

Specification for release

Customer : _____
 Ordercode: **82401646**
 Description: **TVS Diode Array WE-TVS**
 Package: **MSOP-8L**



DATUM / DATE : 2010-09-24

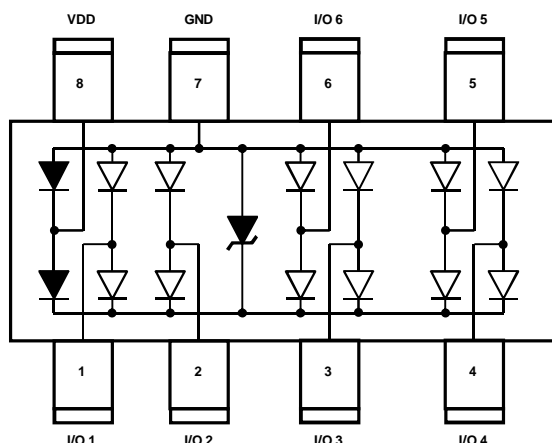
A Features

- ESD Protection for Super Speed Differential Signaling (above 5Gb/s) channels like USB 3.0
- Provide ESD protection for each channel to IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- Below 5V operating voltage: 2.5 - 3.3 - 4.2 - 5.0V
- Ultra Low capacitance: 0.25pF typical
- Fast turn on and low clamping voltage

Mechanical Characteristics:

- JEDEC MSOP-8L Package
- Molding compound flamability rating: UL94V-0
- Packaging: Tape & Reel

B Schematic and Pin Configuration:



C Absolute Maximum Ratings:

	Symbol	Rating	Unit
Operating Supply Voltage (VDC to GND)	V_{DC}	6	V
ESD per IEC 61000-4-2 (Air / Contact), I/O to GND	$V_{ESD,IO}$	15 / 8	kV
DC Voltage at any I/O Pin	V_{IO}	(GND -0,5) to (VDD +0,5)	V
Operating Temperature	T_{Op}	-55 to +85	°C
Storage Temperature	T_{Sto}	-20 to +60	°C

D Electrical Characterisitcs:

Properties	Test Conditions	Value min	Value typ	Value max	Unit
V_{RWM}	Pin 8 to Pin 7			5	V
V_{BV}	$I_{BV}=1\text{mA}$, Pin 8 to Pin 7	6			V
I_R	$V_{Pin8}=5\text{V}$, Pin 8 to Pin 7			2.5	μA
$I_{R,IO}$	$V_{Pin8}=5\text{V}$, $V_{Pin7}=0\text{V}$, I/O Pin to GND			1.0	μA
V_F	$I_F = 15\text{mA}$, Pin 7 to Pin 8		0.8	1.2	V
$V_{Cl,IO}$	$I_{TLP} = 17\text{A}$, I/O to GND		13		V
$V_{Cl,VDD}$	$I_{TLP} = 17\text{A}$, VDD to GND		10		V
C_{IO-1}	$V_{Pin8}=5\text{V}$, $V_{Pin7}=0\text{V}$, $V_{IO}=2.5\text{V}$, $f=1\text{MHz}$, I/O1-4 to GND		0.25	0.35	pF
C_{IO-2}	$V_{Pin8}=5\text{V}$, $V_{Pin7}=0\text{V}$, $V_{IO}=2.5\text{V}$, $f=1\text{MHz}$, I/O5-6 to GND		0.30	0.40	pF
C_X	$V_{Pin8}=5\text{V}$, $V_{Pin7}=0\text{V}$, $V_{IO}=2.5\text{V}$, $f=1\text{MHz}$, between I/O pins		0.05	0.10	pF

Würth Elektronik eiSos GmbH & Co. KG

D-74638 Waldenburg · Max-Eyth-Strasse 1 · Germany · Phone (+49) (0) 7942 - 945 - 0 · Fax (+49) (0) 7942 - 945 - 400
<http://www.we-online.com>

