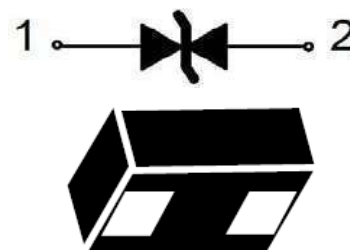


Single Line TVS Diode for ESD

TVS Diode Array

Features

- ◆ Low Capacitance 0.25pF
- ◆ Low Clamping Voltage
- ◆ Small Body Outline Dimensions: 0.6mm x0.3mm
- ◆ Low Body Height: 0.3mm
- ◆ Stand-off Voltage: 5.0V
- ◆ Low Leakage
- ◆ Response Time is Typically < 1 ns
- ◆ IEC61000-4-2 Level 4 ESD Protection for data lines
- ◆ These are Pb-Free Devices



DFN0603-2L

Applications

- ◆ 10/100/1000 Mbps/s Ethernet
- ◆ FireWire
- ◆ Display ports
- ◆ MDDI ports
- ◆ Digital Visual Interface (DVI)
- ◆ Cellular handsets & accessories
- ◆ Computer and peripherals

Maximum Rating @ Ta=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{ppp}	100	W
Peak Pulse Current (8/20μs)	I _{pp}	4	A
ESD per IEC 61000-4-2 (Air)	VESD	±25	kV
ESD per IEC 61000-4-2 (Contact)		±22	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics @ Ta=25 °C unless otherwise

Parameter	Marking	VRWM @IR		VBR@ImA	VC@1A	VC@IPP		CJ
		V	μA	V	V	V	A	pF
			MAX	MIN	MAX	MAX		MAX
KW0521L	RV	5	0.2	6.0	12.0	25	4	0.25

