

## ESD Protection Diodes

### Discription

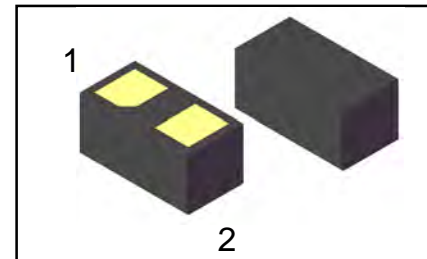
The FTV3.3BLLDFN0603 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

### Applications

- Cellular phones audio
- MP3 players
- Digital cameras
- Portable applications
- Mobile telephone

### Features

- Small Body Outline Dimensions: 0.61 mm x 0.31 mm
- Low Body Height: 0.28 mm
- Low Leakage
- Response Time is Typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection
- These are Pb-Free Devices
- We declare that the material of product compliance with RoHS requirements.



DFN0603-DL



### Ordering information

Device	Package	Marking	Shipping
FTV3.3BLLDFN0603	DFN0603	K	15000/Tape&Reel

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge Contact discharge		± 16 ± 16	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T <sub>A</sub> =25	PD	200	mW
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to 150	
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	

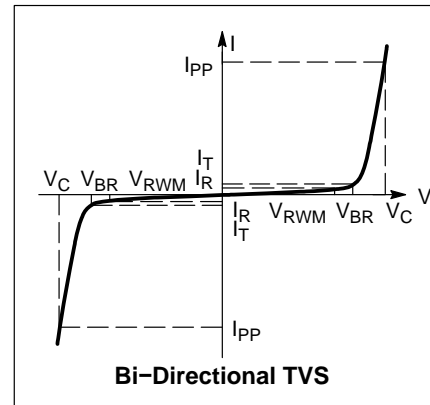
Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0\*0.75\*0.62 in.

## ELECTRICAL CHARACTERISTICS

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$P_{pk}$	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ and $f = 1.0$ MHz

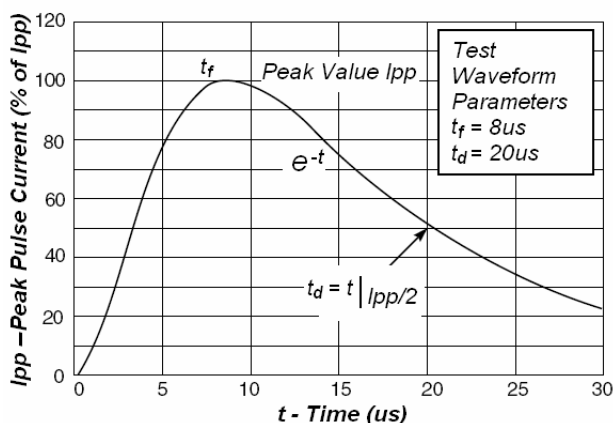


## ELECTRICAL CHARACTERISTICS

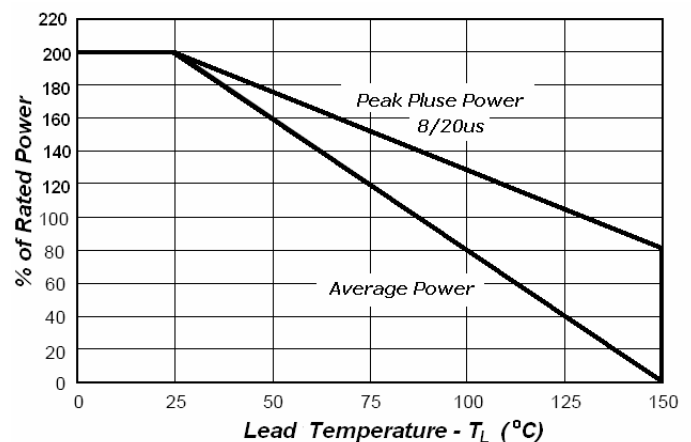
Device	$V_{RWM}$ (V)	$I_R$ ( $\mu\text{A}$ ) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 2)	$I_T$	$V_C$ (V) @ $I_{PP} = 1$ A (Note 3)	$V_C$ (V) @ MAX $I_{PP}$ (Note 3)	$I_{PP}$ (A) (Note 3)	$P_{PK}$ (W) (Note 3)	C (pF)	
	Max	Max	Min	mA	Max	Max	Max	Max	Typ	Max
FTV3.3BLLDFN0603	3.3	0.5	4.7	1.0	12	18	4	72	0.25	0.35

Other voltage available upon request.

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$
- Surge current waveform per Figure 1.

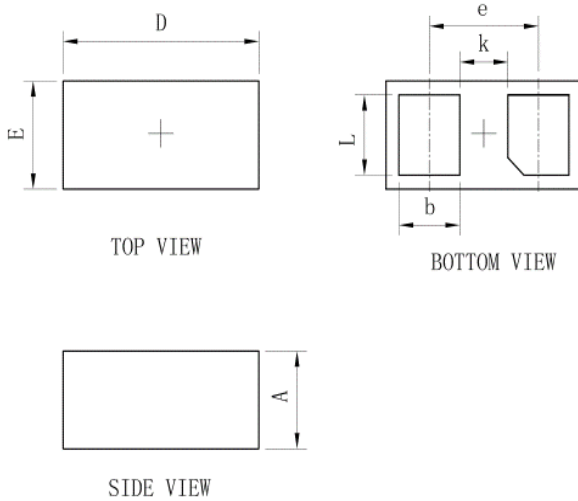


**Fig1. Pulse Waveform**



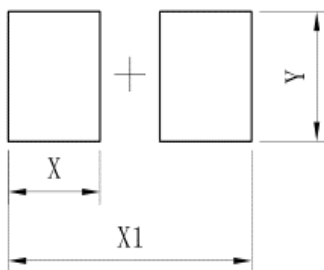
**Fig2. Power Derating Curve**

## OUTLINE AND DIMENSIONS



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