Specification for release

Customer : **Preliminary**

Order Code : **8492121**

Description : **WE-USBH Connector with Integrated EMI & ESD function**

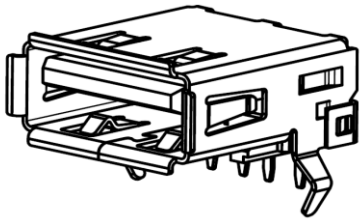
Package: **USB2.0 Type A THT**

Date: 2014-03-13

A Features:

- ESD Protection of data channels and VDD
- Common Mode Noise Rejection
- VDD Differential Mode Noise Rejection
- Provides ESD protection for each channel to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) (5/50ns) 20A (I/O), 40A VDD
  IEC 61000-4-5 (Lightning) 6A (8/20µs)
- Ultra Low capacitance: 2pF typical
- Fast turn on and low clamping voltage

B Overview:



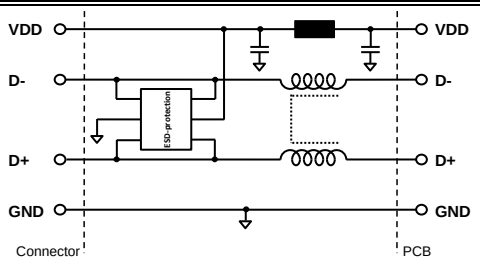
C Maximum Ratings:

Operating Supply Voltage	V_{DD} - GND	V_{DC}	6	V
ESD per IEC 61000-4-2 (Air / Contact)	D+/D- - GND	$V_{ESD,D+/D-}$	16 / 10	kV
ESD per IEC 61000-4-2 (Air / Contact)	V_{DD} - GND	$V_{ESD,VDD}$	30 / 20	kV
Operating Temperature		T_{Op}	-40 to +85	°C
Storage Temperature		T_{Sto}	-20 to +60	°C

D Material Characteristics:

Insulator	LCP UL-94V0
Color	Black
Contact	Phosphor Bronze
Contact Area Plating	Gold
Shielding	Brass
Mating Force / Unmating Force	35 N / 10 N
Quality Class	1500 Mating Cycles

E Schematic:



F Electrical Characteristics:

Characteristics			test conditions	tolerance	value	unit
Common Mode Impedance	D+/D-	Z	100MHz	± 25 %	90	Ω
Differential Mode Impedance	V_{DD} - GND	Z_{VDD}	100MHz	± 25 %	400	Ω
DC Resistance[1]	V_{DD}	R_{DC}	@ 20 °C	max.	150	mΩ
DC Resistance[1]	D+/D-	R_{DC}	@ 20 °C	max.	180	mΩ
Rated Voltage	V_{DD}	V_{DD}		max.	5	V
Breakdown Voltage[2]	V_{DD} - GND	V_{BV}	I_{BV}=1mA	min.	6	V
Low Level Contact Resistance[1]		R_{CR}		max.	30	mΩ
Insertion Capacitance[2]	D+/D- - GND	C_{IO}	f=1MHz	typ.	2	pF

[1] Resistance PCB-pin to connector-pin consists of R_{DC} + R_{CR}

[2] TVS-Diode Array Specification figures

Approval/Release:	**Kunde / customer**			
.....	.....			
Datum / date	Unterschrift / signature			
	Würth Elektronik			
		Mle	Test-Version 2	2014-03-14
.....	.....	OO	Test-Version	2011-01-27
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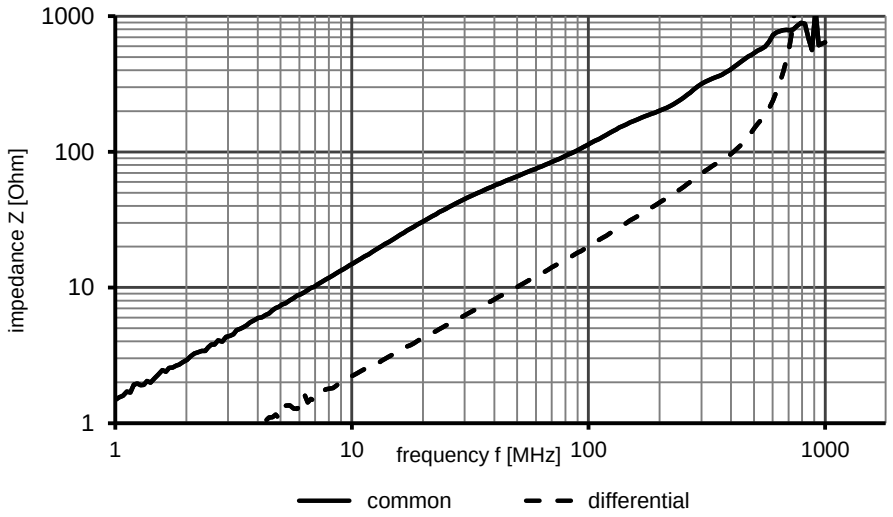
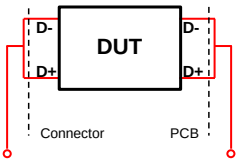
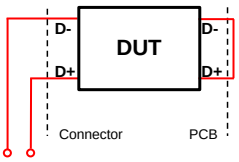
G1 Impedance graph D+/D- (typical)