Typical Characteristics@ Ta=25°C unless otherwise specified

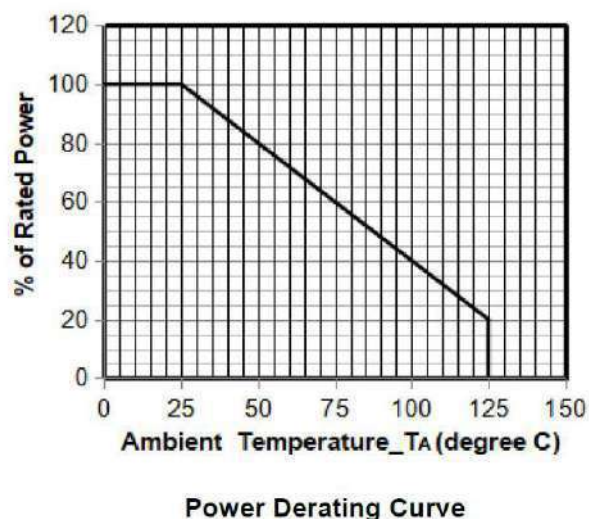
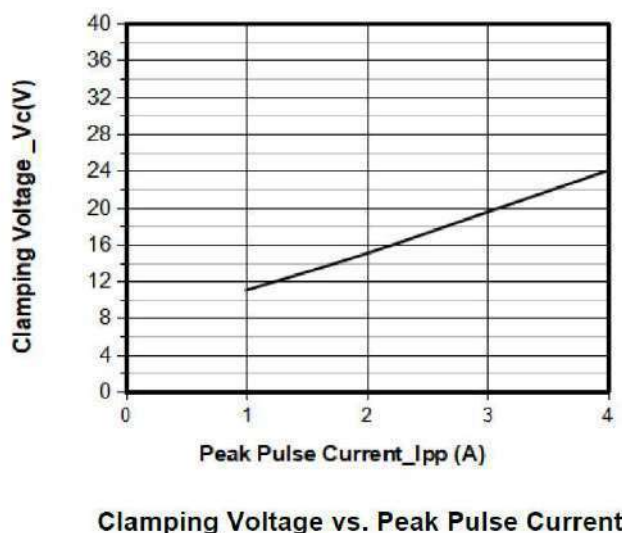
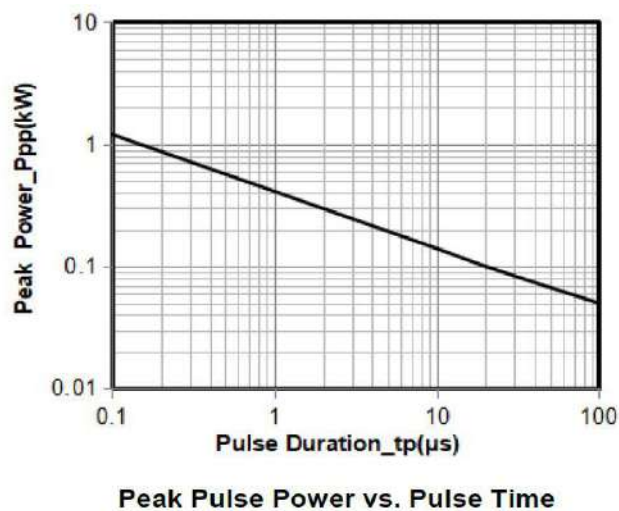
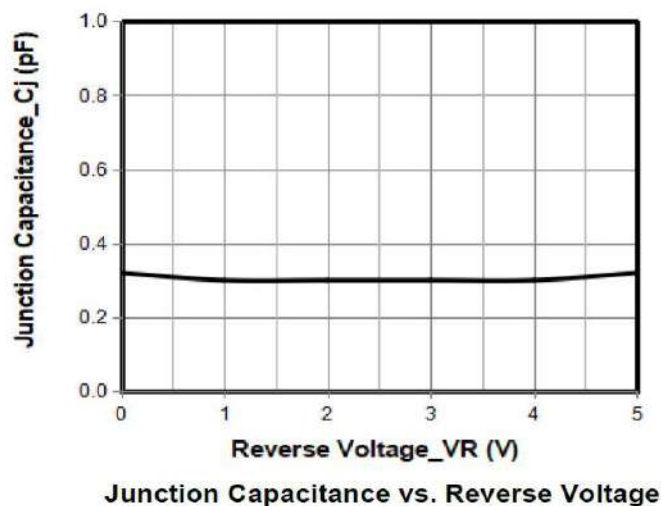
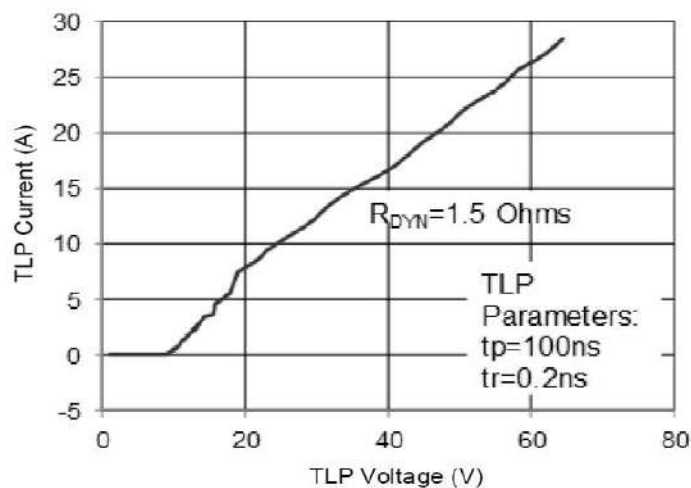
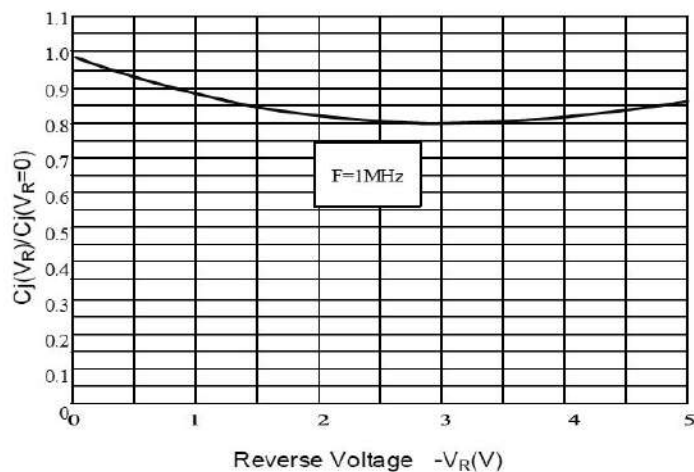


