

## TQEML1225V0

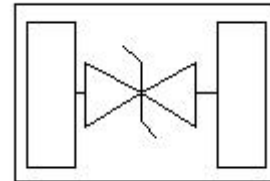
- **Description**

The TQEML1225V0 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.

- **Feature**

- 50W peak pulse power (tP = 8/20μs)
- DFN0603-2L Package
- Working voltage: 5V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD)±25kV(air),±25kV(contact)

- **PIN configuration**



DFN0603-2L

- **Applications**

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

- **Machanical data**

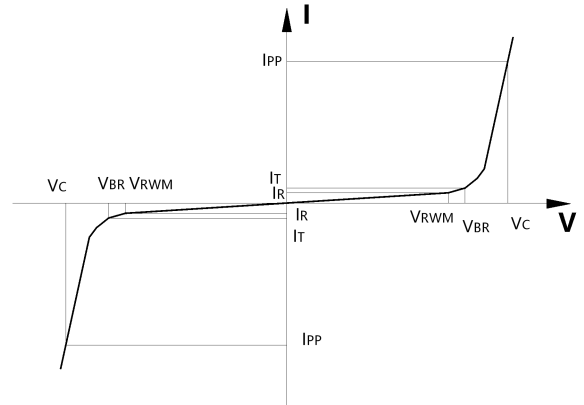
- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

### Ordering Information

Device	Package	Marking	Qty per Reel	Reel Size
TQEML1225V0	DFN0603-2L	G	15,000pcs	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)	50	W
$T_{STG}$	Storage Temperature	-55/+150	°C
$T_J$	Operating Temperature	-55/+150	°C

## ● Electrical Characteristics @TA=25°C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	$V_{RWM}$			5		V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$		7		V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5.0\text{V}$ , $T = 25^\circ\text{C}$		0.1		$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 6\text{A}$ , $t_P = 8/20\mu\text{s}$		9.5		V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$		8		pF

- **Typical Performance Characteristics**

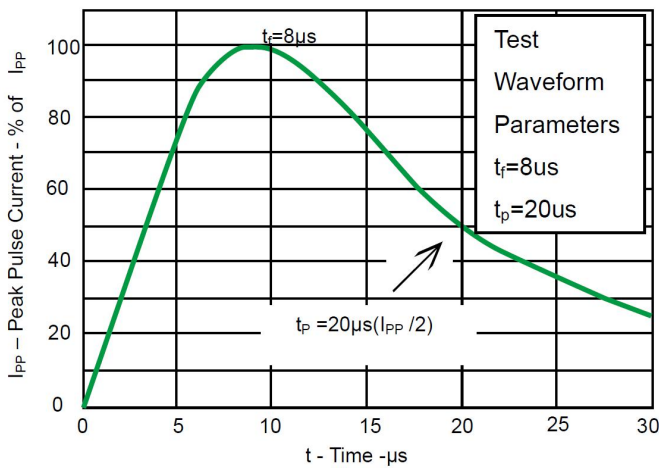


Fig 1. Pulse Waveform

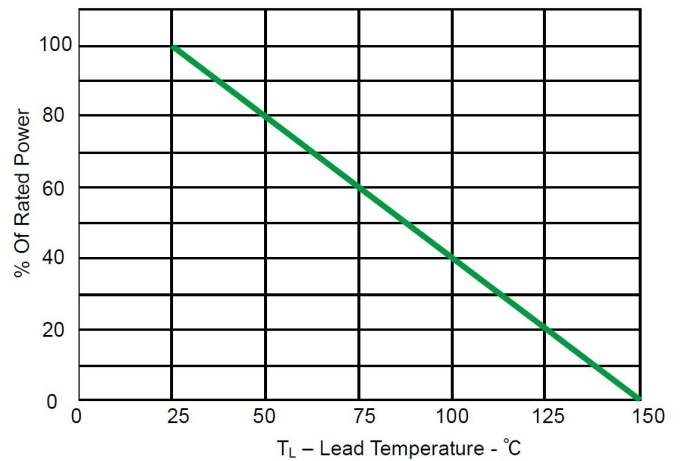
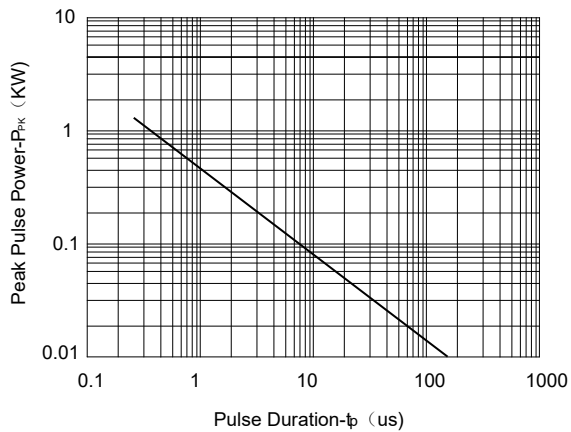


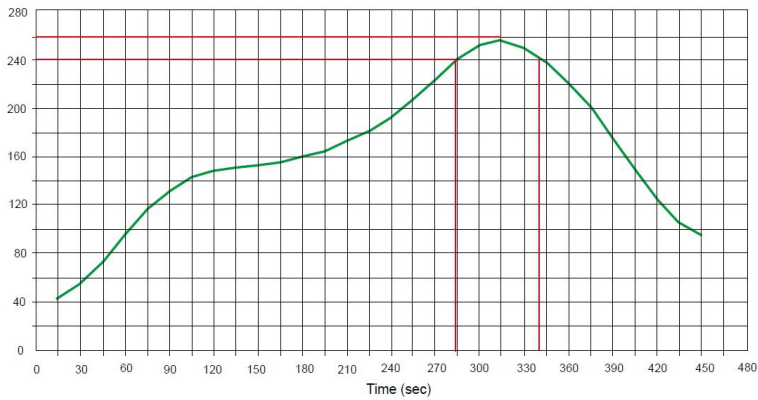
Fig 2. Power Derating Curve



Non-Repetitive Peak Pulse Power vs. Pulse Time

## ● Solder Reflow Recommendation

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

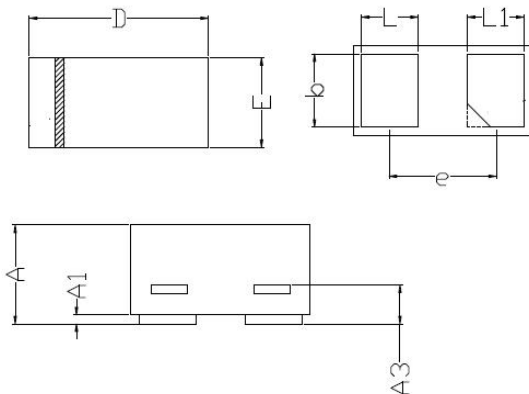


## ● Package Information

### Mechanical Data

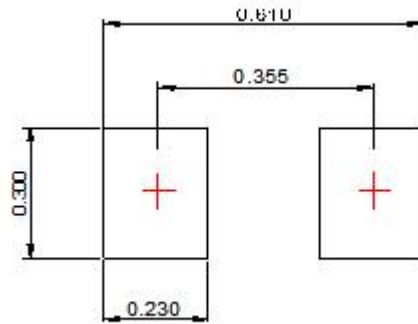
Case: DFN0603-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.230	0.330
A1	0.000	0.050
A3	0.102REF	
D	0.550	0.650
E	0.250	0.350
b	0.215	0.275
L	0.115	0.175
L1	0.115	0.175
e	0.40BSC	

## Recommended Pad outline



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