

TQTHD112XXX Series

Small Surface Mount TVS Diode for ESD Protection

● Description

The TQTHD112XXX is low capacitance transient voltage suppressor array for high speed data interface that designed to protect sensitive electronics from damage or latch-up due to ESD lightning, and other voltage induced transient events. All pins are rated to withstand 15kV ESD pulses using the IEC 61000-4-2 air discharge method, which can meet the requirement of level 4.

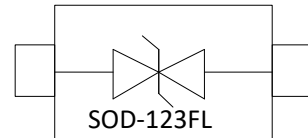
● Feature

- 4800W~9000W peak pulse power (tP = 8/20μs)
- SOD-123FL Package
- Working voltage: 7V, 12V, 15V, 24V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD)±15kV(air),±8kV(contact)

● 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

● PIN configuration

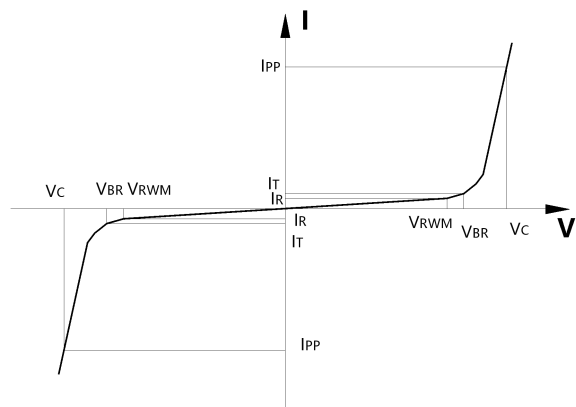


● Applications

- 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



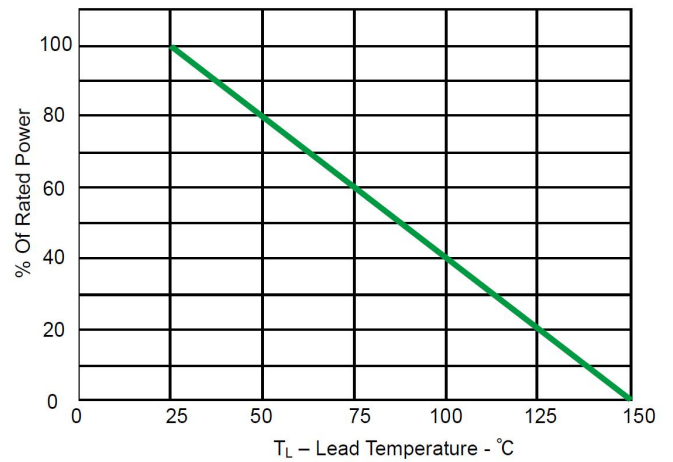
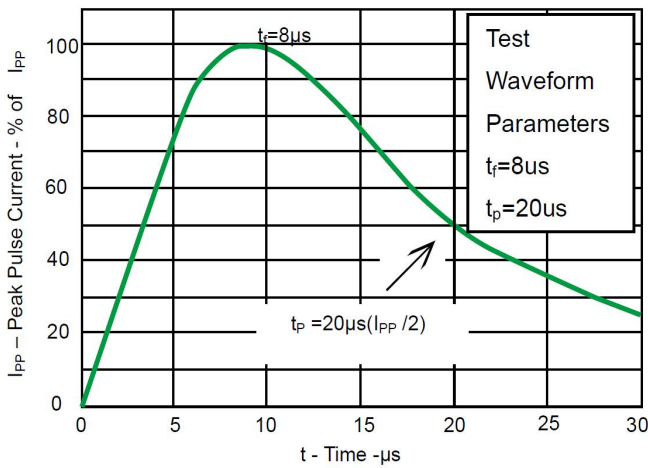
- Absolute maximum rating @TA=25°C

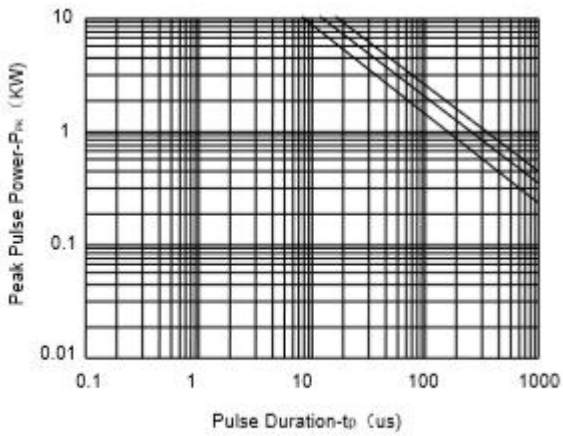
Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (8/20μS)	4800~9000	W
T _{STG}	Storage Temperature	-55/+150	°C
T _J	Operating Temperature	-55/+150	°C

- Electrical Characteristics @TA=25°C

Electrical characteristics (T _{amb} =25°C Unless Otherwise Specified)										
Device*	Mark	V _{RWM} (V)	V _{BR} @ I _T (V)		I _T (mA)	I _R @ V _{RWM} (uA)	V _c (Max) (V)	I _{PP} (Max) (A)	Capacitance (Typ) (nF)	P _{ppp} (tp=8/20μs waveform) Watts
			Min	Max						
TQTHD1127V0	7.5C	7.0	8.0	10	1	5	16	300	1.12	4800
TQTHD11212V	12C	12	13.3	15	1	5	25	300	0.5	7500
TQTHD11215V	15C	15	16.7	18	1	5	27	350	0.3	9000
TQTHD11224V	24C	24	26.5	30	1	5	35	200	0.3	7500

