
	MMBTRC104SS	–	–	0.18 mA
	MMBTRC105SS	–	–	3.6 mA
	MMBTRC106SS	–	–	1.8 mA
Output voltage – Ausgangs-Spannung	V _{O(on)}	–	–	0.3 V
Input voltage (on) – Eingangsspannung (Ein) V ₀ = 0.2 V, I ₀ = 5 mA	V _{I(on)}			
	MMBTRC101SS	–	–	2 V
	MMBTRC102SS	–	–	2.4 V
	MMBTRC103SS	–	–	3 V
	MMBTRC104SS	–	–	5 V
	MMBTRC105SS	–	–	1.1 V
	MMBTRC106SS	–	–	1.3 V
Input voltage (off) – Eingangs-Spannung (Aus) V ₀ = 5 V, I ₀ = 0.1 mA	V _{I(off)}			
	..C101...C104..	1 V	–	–
	..C105...C106..	0.5 V	–	–
Input resistor tolerance – Toleranz Eingangswiderstand	R1	-30%		+30%
Resistance ratio – Widerstandsverhältnis	R2/R1			
	MMBTRC101SS	0.8		1.2
	MMBTRC102SS	0.8		1.2
	MMBTRC103SS	0.8		1.2
	MMBTRC104SS	0.8		1.2
	MMBTRC105SS	0.026		0.087
	MMBTRC106SS	0.055		0.185
Transition Frequency – Transitfrequenz (Transistor) V ₀ = 10 V, I ₀ = 5 mA	f _T	–	200 MHz	–

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