TQELD3215V0

Ultra-low Capacitance Unidirectional Micro Packaged TVS Diodes for ESD Protection

Description

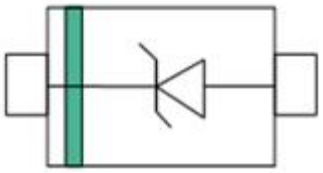
The TQELD3215V0 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

It 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

- 50W peak pulse power (tP = 8/20μs)
- SOD-523 Package
- Working voltage: 5V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data
- IEC61000-4-2(ESD)±15kV(air),±8kV(contact)

PIN configuration



SOD-523

Applications

- USB 1.0/2.0/3.0/3.1,VGA,DVI,SDI
- DVI & HDMI Port Protection
- Serial and Parallel Ports
- Mobile Handsets
- Notebooks, Desktops, Servers
- High Speed Line
- Portable instrumentation

Machanical data

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

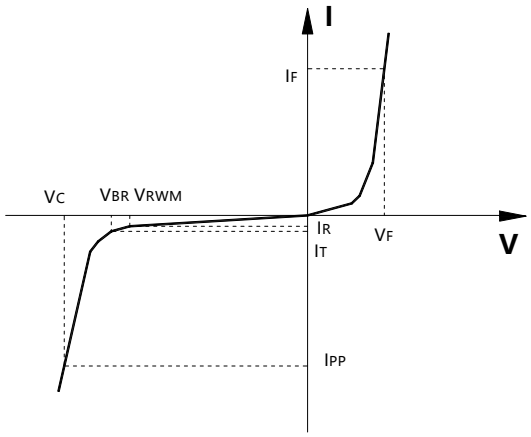
Package Information

Ordering Information

Device	Package	Marking	Qty per Reel	Reel Size
TQELD3215V0	SOD-523	L5	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℃

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power（8/20μS）	50	W
T_{STG}	Storage Temperature	-55/+150	℃
T_J	Operating Temperature	-55/+150	℃

Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}			5		V
Breakdown Voltage	V_{BR}	It = 1mA		6		V
Reverse Leakage Current	I_R	VRWM =5.0V, T=25℃		2		μA
Clamping Voltage	V_C	IPP = 1A, tP = 8/20μs		12		V
Junction Capacitance	C_J	VR=0V, f = 1MHz		0.5	1	pF

Typical Performance Characteristics

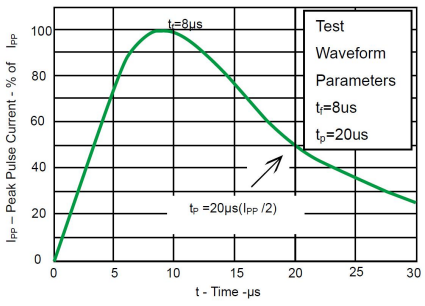


Fig 1.Pulse Waveform

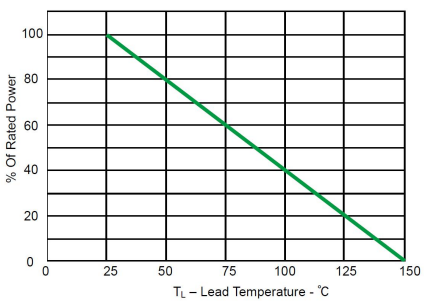
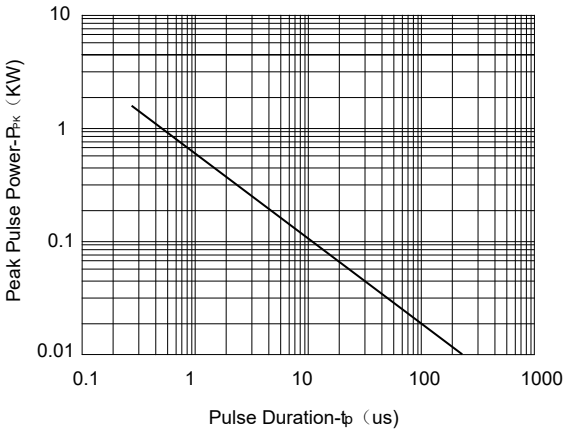