- Typical Performance Characteristics

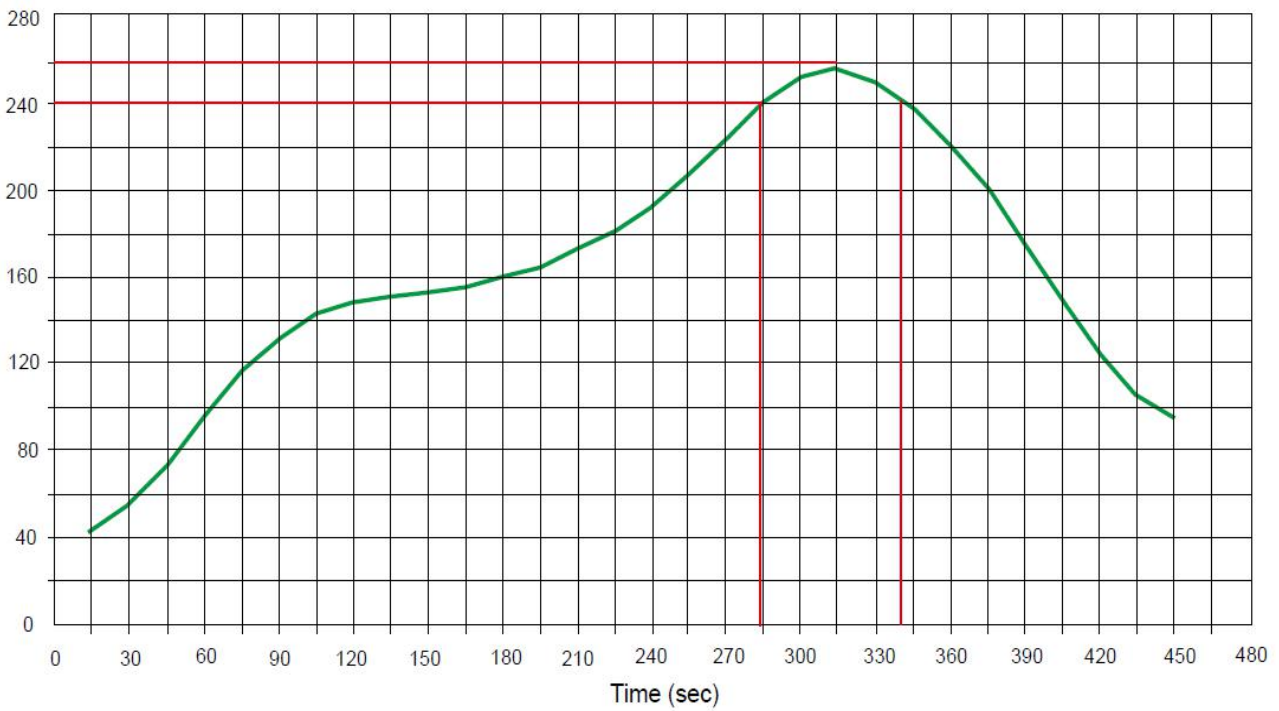




Non-Repetitive Peak Pulse Power vs. Pulse Time

- **Solder Reflow Recommendation**

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



- **Package Information**

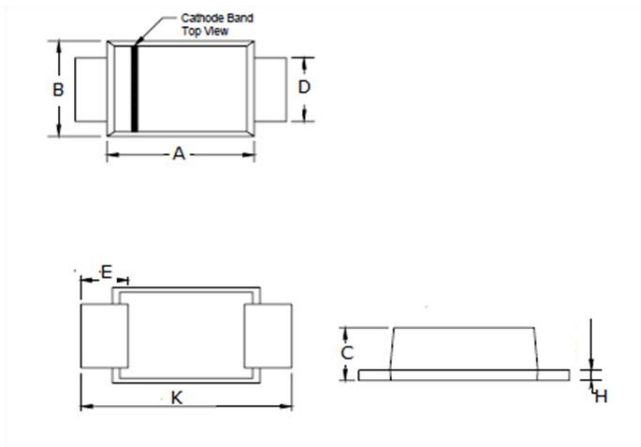
Ordering Information

Device	Package	Qty per Reel	Reel Size
TQTHD112XXX	SOD-123FL	3000	7 Inch

Mechanical Data

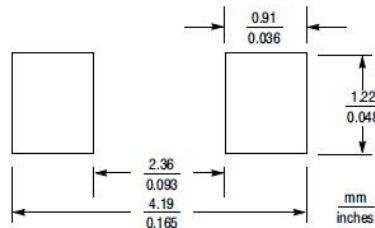
Case:SOD-123F

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.50	2.90
B	1.50	1.90
C	0.095	1.20
D	0.70	1.20
E	0.35	0.85
H	0	0.1
K	3.40	3.90

Recommended Pad outline



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