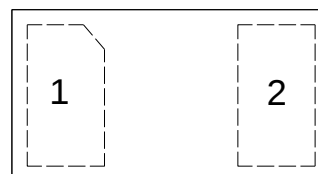


ESD PROTECTION DIODE

Features

- IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 10\text{kV}$ Contact Discharge
 - $\pm 15\text{kV}$ Air Discharge
- 30W Peak pulse Power (8/20us)
- Low clamping voltage
- Working voltage: 3.3V
- Low leakage current
- RoHS compliant
- Protecting one Bi-directional lines
- Capacitance: 0.15pF Typ.

Pin Configuration



DFN0603 (Top View)

Circuit Diagram



Applications

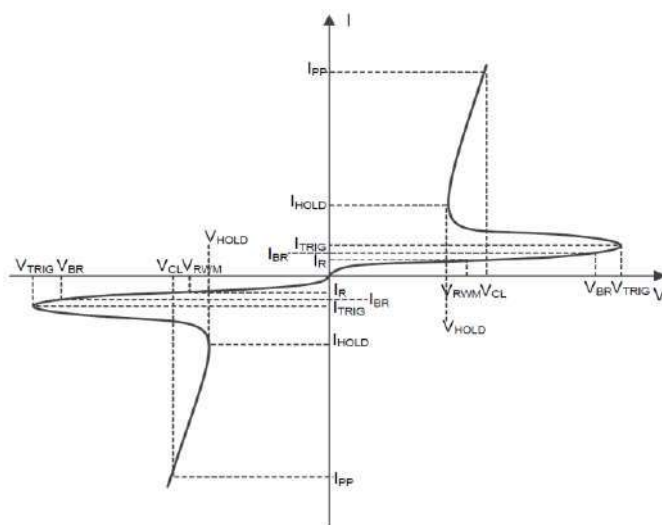
- MP3 Players
- Battery Protection
- Vbat pin for Mobile Device
- Mobile Phones
- Power Line Protection
- Hand Held portable Applications

Absolute Maximum Ratings

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)	P_{pk}	-	30	W
Peak pulse current (tp=8/20us)	I_{PP}		4	A
ESD (IEC61000-4-2 air discharge)	V_{ESD}	-	± 15	kV
ESD (IEC61000-4-2 contact discharge)	V_{ESD}	-	± 10	kV
Junction temperature	T_J	-	125	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40	85	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

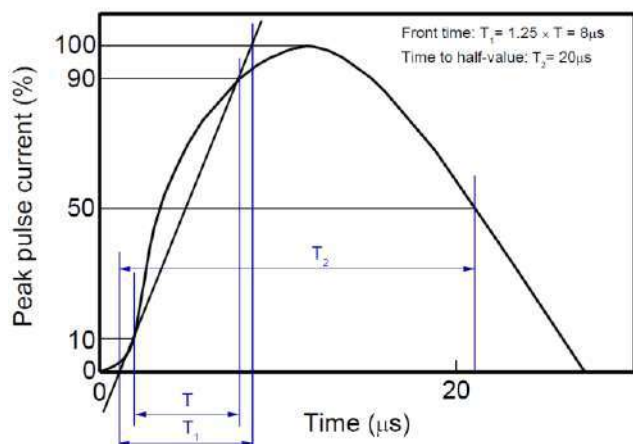
Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{HOLD}	Reverse holding voltage
I_{HOLD}	Reverse holding current



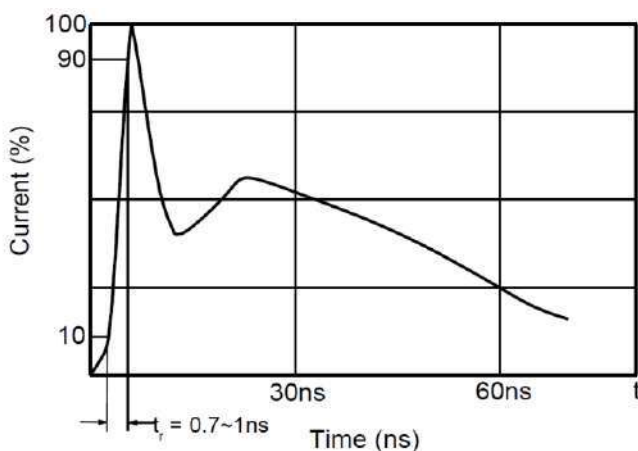
Electrical Characteristics At $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	7			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}; t_p=8/20\mu\text{s}$		3.5		V
		$I_{PP}=4\text{A}; t_p=8/20\mu\text{s}$		7.0		V
Junction Capacitance	C_J	$V_R=1.5\text{V}; f=1\text{MHz}$		0.12		pF