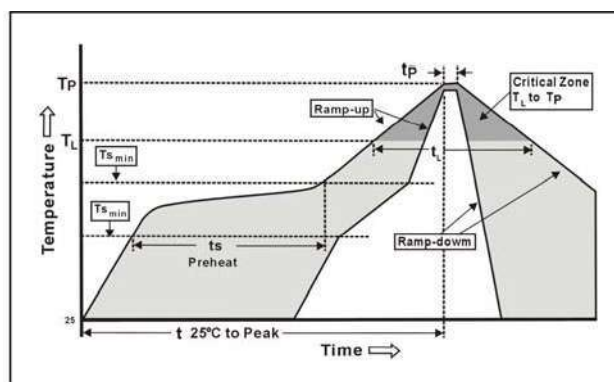
Figure 5: Capacitance vs. Reverse Voltage

Figure 6: TLP I-V Curve



Soldering Parameters

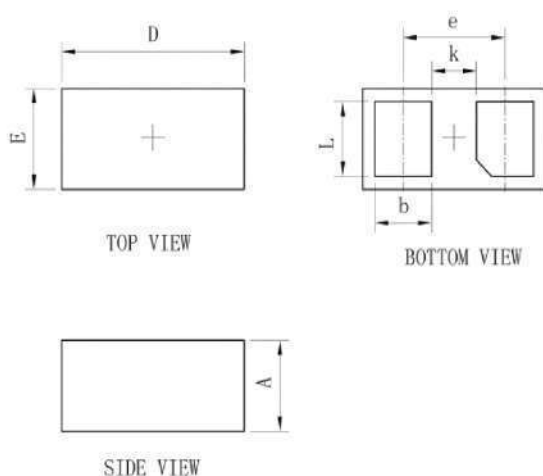
Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ($T_{s(\text{Min})}$)	150°C
	- Temperature Max ($T_{s(\text{Max})}$)	200°C
	- Time (Min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second Max
$T_{s(\text{Max})}$ to T_L - Ramp-up Rate		3°C/second Max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_l)	60 – 150 seconds
Peak Temperature (T_p)		250 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second Max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



Package Outline

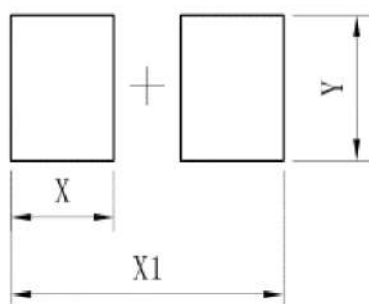
Plastic surface mounted package

DFN 0603-2L



DFN0603-DL			
Dim	Min	Typ.	Max
D	0.58	0.61	0.64
E	0.28	0.31	0.34
e	-	0.34	-
L	0.20	0.23	0.26
b	0.16	0.19	0.22
A	0.25	0.28	0.31
k	0.12	0.15	0.18
All Dimensions in mm			

Soldering Footprint



DFN0603-DL	
DIM	(mm)
X	0.23
X1	0.61
Y	0.30

Package And Marking Information

Device	Package	Shipping	Reel Size
KW0521L	DFN0603-2L	15K/Reel	7 inch