Common Mode*

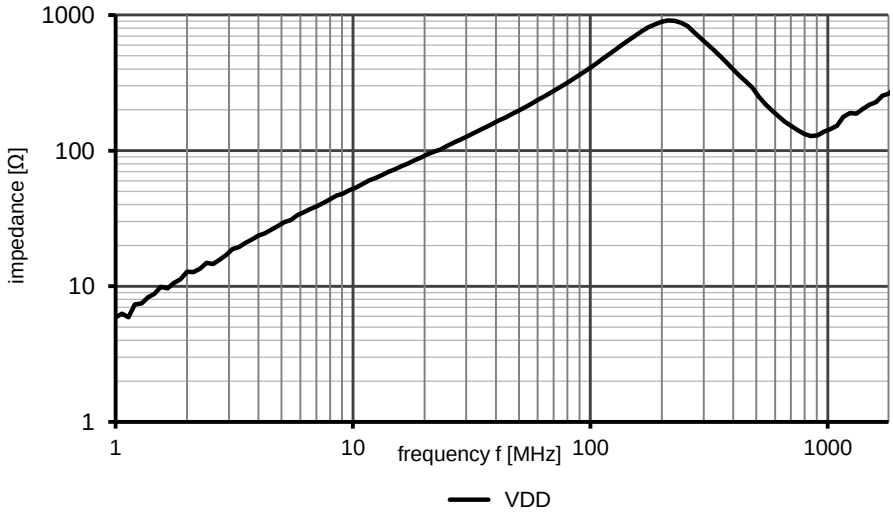


Differential Mode*

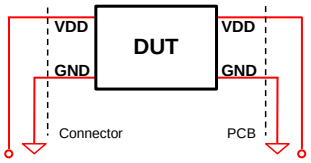


* 50Ω system impedance measured on PCB level

G2 Impedance graph V_{DD} - GND (typical)



VDD-GND**



** 50Ω system impedance measured on PCB level

H Test Equipment:

HP4191B for Z and a
GMC Metrahit 27I for R_{DC}
Agilent E4991A for SRF

J Test Conditions:

Humidity:	33%
Ambient temperature:	+20°C

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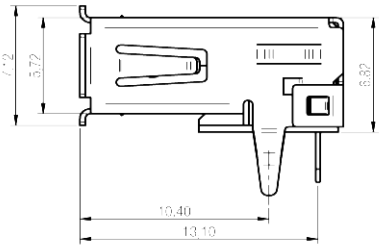
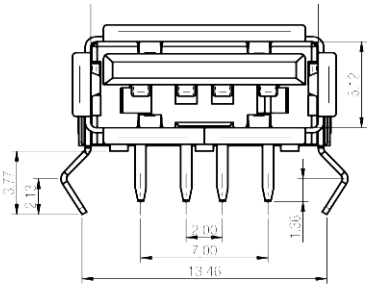
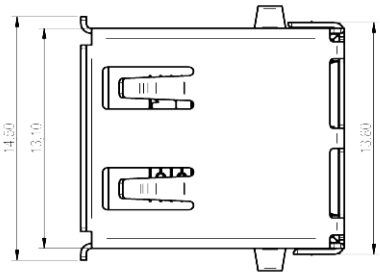
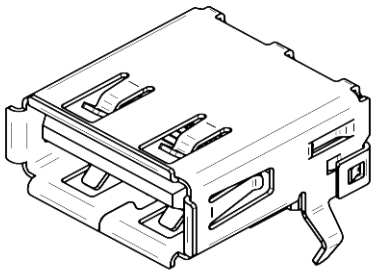
K Dimensions:

