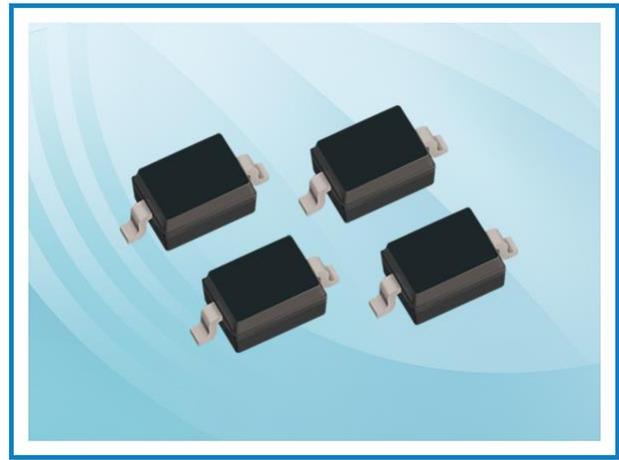


## PCLC03D3CE – ESD Protection Diode

### Feature

- 180 Watts peak pulse power (8/20 μs)
- Bidirectional configurations
- Low clamping voltage
- Low leakage current
- Protect one power line
- Low Capacitance: 1.7 pF Typical
- Response Time is Typically < 1 ns
- Solid-state Silicon-avalanche Technology
- IEC61000-4-2 (ESD) ±30 kV (Air), ±30 kV (Contact)
- IEC61000-4-4 (EFT) 40 A (5/50ns)
- IEC61000-4-5 (Lightning): 20 A (8/20μs)



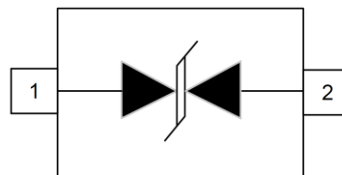
### Applications

- Microprocessor based equipment
- Notebook, Desktops, and Server
- Personal Digital Assistant (PDA)
- Portable Instrumentation
- Networking

### Mechanical Data

- SOD323 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

### Schematic and PIN Configuration



SOD-323

### Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	V <sub>ESD</sub> <sup>(1)</sup>	±30	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±30	
Peak Pulse Power	P <sub>PP</sub> <sup>(2)</sup>	180	W
Peak Pulse Current	I <sub>PP</sub> <sup>(2)</sup>	20	A
Maximum Lead Solder Temperature (10 seconds duration)	T <sub>L</sub>	260	°C
Junction Temperature	T <sub>J</sub>	-55~125	°C
Storage Temperature Range	T <sub>stg</sub>	-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 TA = 25 °C unless otherwise noted.

## PCLC03D3CE – ESD Protection Diode

### Electrical Characteristics

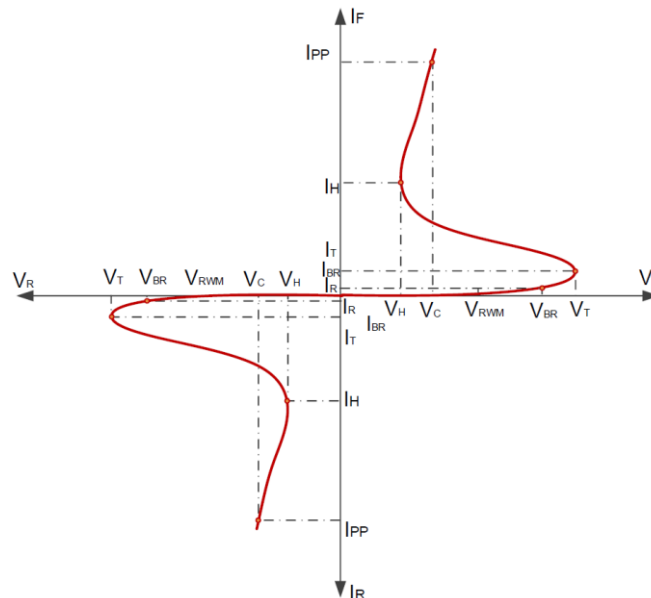
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1 \text{ mA}$	6.0			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3 \text{ V}$			0.5	$\mu\text{A}$
Holding Voltage	$V_H$	$I_H = 60 \text{ mA}$	2.0			V
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 20 \text{ A}$			9	V
Junction Capacitance	$C_J$	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		1.7	2.0	pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 $\mu\text{s}$  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.

