Descriptions

This is working voltage 3.3V ESD protection diode in a DFN0603-2L package

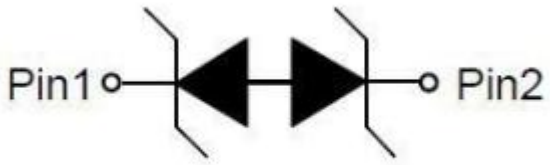
Features

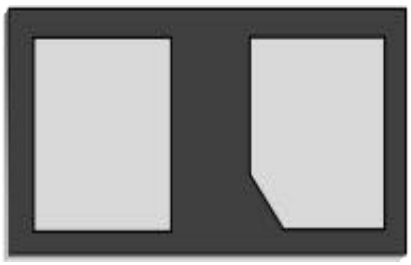
- 90 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Small Body Outline Dimensions
- Protects one I/O or Power Line
- Low Clamping Voltage
- Working Voltage: 3.3V

Applications

- Low Leakage Current
- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Equivalent Circuit & Pinning





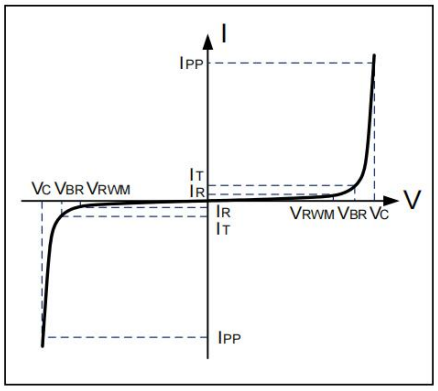
DFN0603-2L

Absolute Maximum Ratings(Ta=25℃)

Rating	Symbol	Value	Units
Peak Pulse Power (t_p = 8/20μs)	P_{PP}	90	W
Peak Pulse Current (t_p = 8/20μs)	I_{PP}	10	A
Operating Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Parameters

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



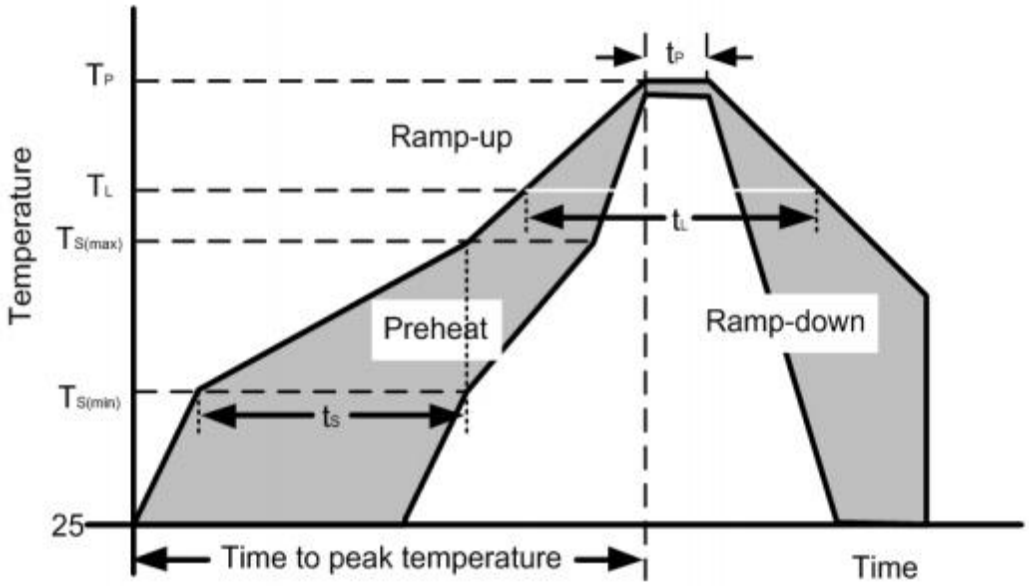
Electrical Characteristics(Ta=25℃)