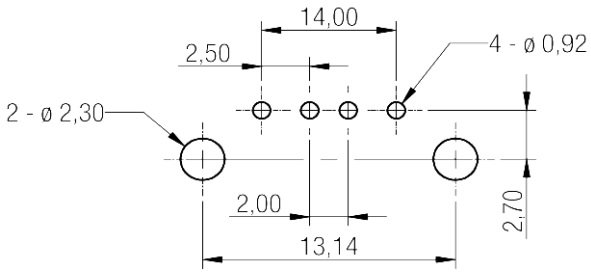








L Recommended Land Pattern:



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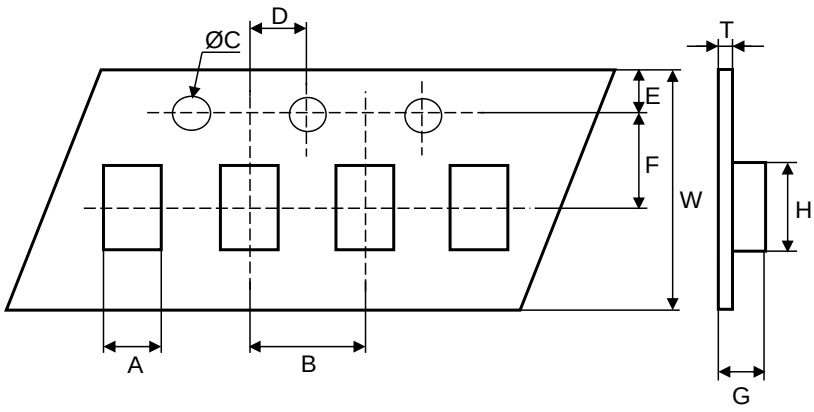
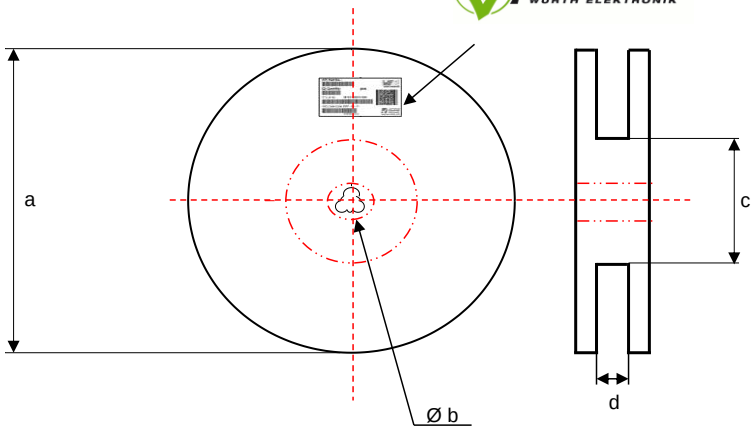
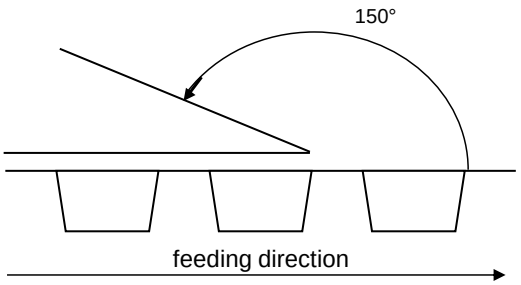
M Tape & Reel specifications:



Gurtspezifikation / Tape specification:		
A	**1,42 ± 0,1**	mm
B	**4,00 ± 0,1**	mm
C	**1,50 ± 0,05**	mm
D	**2,00 ± 0,1**	mm
E	**1,75 ± 0,1**	mm
F	**3,50 ± 0,1**	mm
G	**1,30 ± 0,1**	mm
H	**2,26 ± 0,1**	mm
T	**0,23 ± 0,05**	mm
W	**8,00 ± 0,1**	mm



Rollenspezifikation / Reel Specification:		
a	**178,0 ± 0,1**	mm
b	**21,00 ± 0,1**	mm
c	**50,00 ± 0,1**	mm
d	**10,00 ± 0,1**	mm



The force of tearing off cover tape is 0,2 to 0,7 N in arrow direction.

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