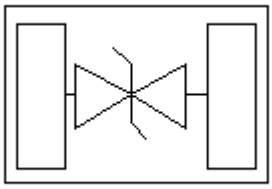
TQELN1325V0

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

Description

The TQELN1325V0 is designed with Tech chip process TVS technology 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. Also because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed, USB 3.0 super speed, VGA, DVI, HDMI,SDI and other high speed line applications.

PIN configuration



DFN1006-2L

Feature

- 50W peak pulse power (tP = 8/20μs)
- DFN1006 Package
- Working voltage: 5V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD)±20kV(air),±20kV(contact)

Applications

- DVI & HDMI Port Protection
- Serial and Parallel Ports
- Projection TV
- Notebooks, Desktops, Servers
- Solid-state Punch-Through TVS Process technology Portable instrumentation

Machanical data

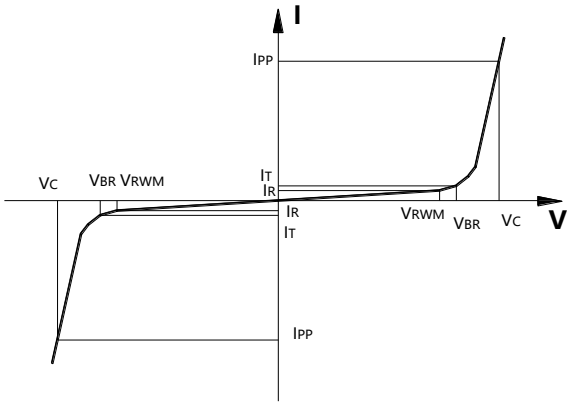
- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

Ordering Information

Device	Package	Marking	Qty per Reel	Reel Size
TQELN1325V0	DFN1006-2L	S	10000	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℃			1	μA
Clamping Voltage	V_C	IPP = 1A, tP = 8/20μs		11．3		V
Clamping Voltage	V_C	IPP=3A, tP = 8/20μs		18.3		V
Junction Capacitance	C_J	VR=0V, f = 1MHz		0.3		pF

