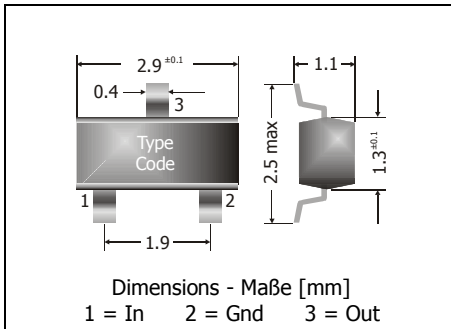


MMBTRC116SS ... MMBTRC121SS**NPN**
Surface Mount Bias Resistor Transistors
SMD Transistoren mit Eingangsspannungsteiler
NPN

Version 2011-02-28



Power dissipation – Verlustleistung

200 mW

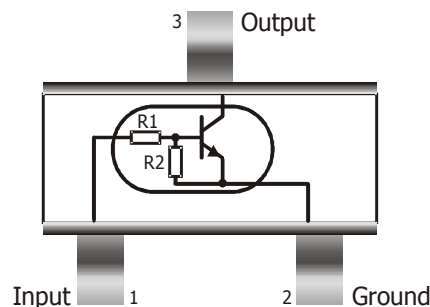
Plastic case
KunststoffgehäuseSOT-23
(TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziertStandard 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]
	MMBTRC116SS	1	10
	MMBTRC117SS	2.2	2.2
	MMBTRC118SS	2.2	10
	MMBTRC119SS	4.7	10
	MMBTRC120SS	10	4.7
	MMBTRC121SS	47	10
Input-voltage – Eingangs-Spannung		V _i	
	MMBTRC116SS	-5 ... +10 V	
	MMBTRC117SS	-10 ... +12 V	
	MMBTRC118SS	-5 ... +12 V	
	MMBTRC119SS	-7 ... +20 V	
	MMBTRC120SS	-10 ... +30 V	
	MMBTRC121SS	-15 ... +40 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 _O = 5 V, I _O = 10 mA	G _I			
	MMBT116SS	33	–	–
	MMBT117SS	20	–	–
	MMBT118SS	33	–	–
	MMBT119SS	30	–	–
	MMBT120SS	24	–	–
	MMBT121SS	33	–	–
Output cutoff current – Ausgangs-Reststrom	I _{O(off)}	–	–	500 nA
Input current – Eingangsstrom V _I = 5 V	I _I			
	MMBT116SS	–	–	7.2 mA
	MMBT117SS	–	–	3.8 mA
	MMBT118SS	–	–	3.8 mA
	MMBT119SS	–	–	1.8 mA
	MMBT120SS	–	–	0.88 mA
	MMBT121SS	–	–	0.16 mA
Output voltage – Ausgangs-Spannung	V _{O(on)}	–	–	0.3 V
Input voltage (on) – Eingangsspannung (Ein) V _O = 0.3 V, I _O = 20 mA V _O = 0.3 V, I _O = 20 mA V _O = 0.3 V, I _O = 20 mA V _O = 0.3 V, I _O = 20 mA V _O = 0.3 V, I _O = 2 mA V _O = 0.3 V, I _O = 2 mA	V _{I(on)}			
	MMBT116SS	–	–	3 V
	MMBT117SS	–	–	3 V
	MMBT118SS	–	–	3 V
	MMBT119SS	–	–	2.5 V
	MMBT120SS	–	–	3 V
	MMBT121SS	–	–	5 V
Input resistor tolerance – Toleranz Eingangswiderstand	R _I	-30%		+30%
Input voltage (off) – Eingangs-Spannung (Aus) V _O = 5 V, I _O = 0.1 mA	V _{I(off)}			
	MMBT116SS	0.3		
	MMBT117SS	0.5		
	MMBT118SS	0.3		
	MMBT119SS	0.3		
	MMBT120SS	0.8		
	MMBT121SS	1		
Transition Frequency – Transitfrequenz (Transistor) V _O = 10 V, I _O = 5 mA	f _T	–	250 MHz	–

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