

Description

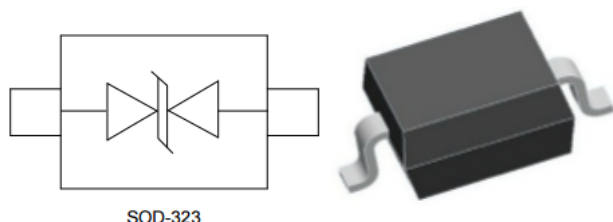
The WPE0561D3 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

Features

- 128W peak pulse power (8/20us)
- Protects one data or power line
- Low leakage: <math><1\mu\text{A}</math>
- Stand-off Voltage: 5 V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- Halogen free

Dimensions & Symbol (Unit: mm Max)



Mechanical Characteristics

- Package: SOD-323
- Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- High Speed Line :USB1.0/2.0, VGA, DVI, SDI
- Serial and Parallel Ports
- Notebooks, Desktop, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Marking information



Details marking code reference customer approval list

Ordering Information

Part Number	Packaging	Reel Size
WPE0561D3	3000/Tape & Reel	7 inch

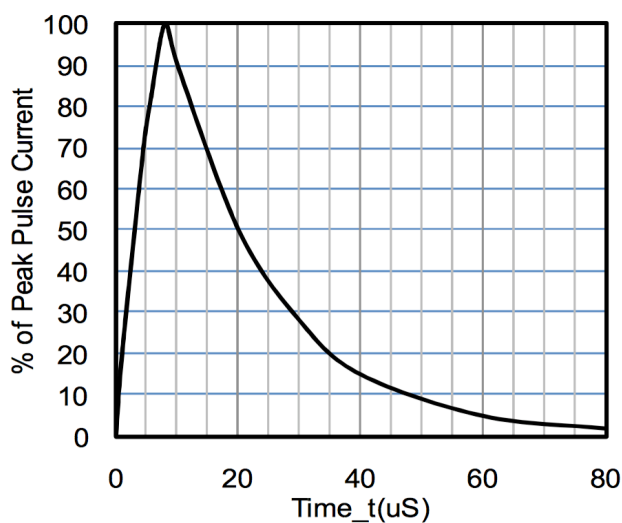
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	128	W
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T _J	-40 to +150	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

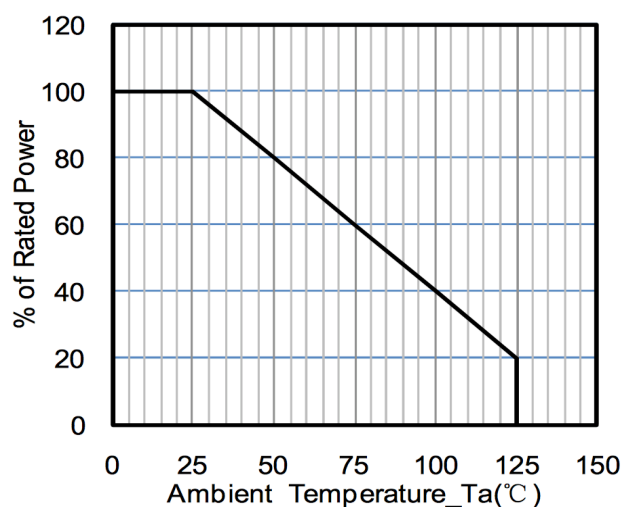
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5	V	
Breakdown Voltage	V _{BR}	5.6		7.8	V	I _T = 1mA
Reverse Leakage Current	I _R			1.0	uA	V _{RWM} = 5V
Clamping Voltage	V _C			11.6	V	I _{PP} = 5A (8 x 20uS pulse)
Clamping Voltage	V _C			16.0	V	I _{PP} = 8A (8 x 20uS pulse)
Junction Capacitance	C _J			15	pF	V _R = 0V, f = 1MHz