Typical Performance Characteristics

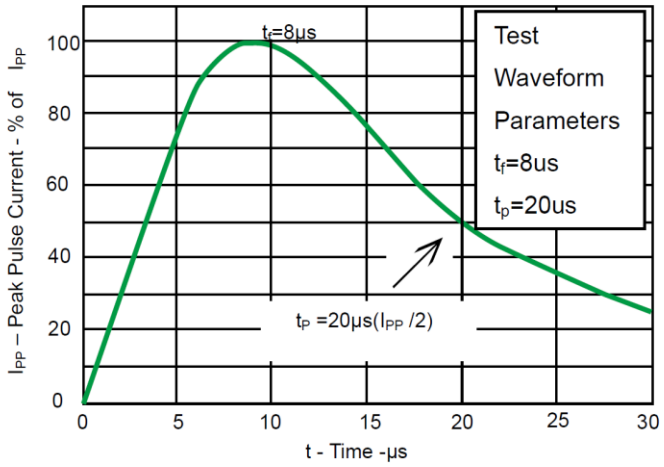


Fig 1.Pulse Waveform

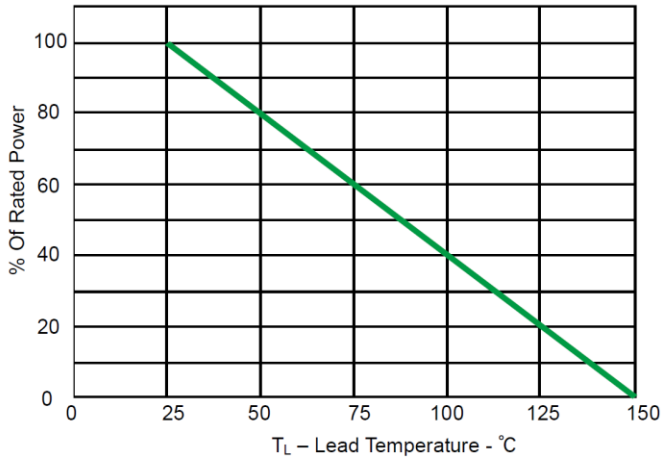
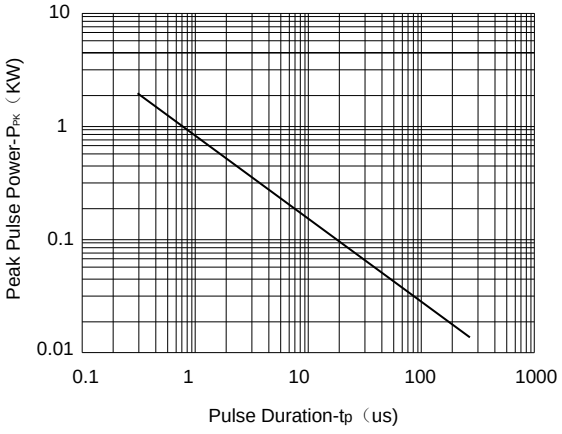
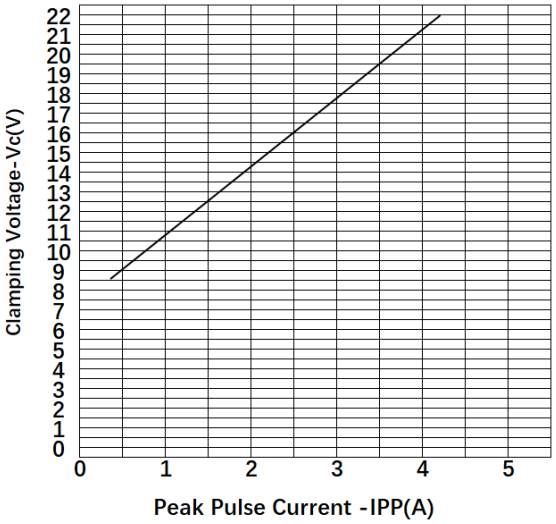


Fig 2.Power Derating Curve



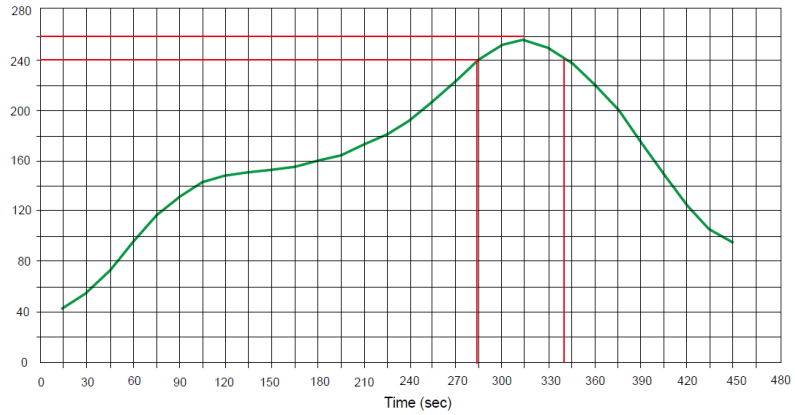
Non-Repetitive Peak Pulse Power vs. Pulse Time



Clamping Voltage vs Peak Pulse Current

- **Solder Reflow Recommendation**

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

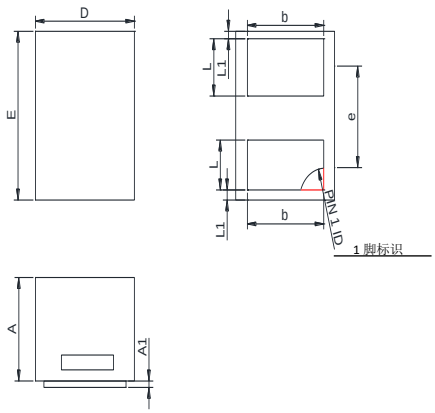


- **Package Information**

Mechanical Data

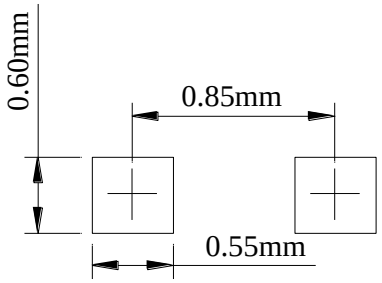
Case:DFN1006

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.30	0.50
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.25	0.60
e	0.65TYP	
L	0.15	0.35
L1	0.05REF	

Recommended Pad outline



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