

## 1.Description

The PESDR0521P1 is a bi-directional TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage,making this device an ideal solution for protecting voltage sensitive high-speed data lines.

## 3.Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package

## 4.Applications

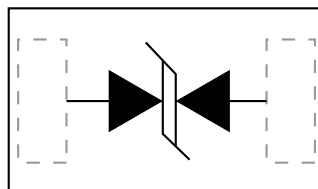
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports

## 2.Mechanical Characteristics

- Package: DFN1006-2 (1.0×0.6×0.5mm)
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 25\text{kV}$
  - Contact discharge:  $\pm 22\text{kV}$
  - IEC61000-4-5 (Lightning) 4A (8/20 $\mu\text{s}$ )
- RoHS Compliant

## 5.Pinning information



**DFN1006-2**



## 6. Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

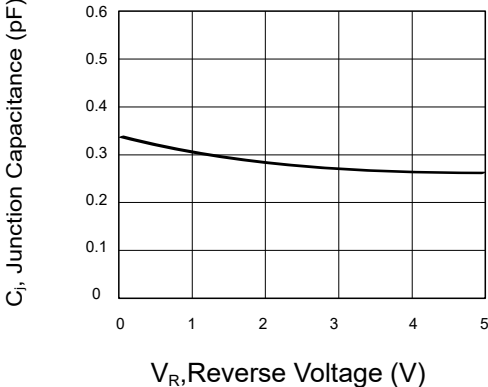
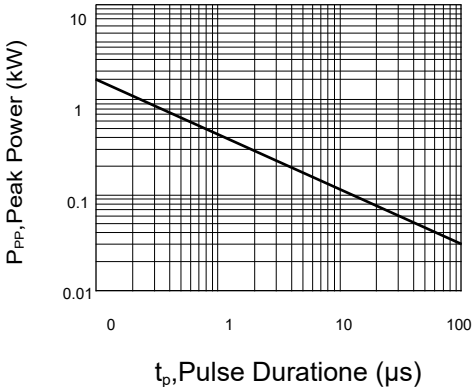
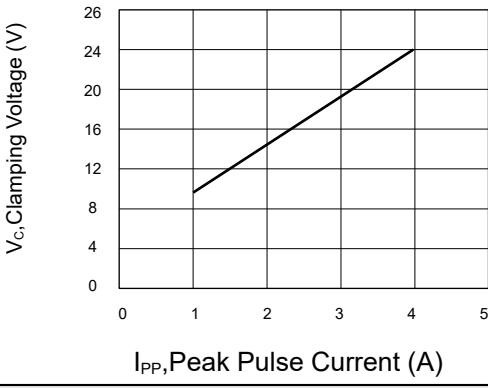
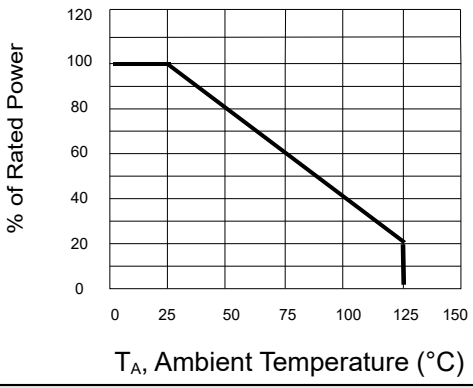
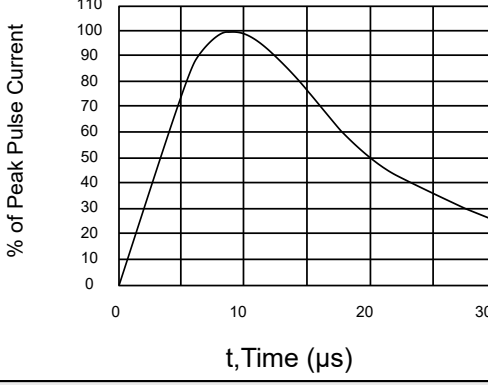
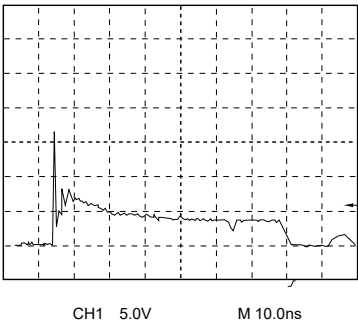
Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{PK}$	100	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	4	A
ESD per IEC 61000-4-2(Air)	$V_{ESD}$	$\pm 25$	kV
ESD per IEC 61000-4-2(Contact)		$\pm 22$	kV
Junction Temperature Range	$T_J$	-55 to 125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

## 7. Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6.5		9.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$			0.2	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			12	V
		$I_{PP}=4\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			25	V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$		0.3	0.5	pF

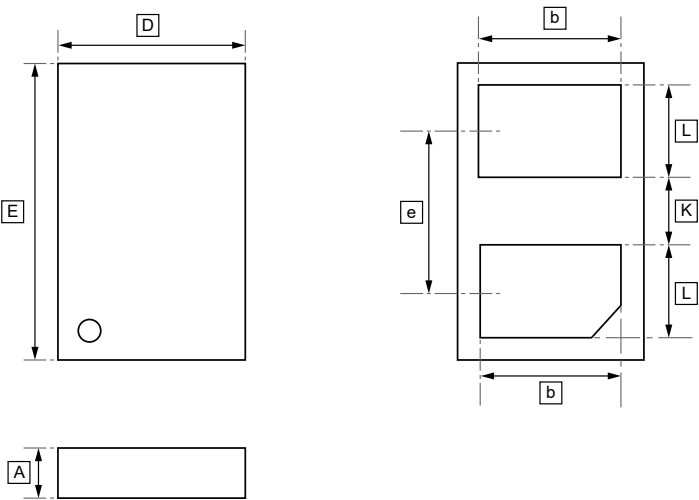


8. Typical characteristic

	
Figure 1: Junction Capacitance vs. Reverse Voltage	Figure 2: Peak Pulse Power vs. Pulse Time
	
Figure 3: Clamping Voltage vs. Peak Pulse Current	Figure 4: Power Derating Curve
	
Figure 5: 8 X 20μs Pulse Waveform	Figure 6: ESD Clamping Voltage 8 kV Contact per IEC61000-4-2



9.DFN1006-2 Package Outline Dimensions

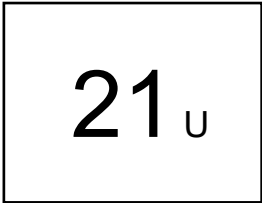


DIMENSIONS (mm are the original dimensions)

Symbol	A	b	D	e	E	L	K
Min	0.30	0.22	0.27	0.40	0.57	0.14	0.20
Max	0.35	0.26	0.33	BSC	0.63	0.18	0.25



10.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW PESDR0521P1	DFN1006-2	10000	Tape and reel



## **11.Disclaimer**

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