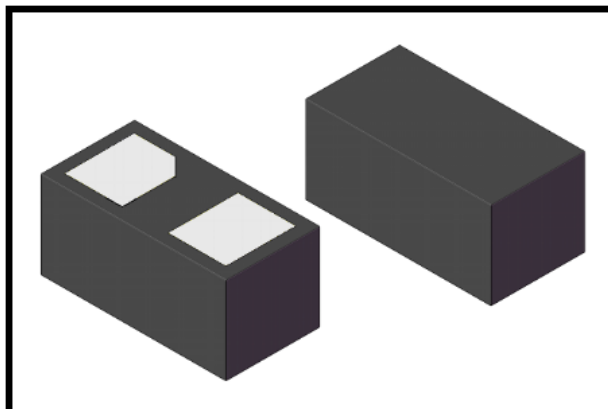


PTLC0521NS – ESD Protection Diode

Feature

- 40 Watts peak pulse power (8/20μs)
- Tiny DFN0603 package
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 2.7$ pF typ.)
- Protect one data/power line
- IEC61000-4-2 (ESD) ± 15 kV (Air), ± 10 kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 3.5A (8/20μs)



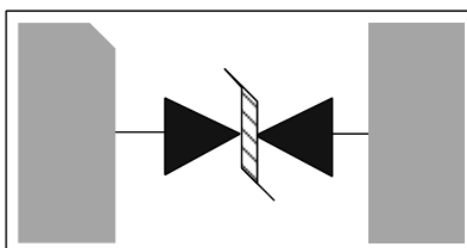
Applications

- Cell Phone Handsets and Accessories
- Micro processor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation

Mechanical Data

- DFN0603 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

Schematic and PIN Configuration



DFN0603

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	$V_{ESD}^{(1)}$	± 15	kV
IEC61000-4-2 ESD Voltage – Contact Mode		± 10	
Peak Pulse Power	$P_{PP}^{(2)}$	40	W
Peak Pulse Current	$I_{PP}^{(2)}$	3.5	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	°C
Junction Temperature	T_J	-55~125	°C
Storage Temperature Range	T_{stg}	-55~125	°C

Note:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^\circ\text{C}$ unless otherwise noted.

PTLC0521NS – ESD Protection Diode

Electrical Characteristics

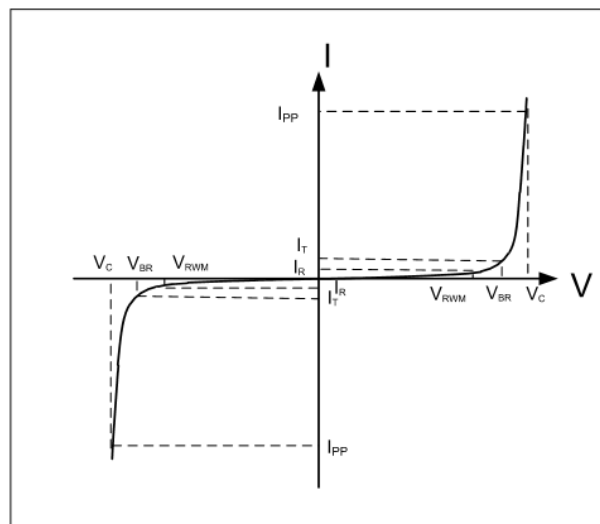
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.5	6.5	8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$		0.1	0.5	μA
Peak Pulse Current	I_{PP}				3.5	A
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 3.5A$			11	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		2.7	3.5	pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^\circ C$ unless otherwise noted.