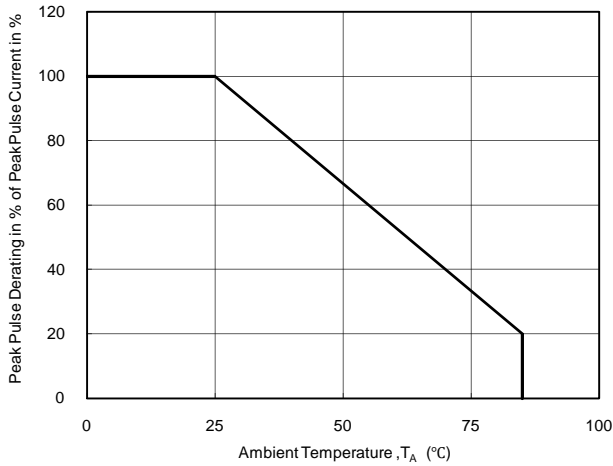
Specification for release

Customer : _____
 Ordercode: **82401646**
 Description : **TVS Diode Array WE-TVS**
 Package: **MSOP-8L**

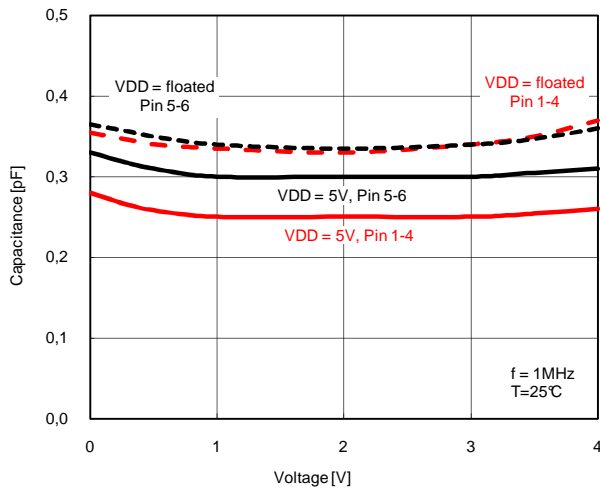


DATUM / DATE : 2010-09-24

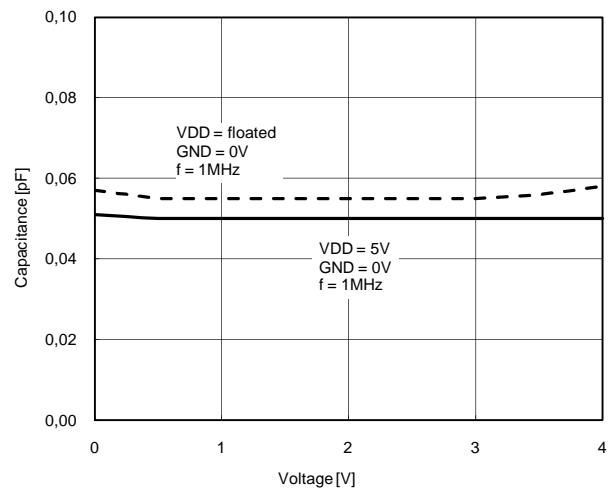
E Typical Characteristics:



Power Derating Curve



Variation of C_{IO} vs. V_{IO}



Variation of C_X vs. V_{IO}

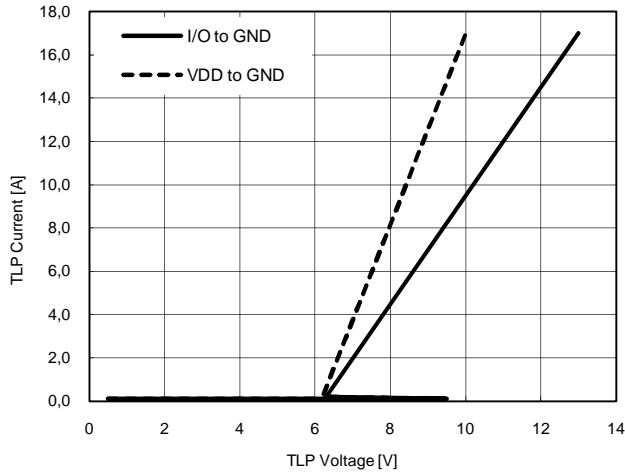
Specification for release

Customer : _____
 Ordercode: **82401646**
 Description : **TVS Diode Array WE-TVS**
 Package: **MSOP-8L**

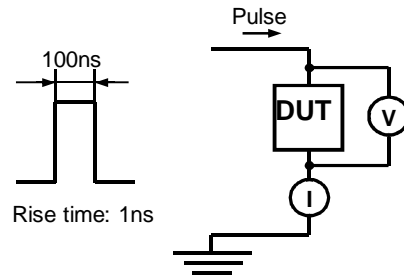


DATUM / DATE : 2010-09-24

E Typical Characteristic:

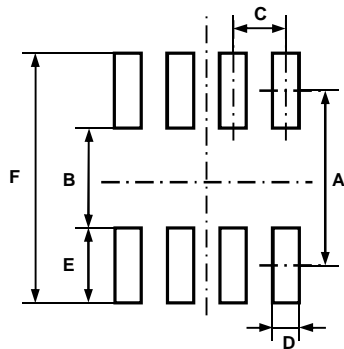


Transmission Line Pulsing (TLP) Measurement



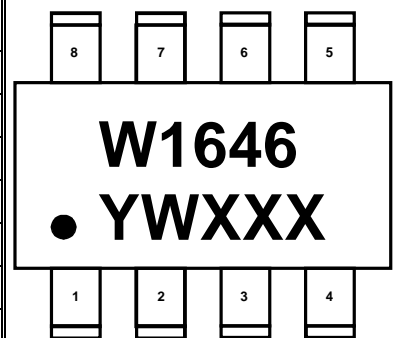
Transmission Line Pulsing System

F Recommended Land Layout:



A	4.8	mm
B	3.8	mm
C	0.65	mm
D	0.4	mm
E	1.0	mm
F	5.8	mm

G Body Marking:



W1646: Device Code

YW: Date Code

XXX: Control Code

Würth Elektronik eiSos GmbH & Co. KG

D-74638 Waldenburg · Max-Eyth-Strasse 1 · Germany · Phone (+49) (0) 7942 - 945 - 0 · Fax (+49) (0) 7942 - 945 - 400

<http://www.we-online.com>

PAGE 3 OF 5

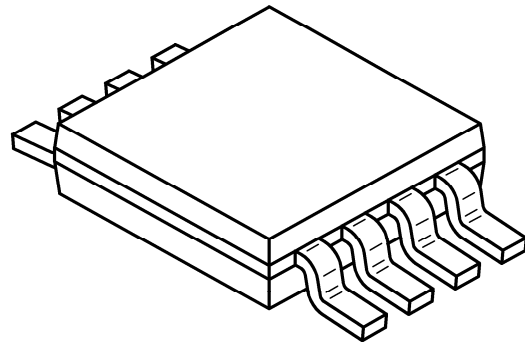
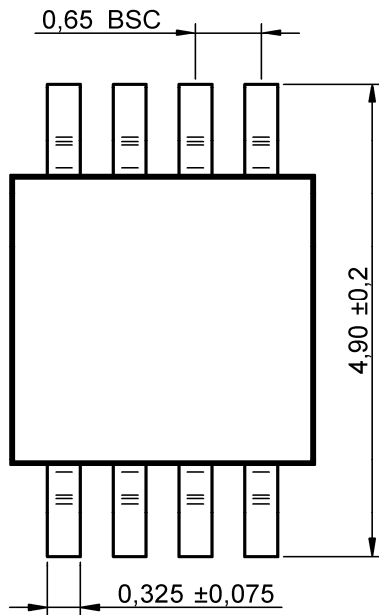
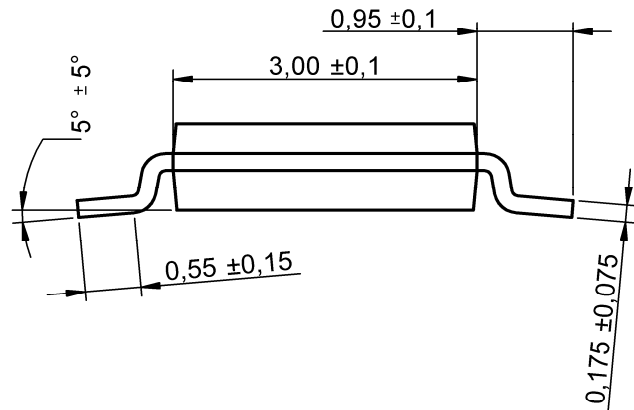
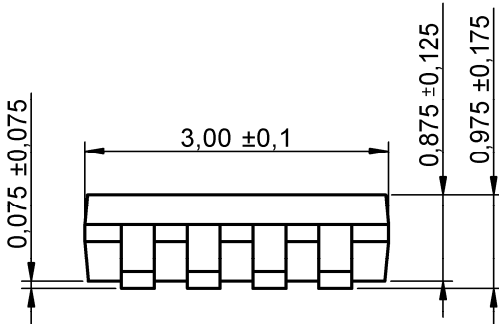
Specification for release

Customer : _____
Ordercode: **82401646**
Description : **TVS Diode Array WE-TVS**
Package: **MSOP-8L**