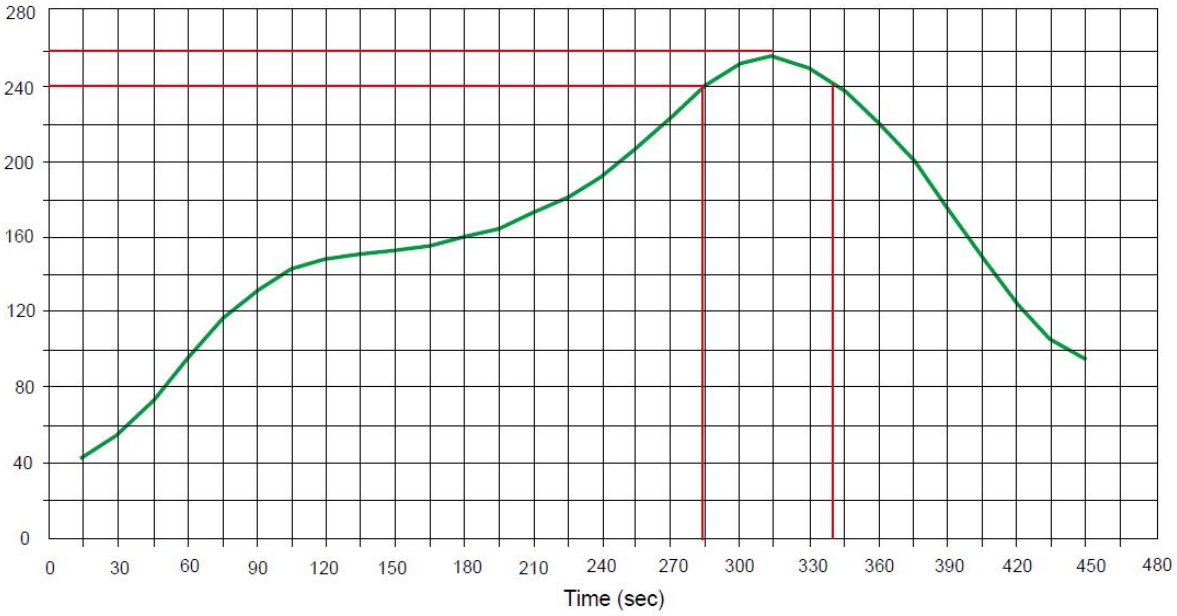
Fig 2.Power Derating Curve



Non-Repetitive Peak Pulse Power vs. Pulse Time

● Solder Reflow Recommendation

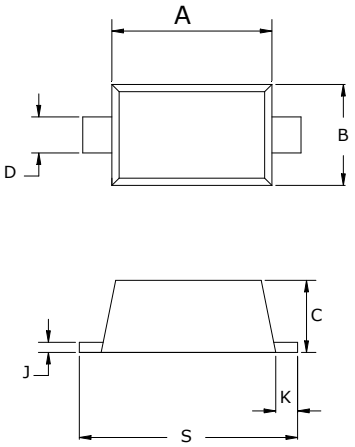
Peak Temp=257℃, Ramp Rate=0.802deg. ℃/sec



Mechanical Data

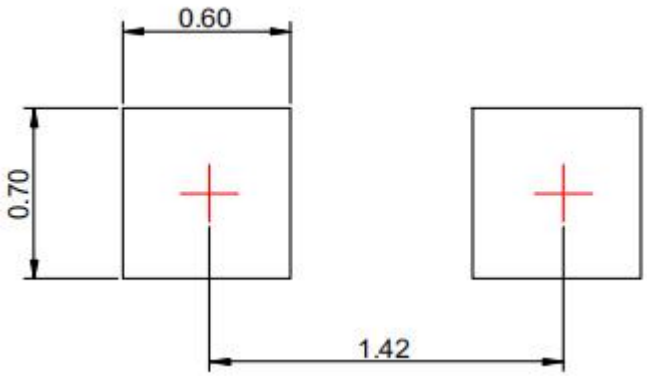
Case: SOD-523

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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