Descriptions

This is Transient Voltage Suppressor in a DFN0603-2L Plastic Package.

Features

- Working Voltage: 3.3V
- 36 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Low Clamping Voltage
- Low Leakage Current
- RoHS Compliant

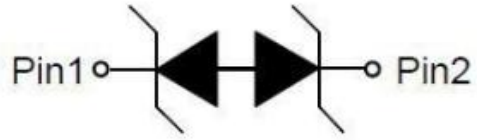
Applications

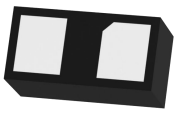
- Cellular Phones
- Laptop Computers
- Digital Cameras
- Personal Digital Assistants

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) ±18kV (air), ±15kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20μs)

Schematic & PIN Configuration





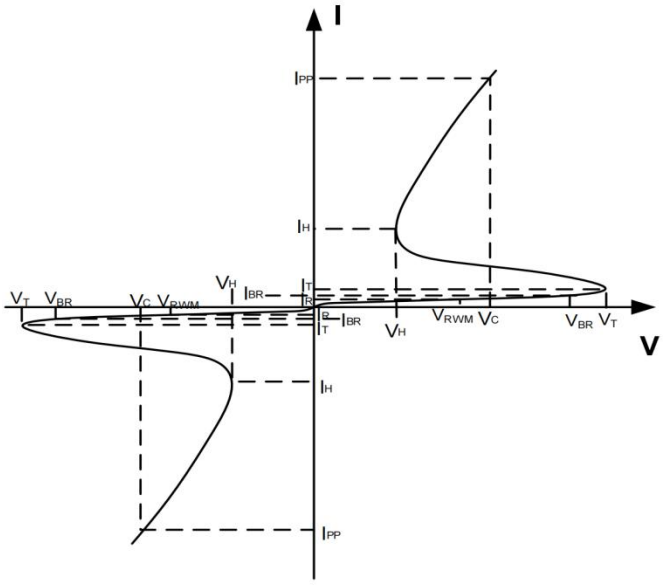
DFN0603-2L

Absolute Maximum Ratings(Ta=25℃)

Rating	Symbol	Value	Units
Peak Pulse Power (t_p = 8/20μs)	P_{PP}	36	W
Peak Pulse Current (t_p = 8/20μs)	I_{PP}	4.5	A
Operating Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Characteristics(Ta=25℃)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_{BR}	Reverse Stand-Off Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
Vc	Test Voltage
I_T	Test Current
V_H	Holding Voltage
I_H	Holding current



Electrical Characteristics(Ta=25℃)

CTSY3V3X1B2ZA						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	3.7			V
Holding Current	I_H	T=25℃		100		mA
Reverse Leakage Current	I_R	V_{RWM}=3.3V, T=25℃			200	nA
Clamping Voltage	V_C	I_{PP}=4.5A, t_p=8/20μs		5.3	8	V
Dynamic Resistance[1,2]	R_{DYN}	TLP=0.2/100ns		0.33		Ω
ESD Clamping Voltage[1]	V_C	IPP = 4A, tp = 0.2/100ns (TLP)		4.2		V
ESD Clamping Voltage[1]	V_C	IPP = 16A, tp = 0.2/100ns (TLP)		8.3		V
Junction Capacitance	C_j	V_R =0V, f =1MHz		0.5	0.7	pF

Notes：

1、TLP Setting：t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t_1=70ns to t_2=90ns.

2、Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using "Best Fit".

