

## TQEHD311XXX Series

Micro Packaged TVS Diodes for ESD

Protection

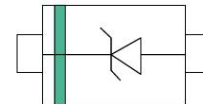
The TQEHD311XXX Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

### ● Feature

- 100W peak pulse power (TP = 8/20μs)
- SOD-523 Package
- Working voltage: 3.3V to 24V
- Low clamping voltage
- Low capacitance
- Device Meets MSL 1 Requirements
- ROHS compliant
- IEC61000-4-2(ESD)±30kV(air),±22kV(contact)

### ● PIN configuration



SOD-523

### ● Applications

- USB 2.0 Power & Data Line Protection
- DVI & HDMI Port Protection
- Serial ATA Port Protection
- Mobile Handsets
- Digital Cameras and camcorders
- PDA & MP3 Players
- Digital TV and Set-top Boxes

### ● Mechanical data

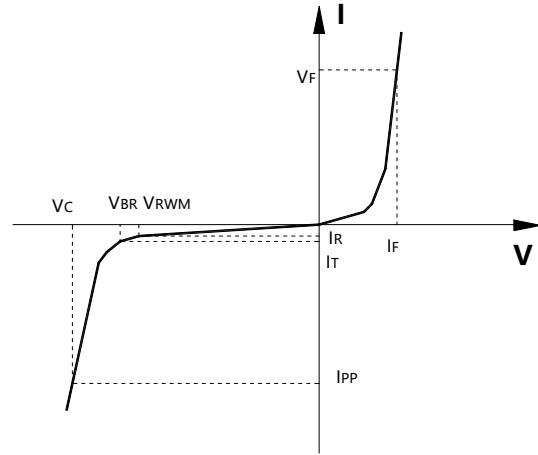
- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um

## Ordering Information

Device	Package	Qty per Reel	Reel Size
TQEHD311XXX	SOD-523	3000	7 Inch

## ● Electronic Parameter

Symbol	Parameter
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$P_{PP}$	Peak Pulse Power
$C$	Junction Capacitance



## ● Absolute maximum rating @TA=25°C

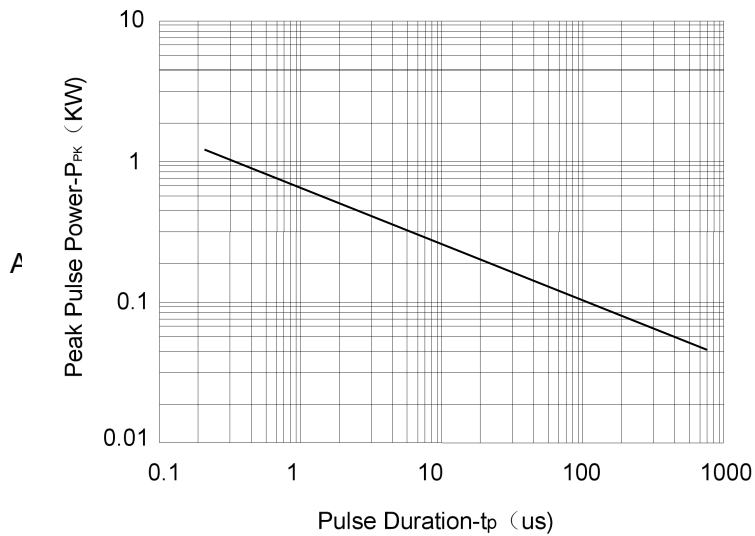
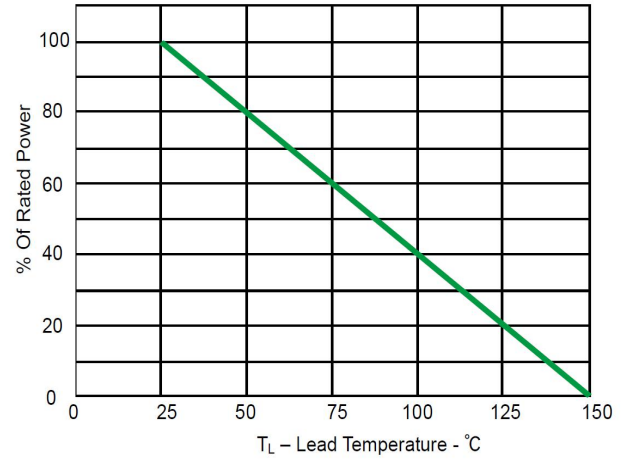
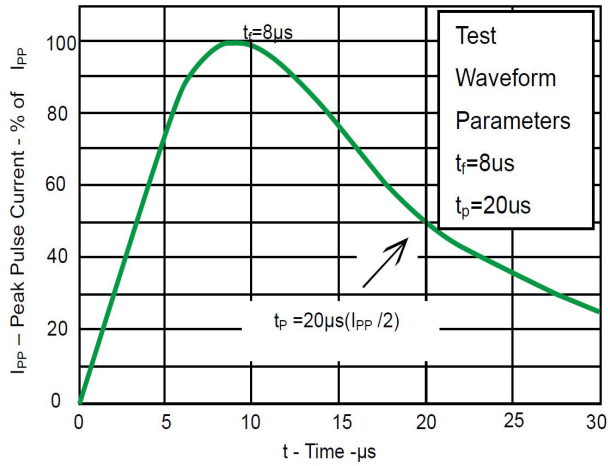
Symbol	Parameter	Value	Units
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ S)	100	W
$T_{STG}$	Storage Temperature	-55/+150	°C
$T_J$	Operating Temperature	-55/+150	°C

