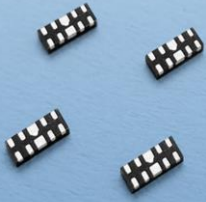


Together We Make It Safe!



TVS Protection Array (TPA)





TVS Protection Array TPA0603G

- DFN0603-2L
- Low Clamping Voltage

Features

- 5A Peak pulse current per line ($t_p = 8/20\mu s$)
- DFN0603-2L package
- Bidirectional configurations
- Response time is typically $< 1\text{ ns}$
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC61000-4-2(ESD) $\pm 15\text{ kV}$ (air), $\pm 8\text{ kV}$ (contact)

Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	5	A
Junction Temperature Range	T_J	$-45\sim 125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	$-45\sim 125$	$^{\circ}\text{C}$

Note:

1. Ratings at 25°C ambient temperature unless otherwise specified.

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Stand-off Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	5.5			V	$I_T = 1\text{ mA}$
Reverse Leakage Current	I_R			1	μA	$V_{RWM} = 5\text{ V}$
Clamping Voltage	V_C			12.5	V	$I_{PP} = 5\text{ A}$ (8 x 20 μs pulse)
Junction Capacitance	C_J			15	pF	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$

TVS Protection Array TPA0603G

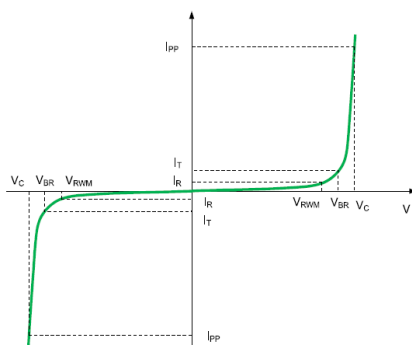
DFN0603-2L

Low Clamping Voltage

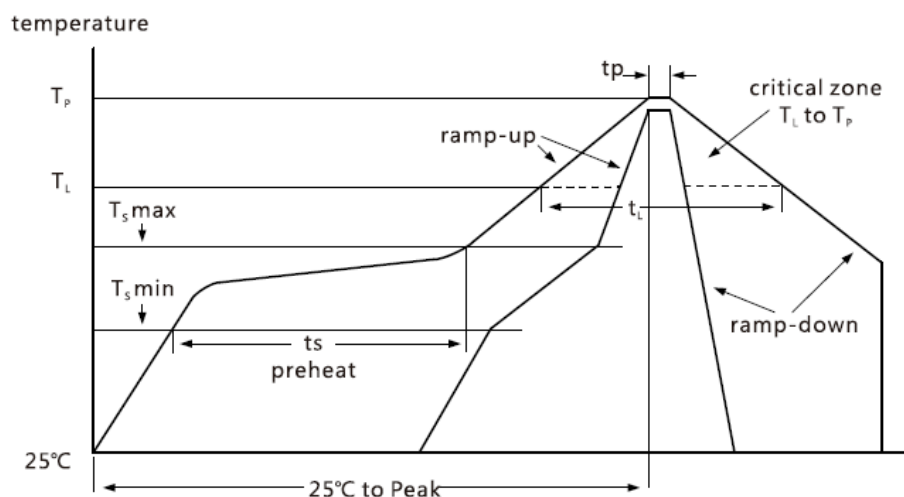
Symbol	Parameter	Explanation
(1) I_{PP}	Peak pulse current	The maximum surge current that flows though the TVS
(2) V_{BR}	Breakdown voltage	The Voltage that flows though the TVS at a specified test current (I_T)
(3) I_T	Test current	A specified test current that flows though the TVS
(4) V_{RWM}	Stand-off voltage	Maximum voltage that can be applied to the TVS without operation
(5) I_R	Leakage current @ V_R	Current measured at V_R
(6) V_C	Clamping voltage	Peak voltage measured across the suppressor at a specified I_{pp} (peak impulse current)

I-V Curve Characteristics

Bidirectional



Reflow Soldering Profile

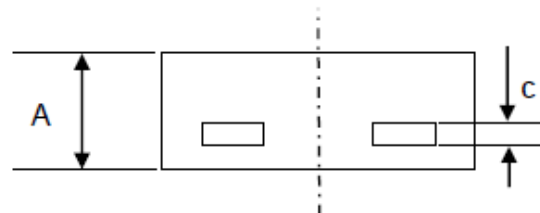
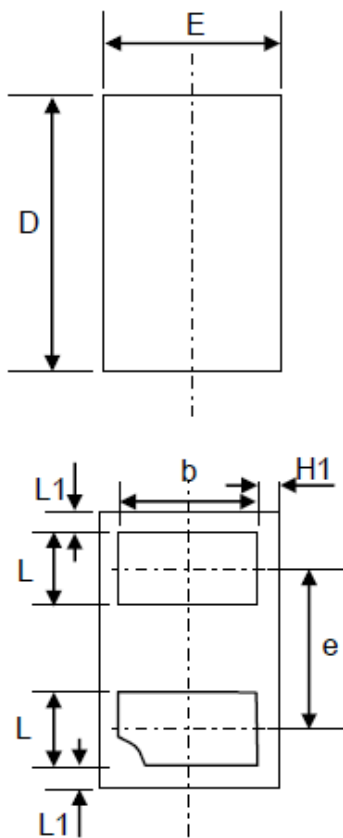


TVS Protection Array TPA0603G

DFN0603-2L Low Clamping Voltage

Reflow Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_s max to T_p)	3°C/s maximum	3°C/s maximum
Preheat		
Temperature minimum (T_s min)	100°C	150°C
Temperature maximum (T_s max)	150°C	200°C
Time (T_s min to T_s max)	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (T_L)	183°C	217°C
Time (t_L)	60 s to 150 s	60 s to 150 s
Peak/classification temperature (T_p)	235°C	260°C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (t_p)	10 s to 30 s	10 s to 30 s
Ramp-down rate	6°C/s maximum	6°C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum

Package Dimension (DFN0603-2L) Unit: mm



DFN0603-2L (unit: mm)		
Dim.	Min.	Max.
A	0.27	0.34
E	0.25	0.35
D	0.55	0.65
b	0.20	0.30
c	0.05 REF.	
e	0.35 TYP.	
L	0.13	0.23
L1	0.03 REF.	
H1	0.045 REF.	

TVS Protection Array TPA0603G

DFN0603-2L

Low Clamping Voltage



Configuration

Layout Dimension Unit: mm

