WPE3V3D3ULA, WPE5V0D3ULA, WPE8V0D3ULA, WPE12VD3ULA, WPE15VD3ULA, WPE24VD3ULA

Bidirectional Ultralow Capacitance TVS ARRAY

The WPExxxD3ULA is ultra low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. This series is available in both unidirectional and bidirectional configurations and is rated at 350 Watts for an 8/20μs waveform.

The WPExxxD3ULA meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers an ultra low capacitance and low leakage current in a miniature SOD-323 package.

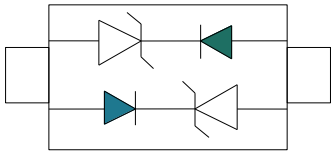
Features

- 350 Watts Peak Pulse Power per Line (8 x 20 us Waveform)
- Replacement for MLV (0805)
- Protects One Power or I/O Port
- Low Clamping Voltage
- Available in Multiple Voltages:3.3V,5.0V,8.0V,12V,15V,24V
- Ultra Low Capacitance: 0.8pF (Typical)
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant
- WeiPan technology

SOD-323

Main applications

- Hand−Held Portable Applications
- Networking and Telecom(Ethernet 10/100/1000 Base T)
- USB Interface
- Automotive Electronics
- Serial and Parallel Ports
- Notebooks, Desktops, Servers



Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Surge) 25A (8/20us)

Ordering Information

Device	Qty per Reel	Reel Size
WPExxxD3ULA	3000	7 Inch

"xxx" =Working Peak Reverse Voltage

Maximum ratings (Tamb=25℃ Unless Otherwise Specified)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	350	Watts
ESD Rating per IEC61000-4-2： Contact Air		8 15	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃
Lead Solder Temperature − Maximum (10 Second Duration)	T_L	260	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

**Other voltages may be available upon request.*

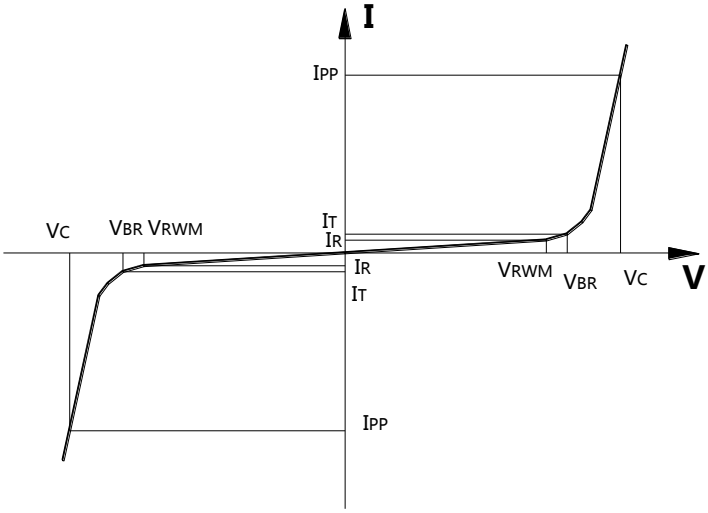
1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics (Tamb=25℃ Unless Otherwise Specified)

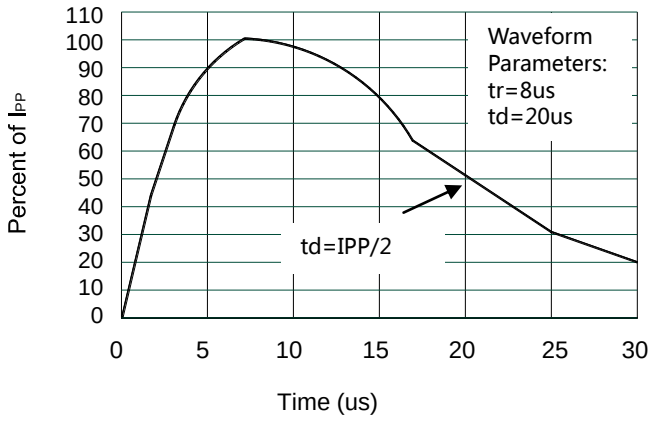
Device	V_{RWM}	I_R @ V_{RWM}	V_{BR} @ 1 mA	V_{C1}	Ipp@8/20us	Capacitance		P_{PK}
			(Volts)	@ 1 A	(Amps)	@ V_R = 0 V, 1 MHz (pF)		
	(V)	(uA)	Min	(V)	Max.	Typ	Max.	(W)
WPE3V3D3ULA	3.30	5.0	4.00	7.50	20.0	0.8	1.5	350
WPE5V0D3ULA	5.00	1.0	6.00	9.80	17.0	0.8	1.5	350
WPE8V0D3ULA	8.00	1.0	8.50	13.6	15.0	0.8	1.5	350
WPE12VD3ULA	12.0	1.0	13.3	17.8	11.0	0.8	1.5	350
WPE15VD3ULA	15.0	1.0	16.7	23.5	10.0	0.8	1.5	350
WPE24VD3ULA	24.0	1.0	26.7	38.0	6.00	0.8	1.5	350

