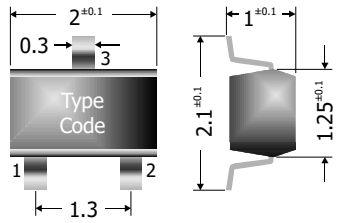
MMDT5110W ... MMDT5115W
SMD Digital PNP Transistors
SMD Digital-PNP-Transistoren

I_O = -100 mA V_O = -50 V
T_{jmax} = 150°C P_{tot} = 200 mW

Version 2018-05-25

SOT-323



1 = In 2 = Gnd 3 = Out

Dimensions - Maße [mm]

Typical Applications
Digital controls
Switching, Signal processing
Commercial grade [1])

Typische Anwendungen
Digitale Steuerungen
Schalten, Signalverarbeitung
Standardausführung [1])

Features
Cost and space savings by integrated bias resistor combinations
Compliant to RoHS, REACH, Conflict Minerals [1])

Besonderheiten
Platz- und Kosteneinsparung durch integrierte Widerstandskombination
Konform zu RoHS, REACH, Konfliktmineralien [1])

Mechanical Data [1]) **Mechanische Daten [1])**

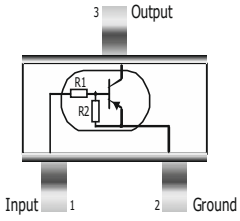
Taped and reeled	3000 / 7"	Gegurtet auf Rolle
Weight approx.	0.01 g	Gewicht ca.
Case material	UL 94V-0	Gehäusematerial
Solder & assembly conditions	260°C/10s MSL = 1	Löt- und Einbaubedingungen

Maximum ratings [2]) **Grenzwerte [2])**

Output voltage – Ausgangs-Spannung	$-V_O$	50 V
Output current – Ausgangs-Strom	$-I_O$	100 mA
Power dissipation – Verlustleistung	P_{tot}	200 mW [3])
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur	T_j T_S	-55...+150°C -55...+150°C

Characteristics **Kennwerte**

Resistor combinations – Widerstandskombinationen



T_j = 25°C	Code	R1 [kΩ]	R2 [kΩ]
MMDT5110W	tbd	47	-
MMDT5111W	tbd	10	10
MMDT5112W	tbd	22	22
MMDT5113W	tbd	47	47
MMDT5114W	tbd	10	47
MMDT5115W	tbd	10	-

1 Please note the detailed information on our website or at the beginning of the data book
Bitte beachten Sie die detaillierten Hinweise auf unserer Internetseite bzw. am Anfang des Datenbuches
2 T_A = 25°C, unless otherwise specified – T_A = 25°C, wenn nicht anders angegeben
3 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 **Kennwerte**

			T_j = 25°C	Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis [1])	G_I	MMDT5110W		160	–	460
- V_O = 5 V, - I_O = 10 mA		MMDT5111W		35	–	–
		MMDT5112W		60	–	–
		MMDT5113W		80	–	–
		MMDT5114W		80	–	–
		MMDT5115W		160	–	460
Collector Base cutoff current – Kollektor-Basis-Reststrom						
- V_{CB} = 50 V	- I_{CBO}			–	–	100 nA
Collector Base cutoff current – Kollektor-Basis-Reststrom						
- V_{EB} = 6 V	- I_{EBO}	MMDT5110W		–	–	10 µA
		MMDT5111W		–	–	500 µA
		MMDT5112W		–	–	200 µA
		MMDT5113W		–	–	100 µA
		MMDT5114W		–	–	200 µA
		MMDT5115W		–	–	10 µA
Input voltage (on) – Eingangsspannung (Ein)						
–	- $V_{I(on)}$	MMDT5110W		–	–	–
V_O = 0.3 V, I_O = 10 mA		MMDT5111W		–	–	3 V
V_O = 0.2 V, I_O = 5 mA		MMDT5112W		–	–	3 V
V_O = 0.3 V, I_O = 2 mA		MMDT5113W		–	–	3 V
V_O = 0.3 V, I_O = 1 mA		MMDT5114W		–	–	1.4 V
–		MMDT5115W		–	–	–
Input resistor tolerance – Toleranz Eingangswiderstand	R1			-30%		+30%
Input voltage (off) – Eingangs-Spannung (Aus)						
- V_O = 5 V, - I_O = 100 µA	- $V_{I(off)}$	MMDT5110W		–		
		MMDT5111W		0.5		
		MMDT5112W		0.5		
		MMDT5113W		0.5		
		MMDT5114W		0.3		
		MMDT5115W		–		
Transition Frequency – Transitfrequenz (Transistor)	f_T			–	250 MHz	–
- V_O = 10 V,- I_O = 5 mA, f = 100 MHz						

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