Electrical Characteristic Curve

Figure 1: Peak Pulse Power Vs Pulse Time

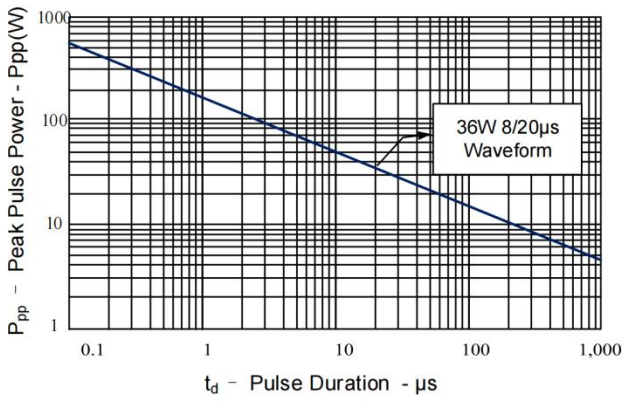


Figure 2: Power Derating Curve

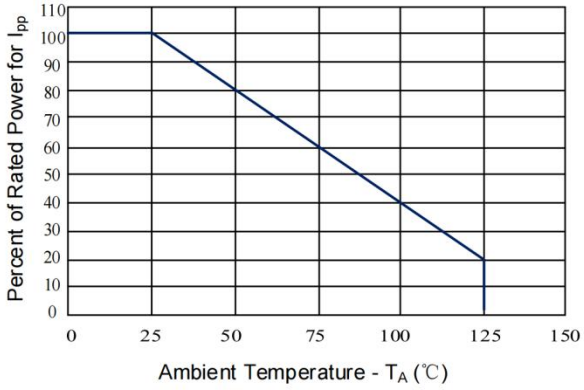


Figure 3: Clamping Voltage vs. Peak Pulse Current

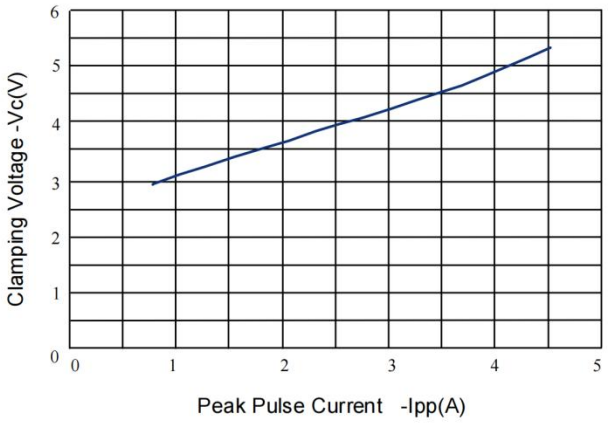


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

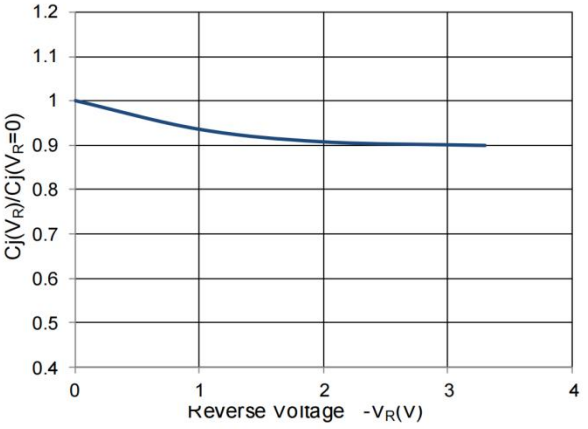


Figure 5: TLP Positive I-V Curve

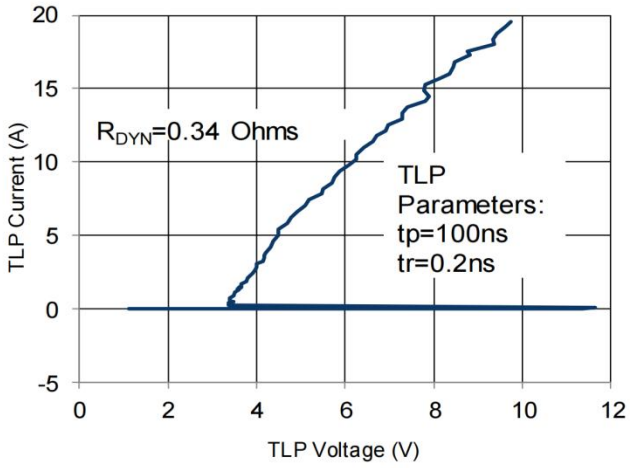
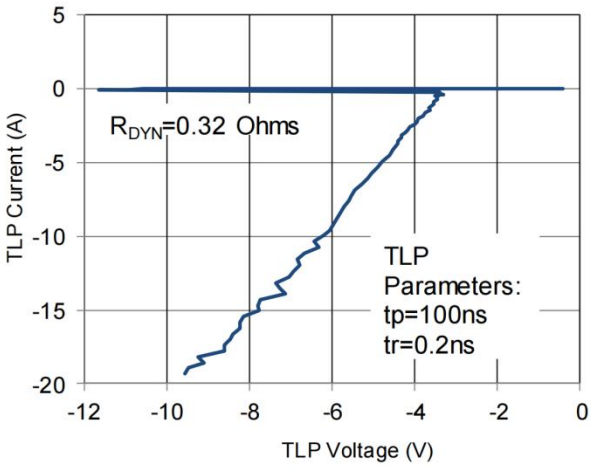
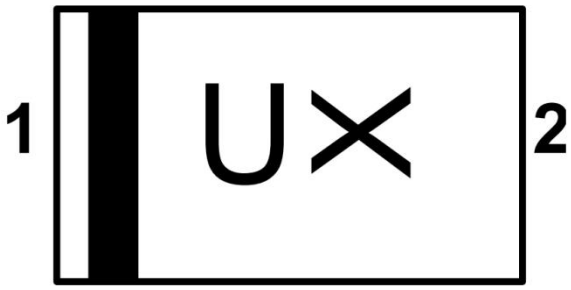


Figure 6: TLP Negative I-V Curve



Marking Instructions



U=Specific Device Code
