

Specification for release

Customer :

Order Code : **8492121**

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

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

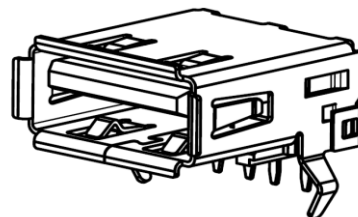


Date: 2014-03-13

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) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
IEC 61000-4-4 (EFT) (5/50ns) 20A (I/O), 40A VDD
IEC 61000-4-5 (Lightning) 6A (8/20 μs)
- Ultra Low capacitance: 2pF typical
- Fast turn on and low clamping voltage

B Overview:



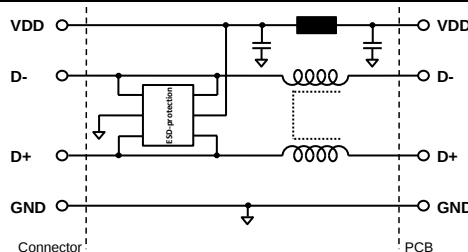
C Maximum Ratings:

Operating Supply Voltage	$V_{DD} - \text{GND}$	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)	$V_{DD} - \text{GND}$	$V_{ESD,VDD}$	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			
Geprüft / checked	Kontrolliert / approved	Mle	Test-Version 2	2014-03-14
		OO	Test-Version	2011-01-27
		Name	Änderung / modification	Datum / date

Würth Elektronik eiSos GmbH & Co. KG

D-74638 Waldenburg · Max-Eyth-Strasse 1 -3 · Germany · Telefon (+49) (0) 7942 - 945 - 0 · Telefax (+49) (0) 7942 - 945 - 400
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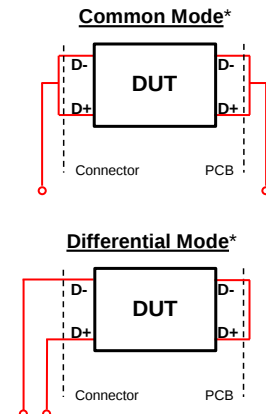
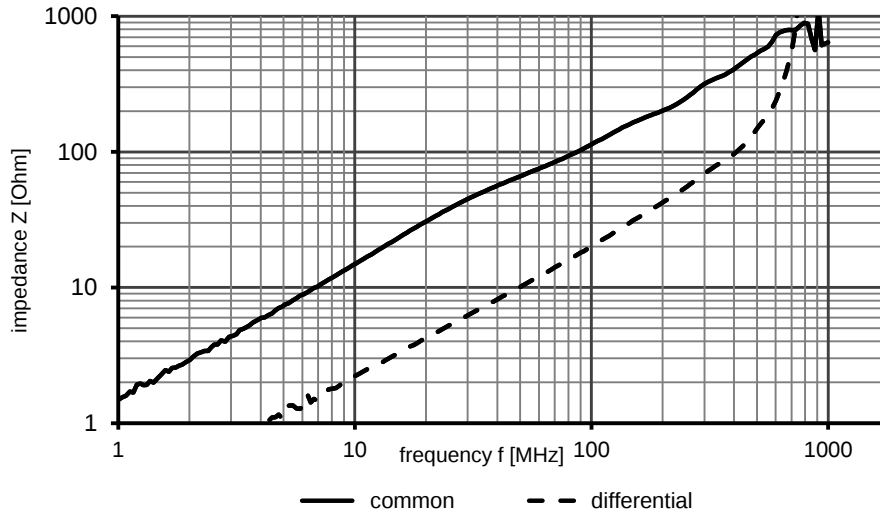
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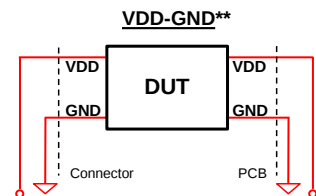
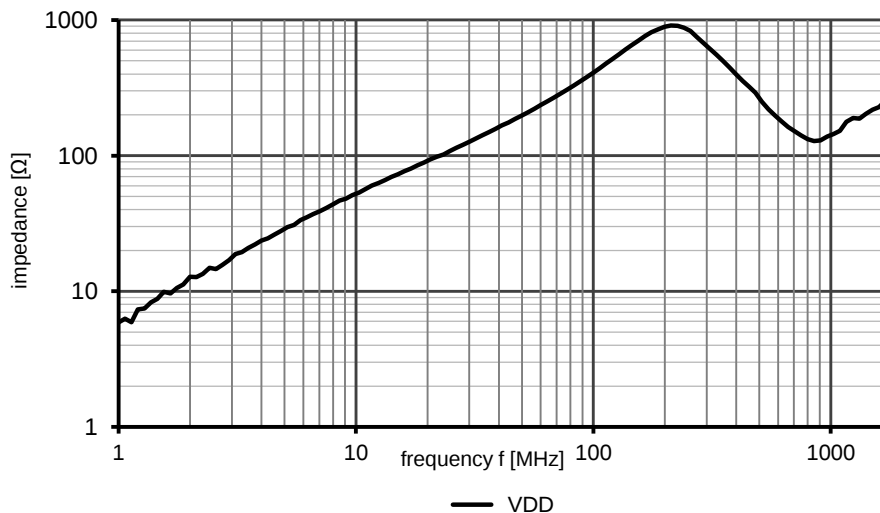
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G1 Impedance graph D+/D- (typical)



