UMW PESDR0521P1

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.

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

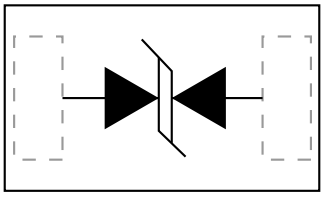
3.Features

- 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
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±25kV
  Contact discharge: ±22kV
  -IEC61000-4-5 (Lightning) 4A (8/20μs)
- RoHS Compliant

4.Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports

5.Pinning information



DFN1006-2

6.Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

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

7.Electrical Characteristics (T_A=25°C unless otherwise specified)

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

8.Typical characteristic

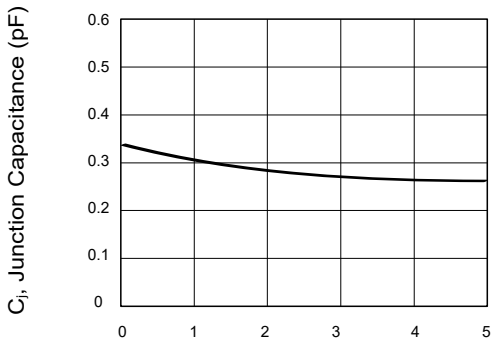


Figure 1: Junction Capacitance vs. Reverse Voltage

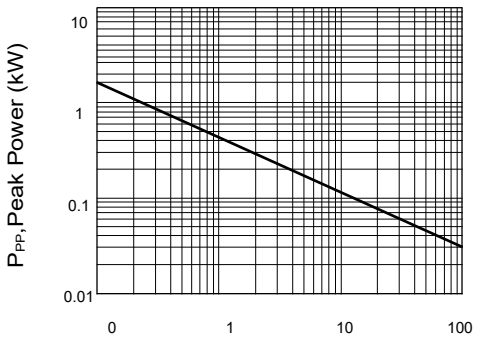


Figure 2: Peak Pulse Power vs. Pulse Time

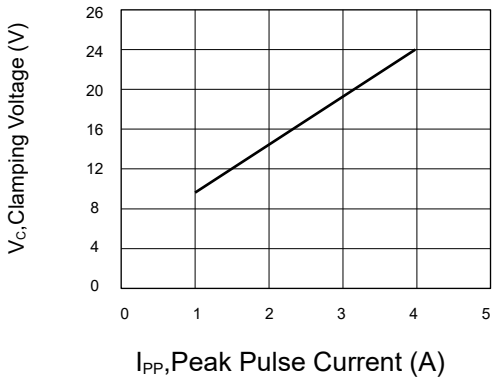


Figure 3: Clamping Voltage vs. Peak Pulse Current

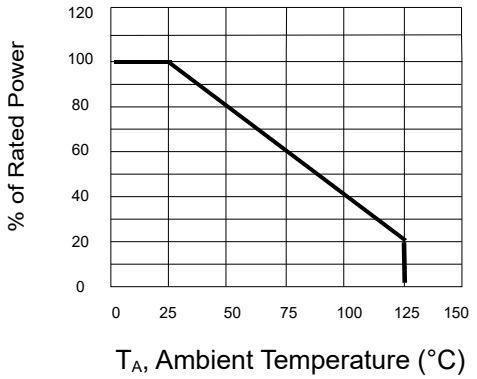


Figure 4: Power Derating Curve

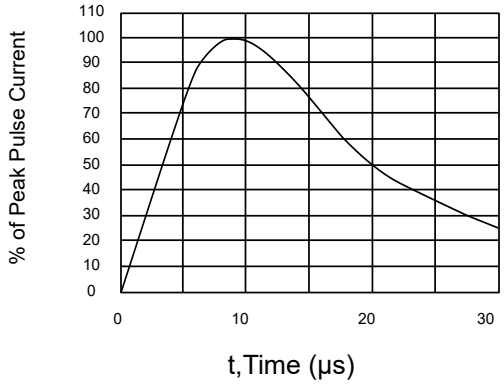


Figure 5: 8 X 20μs Pulse Waveform

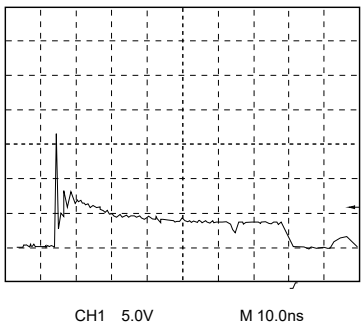
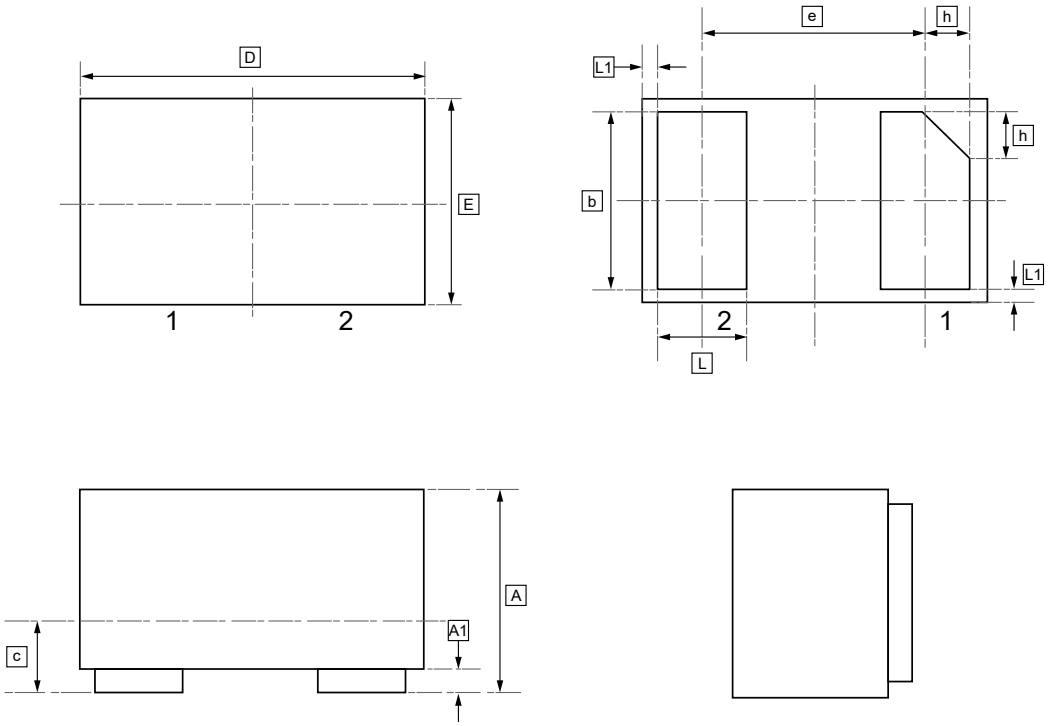


Figure 6: ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

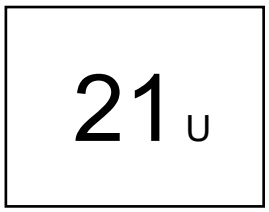
9.DFN1006-2L Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	b	c	D	e	E	L	L1	h
Min	0.45	0.00	0.45	0.12	0.95	0.65	0.55	0.20	0.05	0.07
Max	0.55	0.05	0.55	0.18	1.05	BSC	0.65	0.30	REF	0.17

10.Ordering information



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

11.Disclaimer

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