## ● Electrical Characteristics @TA=25°C

Device	$V_{RWM}$ (V)	$I_R$ @ $V_{RWM}$ ( $\mu$ A)	Marking	$V_{BR}$ @ 1 mA	$V_C$	Capacitance	
				(Volts)	@ 1 A	@ $V_R = 0$ V, 1 MHz (pF)	
				Min	(V)	Typ	Max
TQEHD3113V3	3.30	2	ZE+code	5.00	7.5	40	55
TQEHD3115V0	5.00	2	ZF+code	6.00	9.80	36	45
TQEHD3117V0	7.00	2	ZH+code	7.50	9.20	70	85
TQEHD31112V	12.0	2	ZM+code	14	17.8	35	45
TQEHD31115V	15.0	2	ZN+code	16.7	24.0	35	45
TQEHD31124V	24.0	2	5S+code	26.7	43.0	30	45

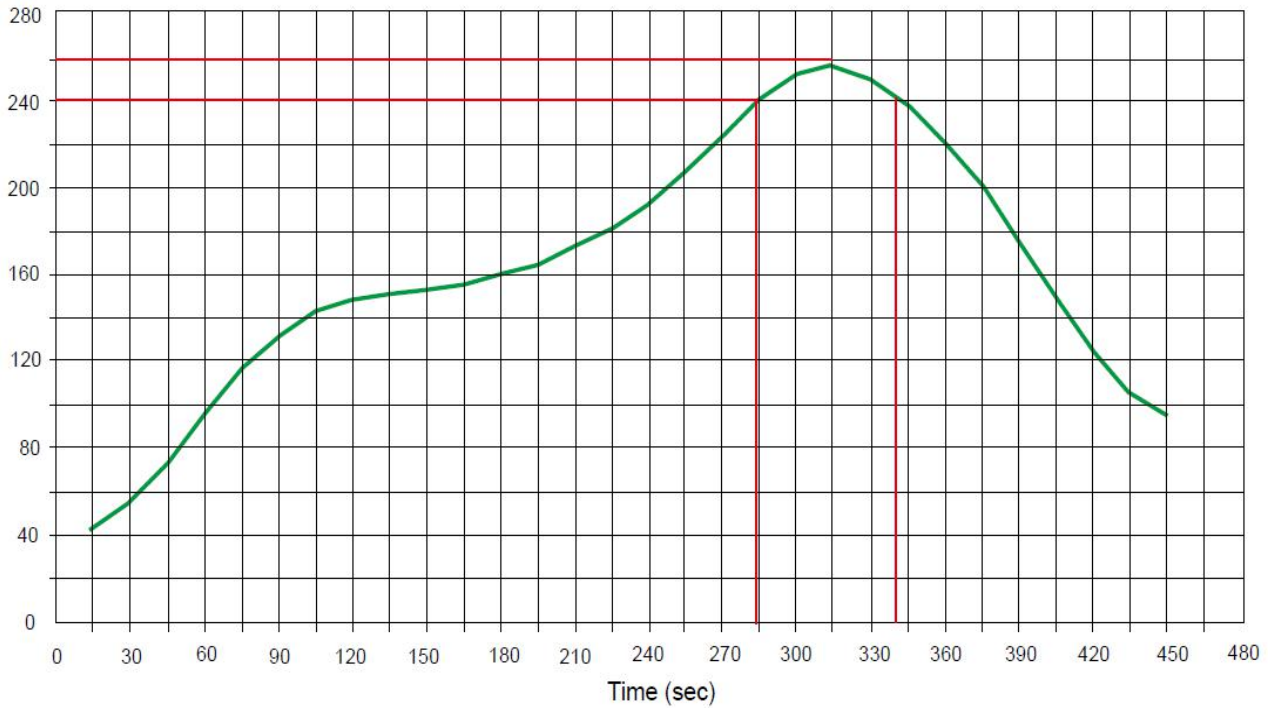
Junction capacitance is measured in  $V_R=0V, F=1MHz$

## ● Typical Performance Characteristics



- Solder Reflow Recommendation**

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

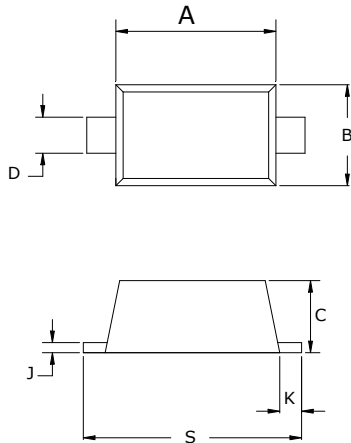


## ● Package Information

### Mechanical Data

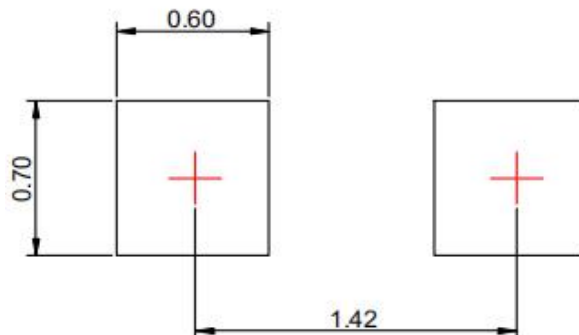
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70

### Recommended Pad outline



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**TQEHD311XXX**

RANGE.