CTESD3V3L1A2ZA-2

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	3.5		7	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V			100	nA
Clamping Voltage	V_C	I_{PP}=10A, t_p=8/20μs		7	9	V
Dynamic Resistance[1,2]	R_{DYN}	TLP=0.2/100ns		0.2		Ω
ESD Clamping Voltage[1]	V_C	IPP = 4A, tp = 0.2/100ns (TLP)		6.0		V
ESD Clamping Voltage[1]	V_C	IPP = 16A, tp = 0.2/100ns (TLP)		8.5		V
Junction Capacitance	C_j	V_R =0V, f =1MHz		15	20	pF

Soldering Parameters

Reflow Condition		Pb - Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 - 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 - 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 - 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C



Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

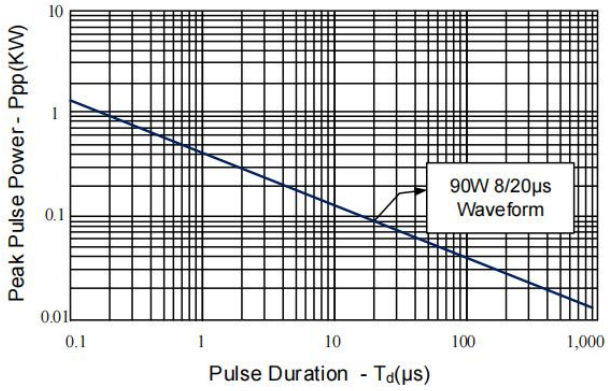


Figure 2: Power Derating Curve