DATUM / DATE : 2010-09-24

H Dimensions:



Scale - 8:1

Würth Elektronik eiSos GmbH & Co. KG

D-74638 Waldenburg · Max-Eyth-Strasse 1 · Germany · Phone (+49) (0) 7942 - 945 - 0 · Fax (+49) (0) 7942 - 945 - 400

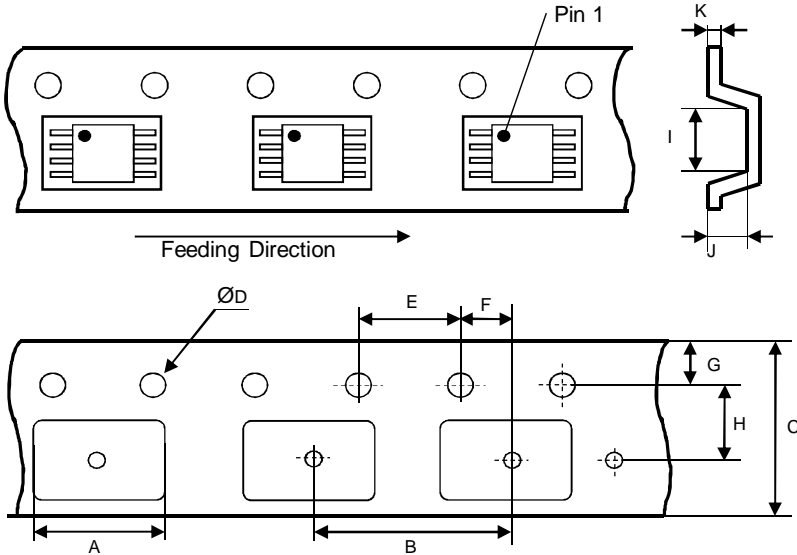
<http://www.we-online.com>

Specification for release

Customer : _____
 Ordercode: **82401646**
 Description : **TVS Diode Array WE-TVS**
 Package: **MSOP-8L**

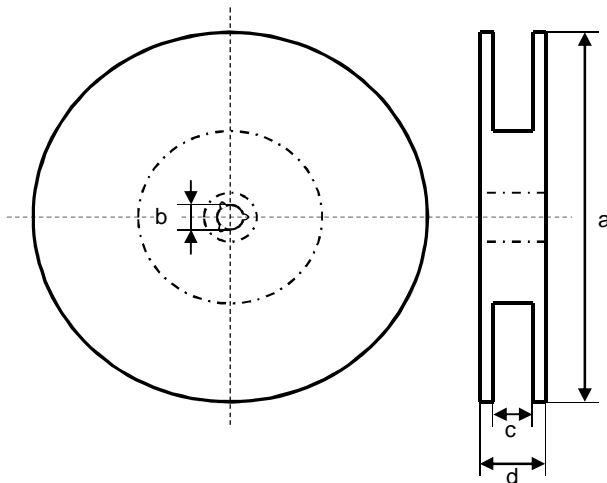


I Tape:

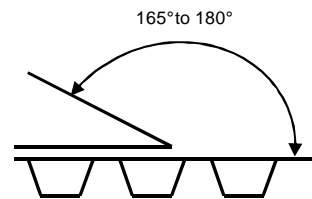


A	5.30 ± 0.10	mm
B	8.00 ± 0.10	mm
C	12.00 ± 0.30	mm
D	1.55 ± 0.05	mm
E	4.00 ± 0.10	mm
F	2.00 ± 0.05	mm
G	1.75 ± 0.10	mm
H	5.50 ± 0.05	mm
I	3.40 ± 0.15	mm
J	1.40 ± 0.15	mm
K	0.28 ± 0.02	mm

J Reel:



a	330.0 ± 2.0	mm
b	13.0 ± 0.8	mm
c	13.0 ± 1.5	mm
d	16.5 ± 2.0	mm



Quantity per Reel: 3000

General Release:	Customer			
	Date	Signature		
Checked	Würth Elektronik			
	Approved	Name	Modification	Date
		JB	Version 2	2010-09-24
		JB	Version 1	2010-01-27

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.

Würth Elektronik eiSos GmbH & Co. KG

D-74638 Waldenburg · Max-Eyth-Strasse 1 · Germany · Phone (+49) (0) 7942 - 945 - 0 · Fax (+49) (0) 7942 - 945 - 400

<http://www.we-online.com>