X=Month Code

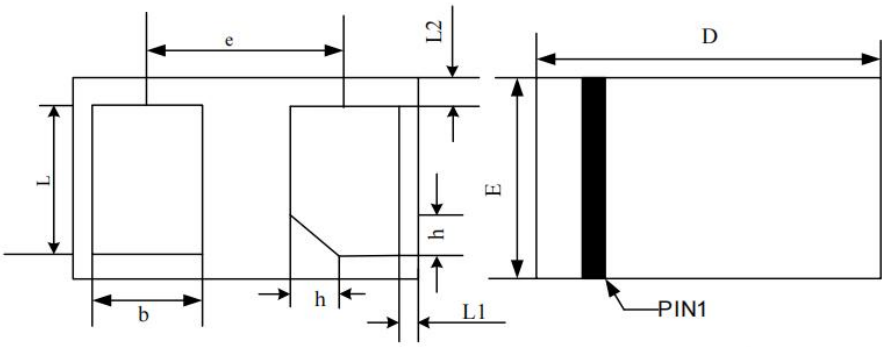
Packaging SPEC

REEL

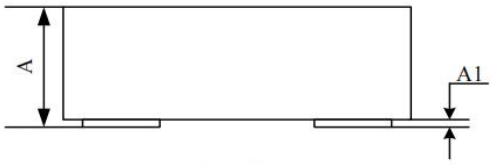
Package Type	Units/Reel
DFN0603-2L	15000

Package Outline Dimensions

DFN0603-2L



Bottom View Top View



Side View

SYMBOL	MILLIMETERS			Dimension In Inches		
	NOM	MIN	MAX	NOM	MIN	MAX
A	--	0.280	0.320	--	0.011	0.013
A1	--	--	0.050	--	--	0.002
D	0.620	0.590	0.640	0.024	0.023	0.025
E	0.320	0.290	0.340	0.013	0.011	0.013
b	0.190	0.160	0.220	0.007	0.006	0.009
L	0.240	0.210	0.270	0.009	0.008	0.011
h	--	0.050	0.100	--	0.002	0.004
L1	0.040REF			0.002REF		
L2	0.040REF			0.002REF		
e	0.350BSC			0.014BSC		