### Electrical Parameters

Symbol	Parameter
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Reverse Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$V_Y$	Trigger Voltage
$V_H$	Holding Voltage
$I_H$	Holding Current
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Working Peak Reverse Voltage



## PCLC03D3CE – ESD Protection Diode

### Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

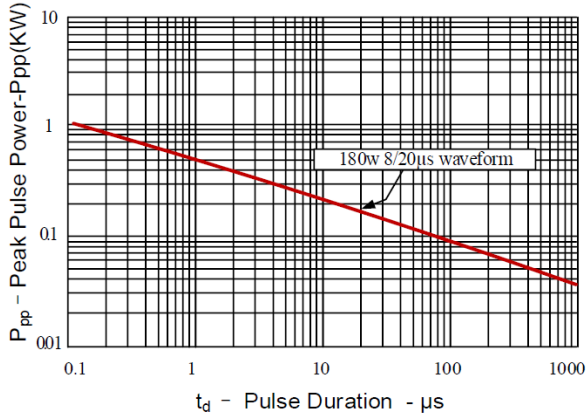


Figure 2: Power Derating Curve

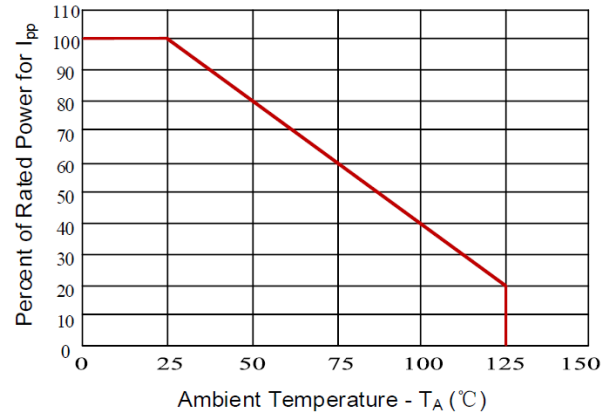


Figure 3: Pulse Waveform

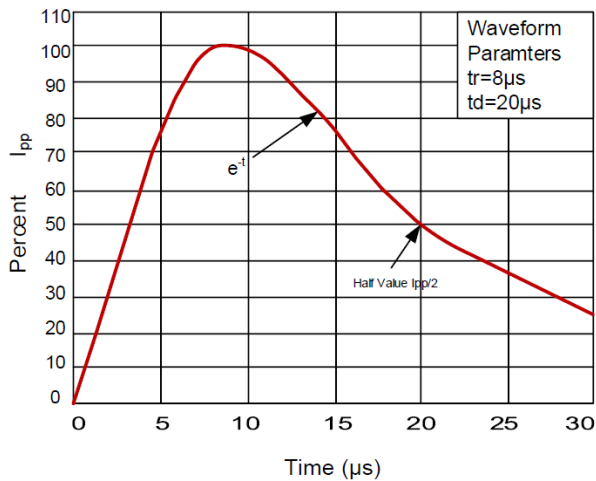
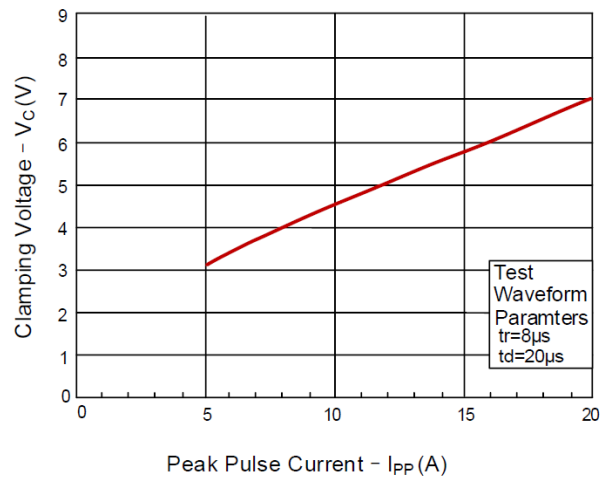
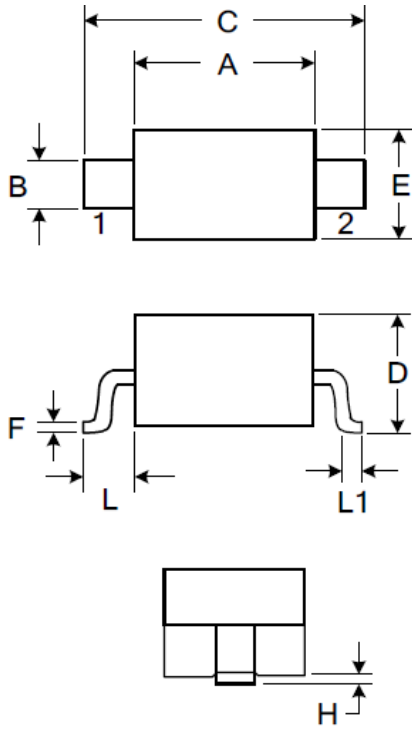


Figure 4: Clamping Voltage vs. I\_pp



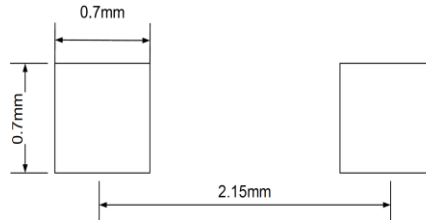
## PCLC03D3CE – ESD Protection Diode

### SOD323 Package Outline Dimensions



Symbol	Dimensions (mm)		Dimensions (inch)	
	Min	Max	Min	Max
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D		1.000		0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475 Ref.		0.019 Ref.	
L1	0.250	0.400	0.010	0.016
H		0.100		0.004

### Land Pattern



\* This Land Pattern is For Reference Purposes Only

### Marking



### Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PCLC03D3CE	SOD323	7 inch	3,000