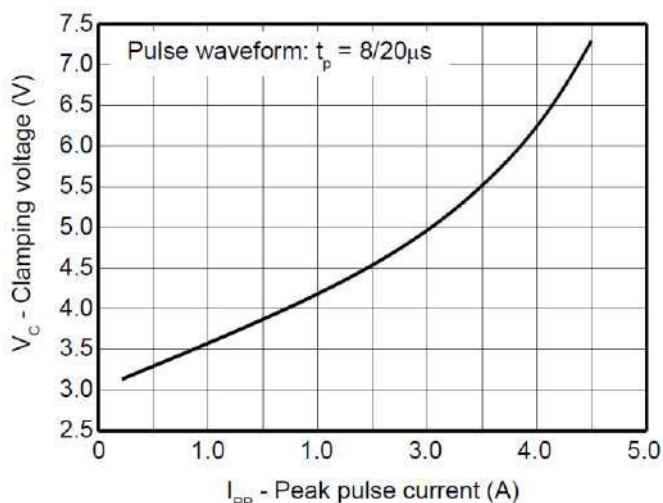
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



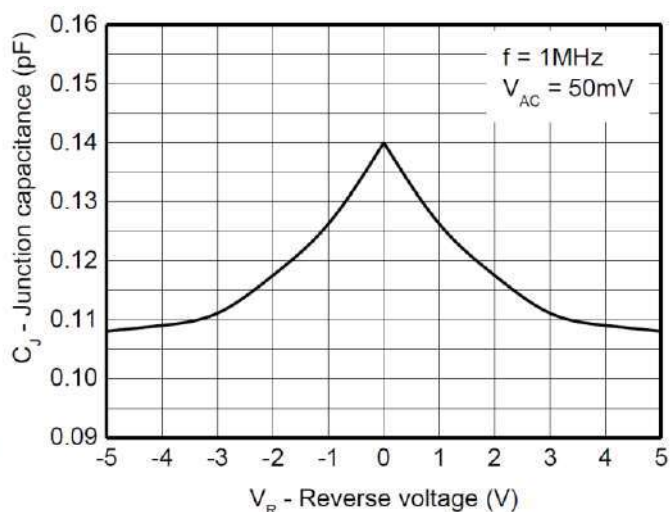
8/20 μs waveform per IEC61000-4-5



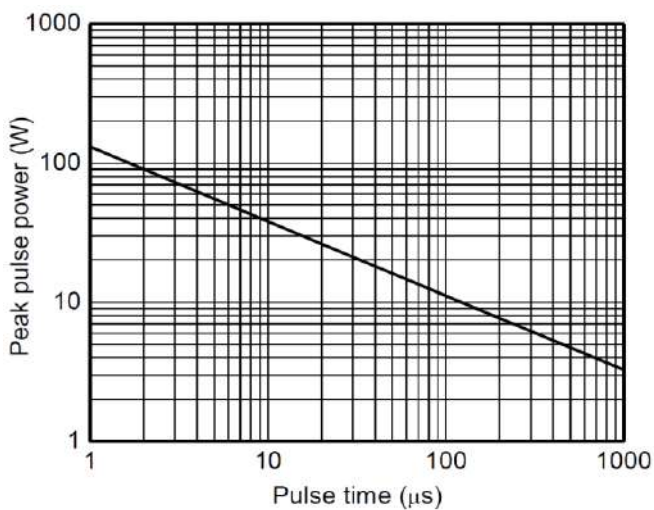
Contact discharge current waveform per IEC61000-4-2



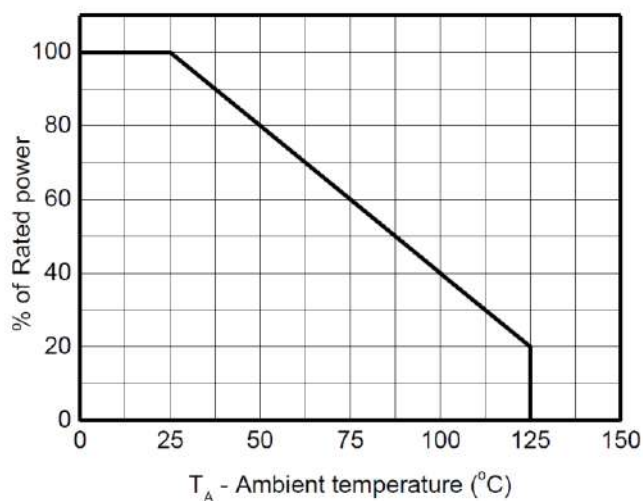
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

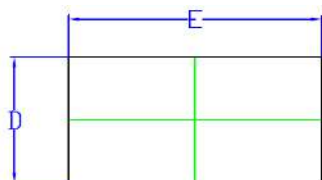


Non-repetitive peak pulse power vs. Pulse time

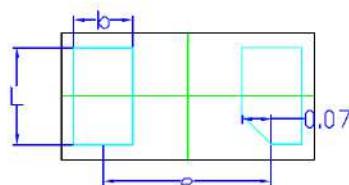


Power derating vs. Ambient temperature

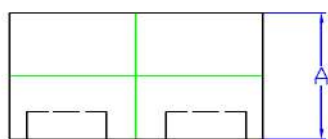
DFN0603 Package Outline Drawing



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Type	Dimensions			Unit
	Min	Nom	Max	mm
A	0.280	0.300	0.320	
b	0.165	0.190	0.215	
D	0.250	0.300	0.350	
E	0.550	0.600	0.650	
e		0.340		
L	0.205	0.230	0.255	