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



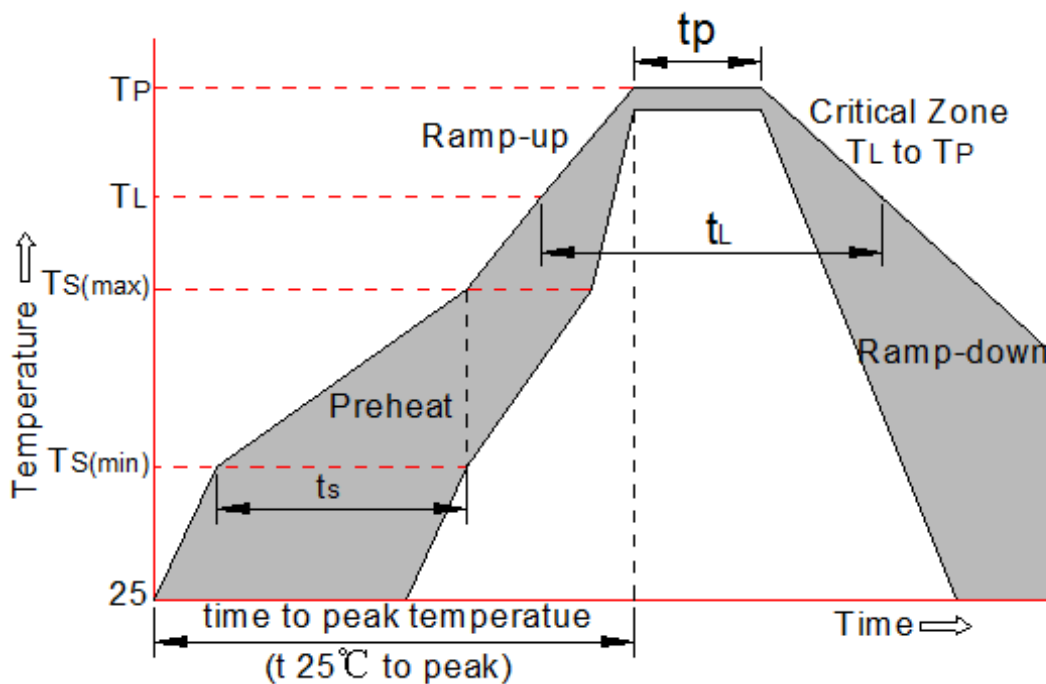
Pulse Waveform



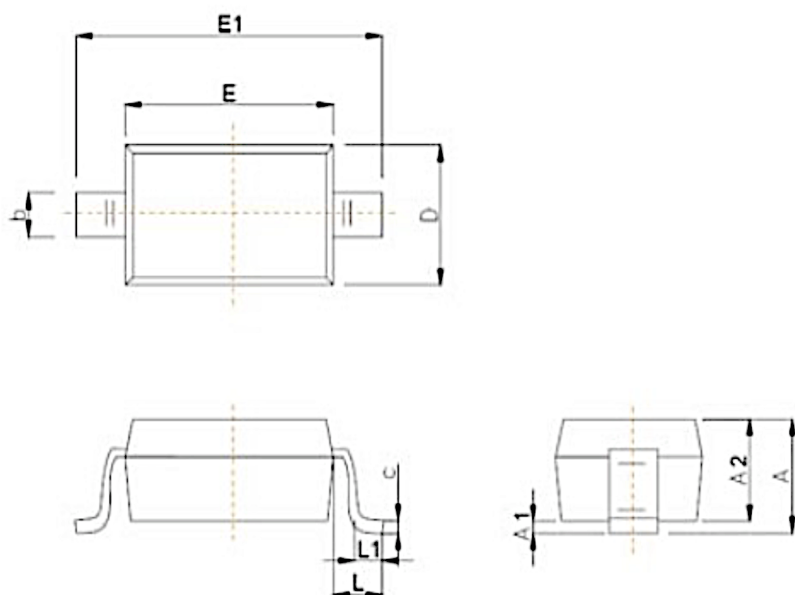
Power Derating Curve

Soldering Parameters

Reflow Condition		Pb-Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

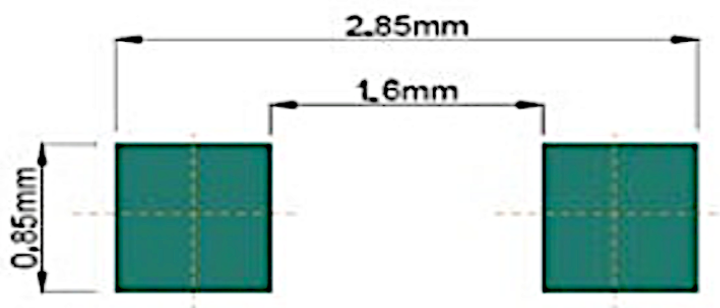


Package Mechanical Data



Symbol	Dimensions (mm)	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 Ref	
L1	0.250	0.400
θ	0	8°

Suggested Land Pattern



Contact Information

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