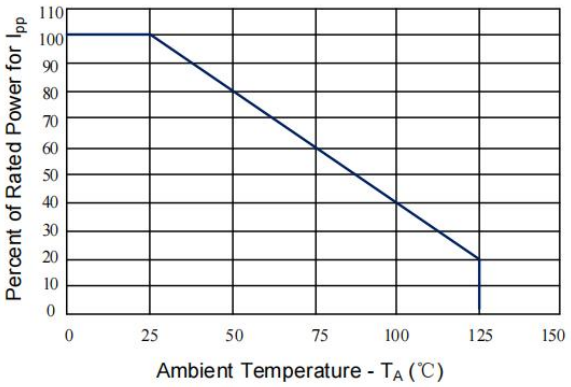


Figure 3: Clamping Voltage vs. Peak Pulse Current

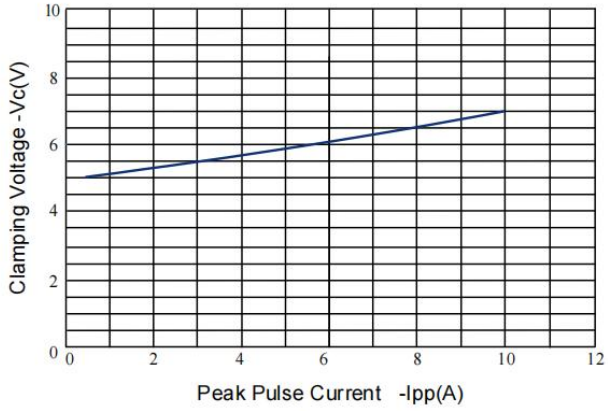


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

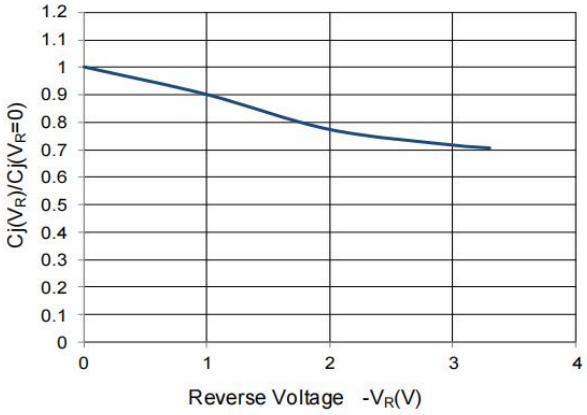


Figure 5: TLP Positive I-V Curve

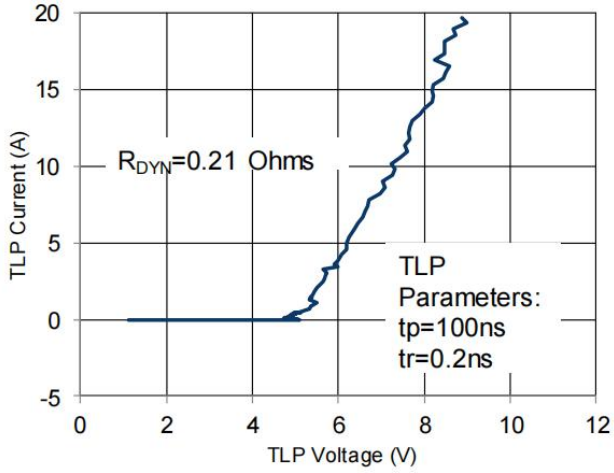
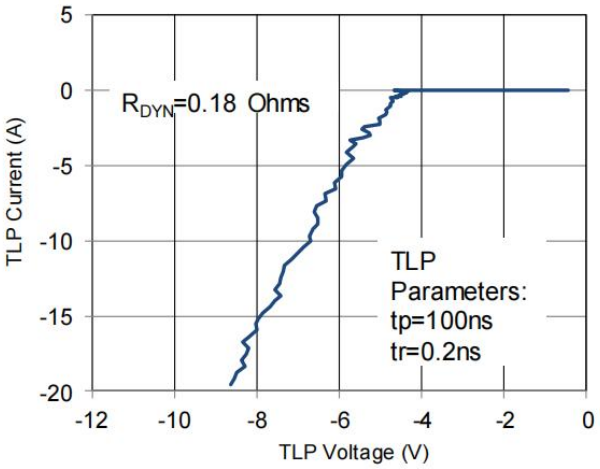
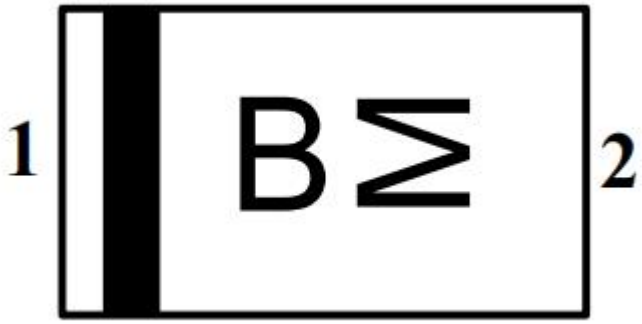


Figure 6: TLP Negative I-V Curve



Marking Codes & Package Information



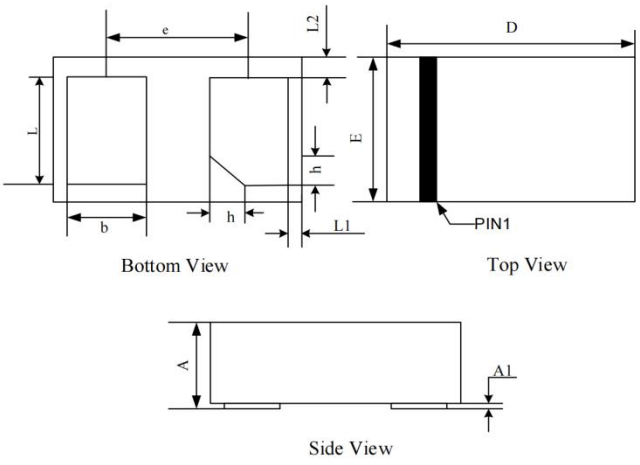
B=Specific Device Code

M=Month Code

Qty：15k/Reel

Outline Drawing - DFN0603-2L

PACKAGE OUTLINE



DFN0603-2L

SYMBOL	MILLIMETERS		
	NOM	MIN	MAX
A	--	0.280	0.320
A1	--	--	0.050
D	0.620	0.570	0.640
E	0.320	0.270	0.340
b	0.180	0.155	0.205
L	0.240	0.200	0.265
h	--	0.050	0.100
L1	0.040REF		
L2	0.040REF		
e	0.360BSC		

Land Pattern