Junction capacitance is measured in VR=0V,F=1MHz

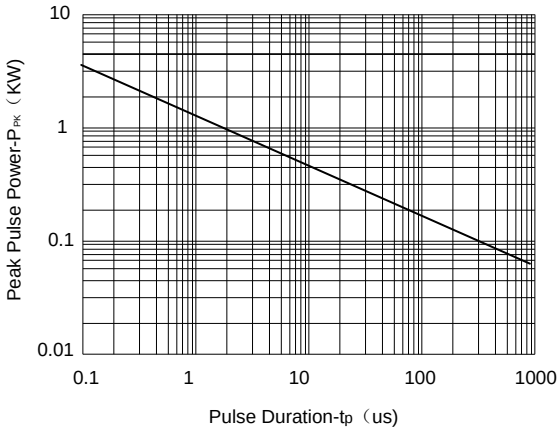
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



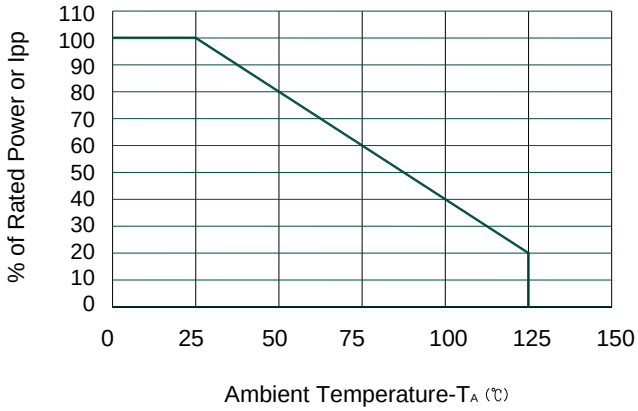
Typical electrical characterist applications



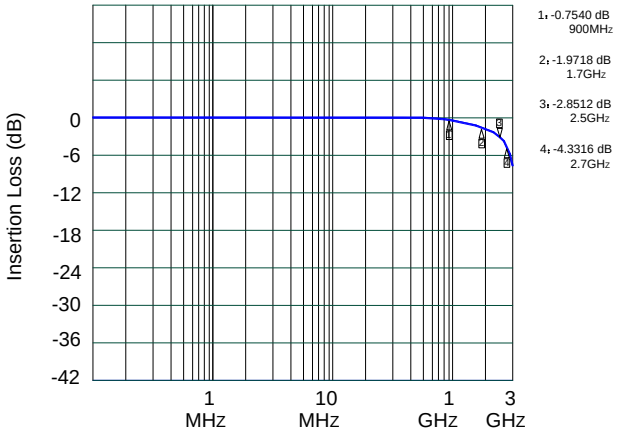
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Insertion Loss S21

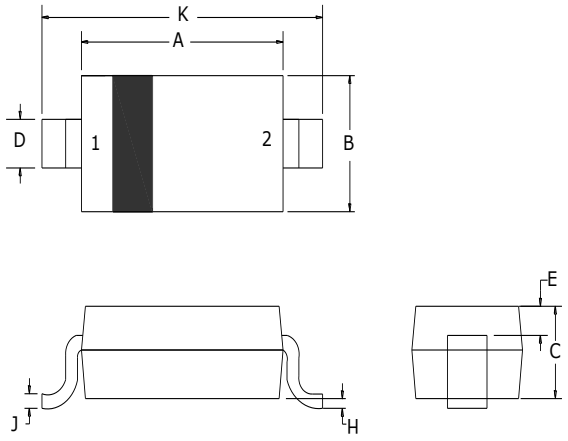
Package Information

SOD-323

Mechanical Data

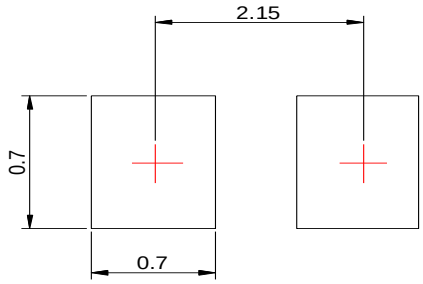
Case: SOD-323

Case Material: Molded Plastic. UL Flammability

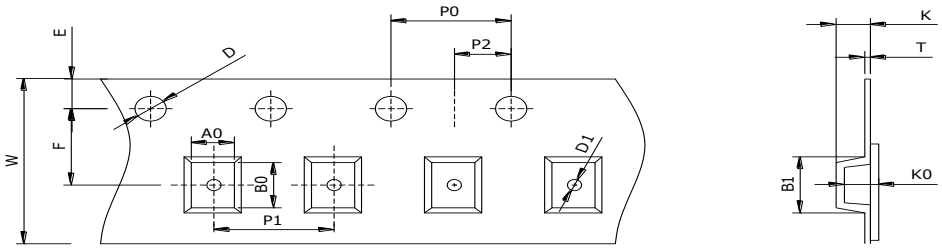


Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	1.2	1.40	0.047	0.055
C	0.80	0.90	0.031	0.035
D	0.25	0.35	0.010	0.014
E	0.15REF		0.006REF	
H	0	0.10	0	0.004
J	0.08	0.15	0.003	0.006
K	2.50	2.70	0.098	0.106

Recommended Pad outline



SOD-323 Reel Dim



Package	Chip Size	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter	Quantity Per Reel	P0	P1
SOD-323	2.60×1.40×1.05	3.30×1.50×1.25	8mm	178mm(7")	3000	4mm	4mm
D0	D1	E	F	K	T	W	
1.5mm	0.5mm	1.75mm	3.5mm	0.95mm	0.2mm	8mm	