* 50Ω system impedance measured on PCB level

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



** 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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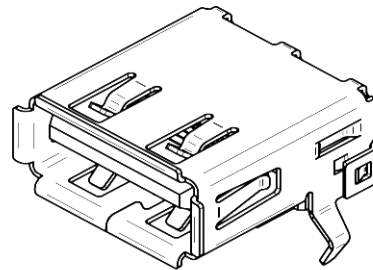
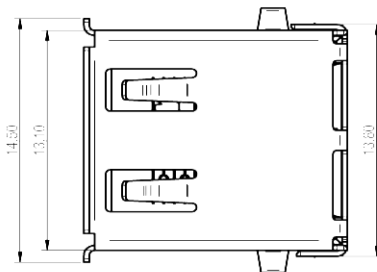
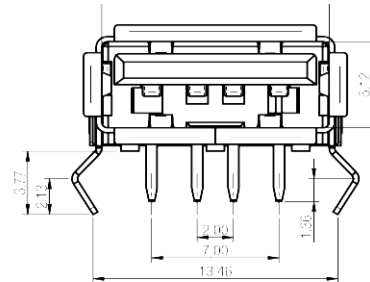
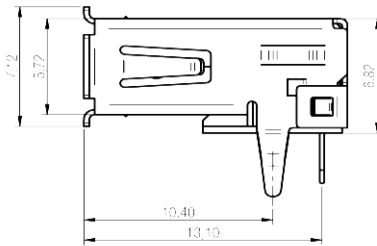
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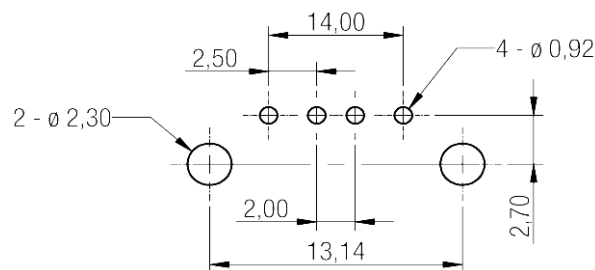


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K Dimensions:



L Recommended Land Pattern:



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This electronic component has been designed and developed for usage in general electronic equipment. Before incorporating this component into any equipment where higher safety and reliability is especially required or if there is the possibility of direct damage or injury to human body, for example in the range of aerospace, aviation, nuclear control, submarine, transportation, (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc. Würth Elektronik eiSos GmbH must be informed before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

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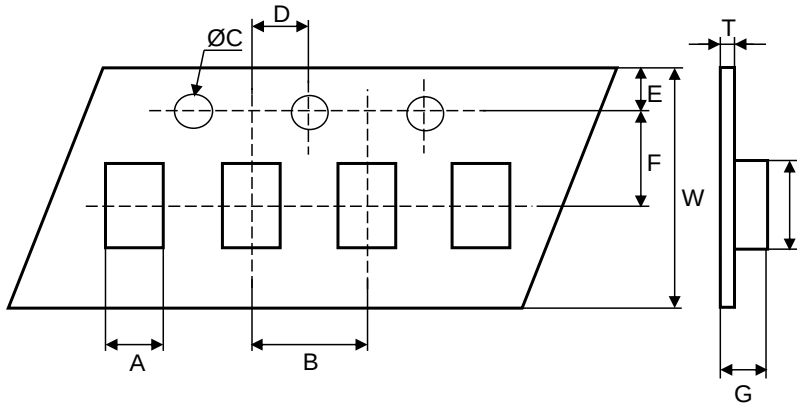
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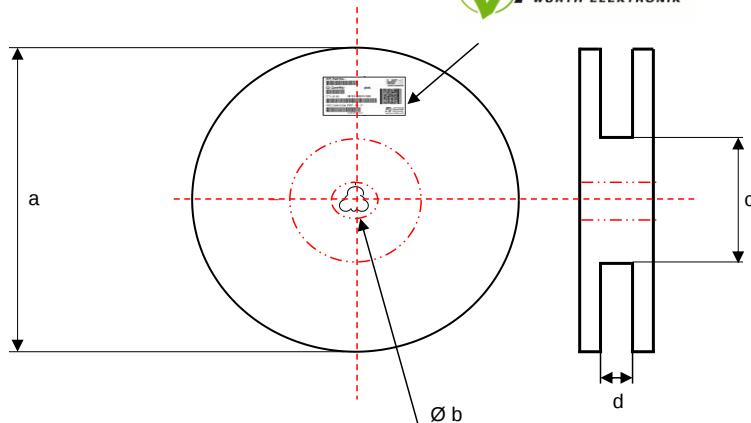
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M Tape & Reel specifications:



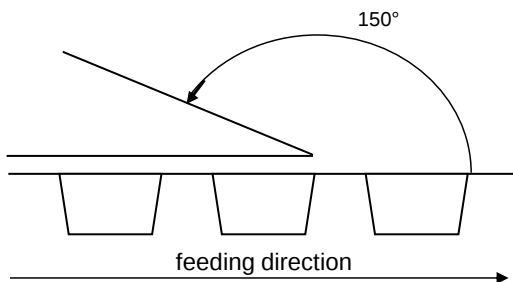
Gurtspezifikation / Tape specification:

A	$1,42 \pm 0,1$	mm
B	$4,00 \pm 0,1$	mm
C	$1,50 \pm 0,05$	mm
D	$2,00 \pm 0,1$	mm
E	$1,75 \pm 0,1$	mm
F	$3,50 \pm 0,1$	mm
G	$1,30 \pm 0,1$	mm
H	$2,26 \pm 0,1$	mm
T	$0,23 \pm 0,05$	mm
W	$8,00 \pm 0,1$	mm



Rollenspezifikation / Reel Specification:

a	$178,0 \pm 0,1$	mm
b	$21,00 \pm 0,1$	mm
c	$50,00 \pm 0,1$	mm
d	$10,00 \pm 0,1$	mm



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

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