Electrical Parameters

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



PTLC0521NS – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

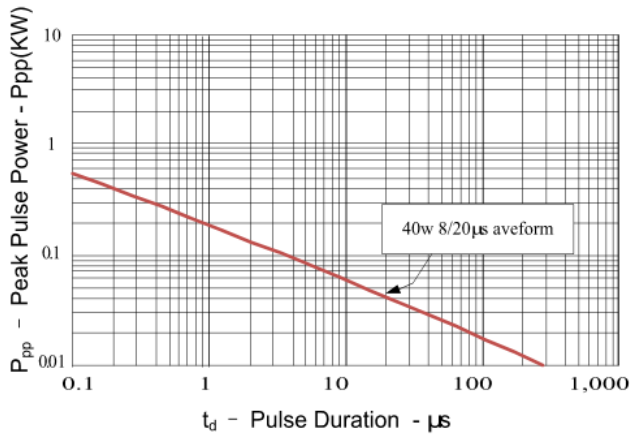


Figure 2: Power Derating Curve

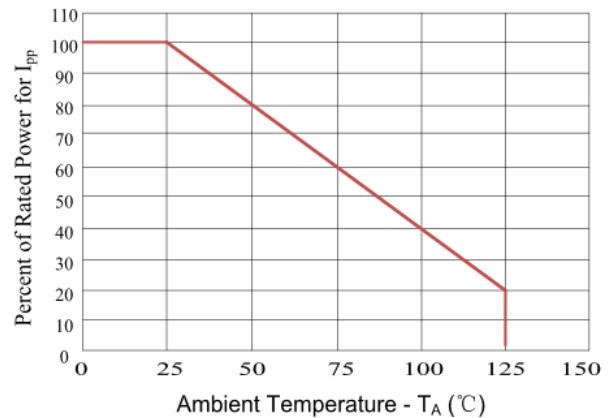


Figure3: Pulse Waveform

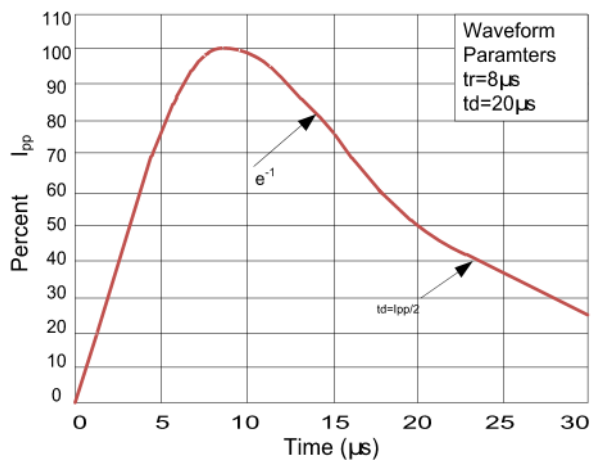
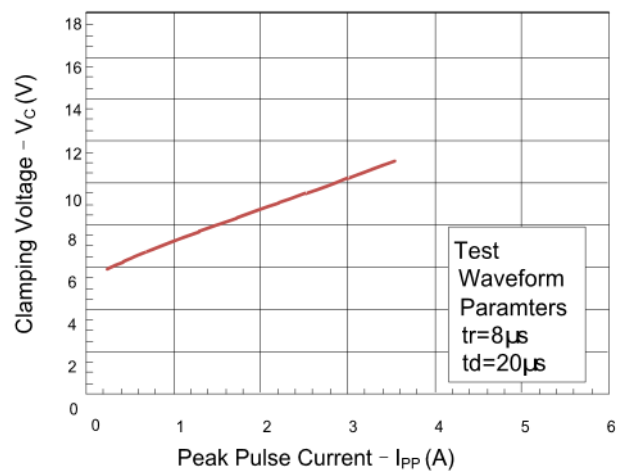
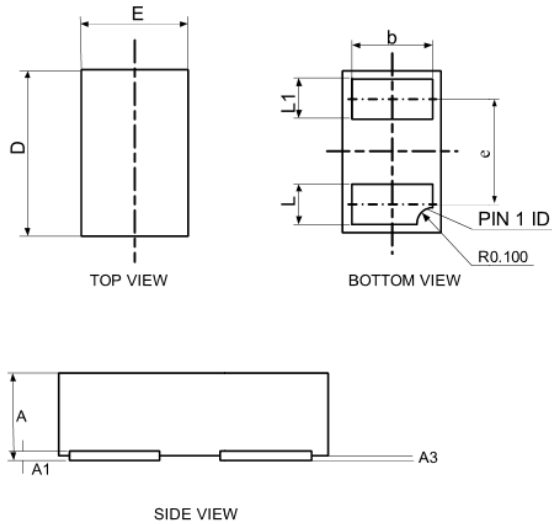


Figure 4: Clamping Voltage vs. Ipp



PTLC0521NS – ESD Protection Diode

DFN0603 Package Outline Dimensions



Symbol	Dimensions (mm)		
	Min	Typ	Max
A	0.28	0.30	0.32
A1	0.102 REF		
A3	0.00	-	0.05
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.215	0.245	0.275
L	0.115	0.145	0.175
L1	0.115	0.145	0.175
e	0.40 BSC		

Marking



Packaging Information

Packaging	Reel Size	PCS/Reel	Reel/Box	Box/Carton	PCS/Carton
DFN0603	7 inch	15,000	10	4	600,000