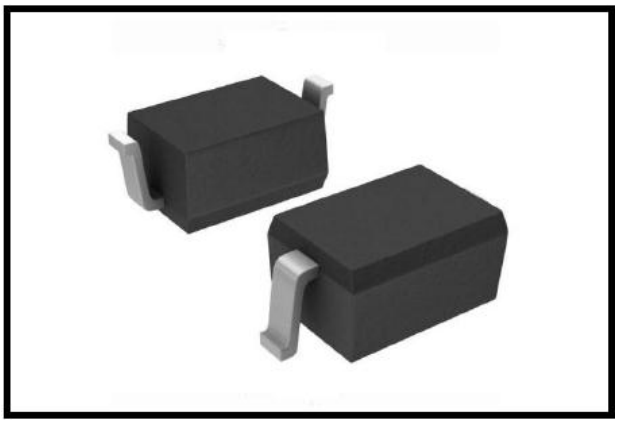
PLC03C – ESD Protection Diode

Feature

- 315 Watts peak pulse power (8/20μs)
- Bidirectional configurations
- Low clamping voltage
- Working voltage: 3.3V
- Low leakage current
- Protects one I/O line
- IEC61000-4-2 (ESD) ±30kV (Air), ±30kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 15A (8/20μs)



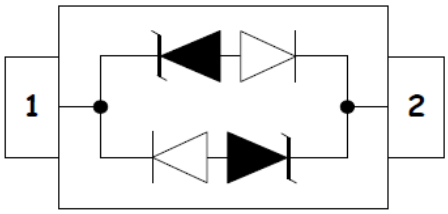
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

Mechanical Data

- SOD-323 package
- Molding compound flammability rating: UL94 V-0
- Weight 5 milligrams (Approximate)
- Lead Finish: Lead free

Schematic and PIN Configuration



Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	V_{ESD}(1)	±30	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±30	
Peak Pulse Power	P_{PP}(2)	315	W
Peak Pulse Current	I_{PP}(2)	15	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	°C
Junction Temperature	T_J	-40~125	°C
Storage Temperature Range	T_{stg}	-55~150	°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.

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Electrical Characteristics

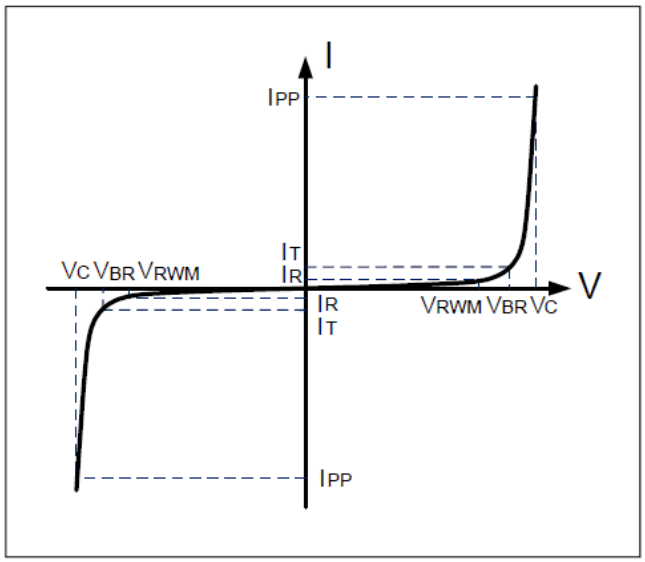
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	V_{RWM}(1)				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	4.0			V
Reverse Leakage Current	I_R	V_{RWM} = 3.3V			40.0	μA
Clamping Voltage	V_C(2)	I_{PP} = 1A			7.5	V
		I_{PP} = 15A			21.0	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		1.0		pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of T_A = 25°C unless otherwise noted.

Electrical Parameters

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Stand-off Voltage



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Typical Characteristics

Fig. 1 Pulse Derating Curve

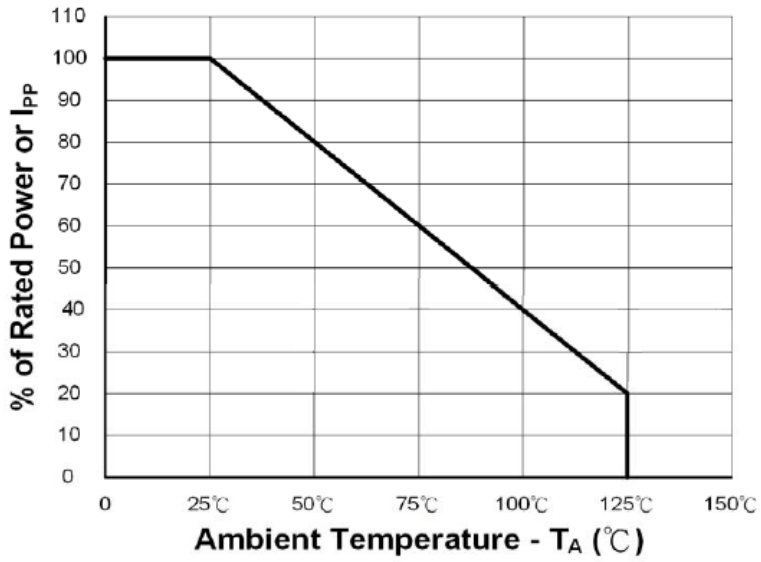
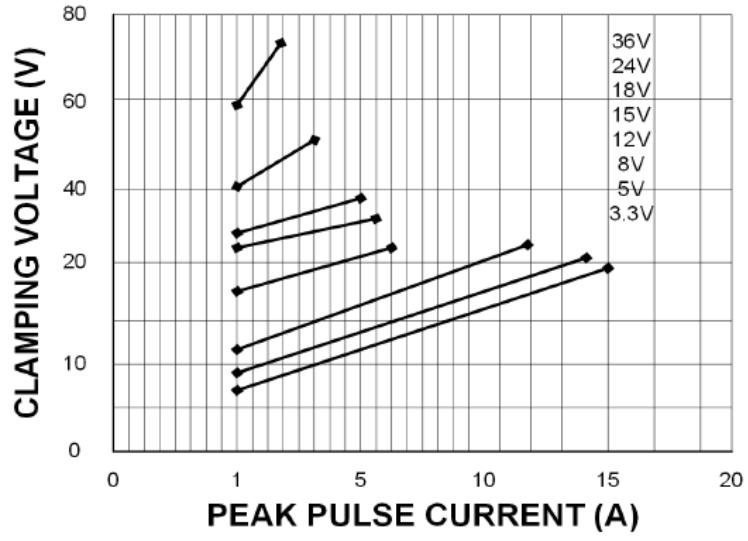


Fig.2 Clamping Voltage vs. Peak



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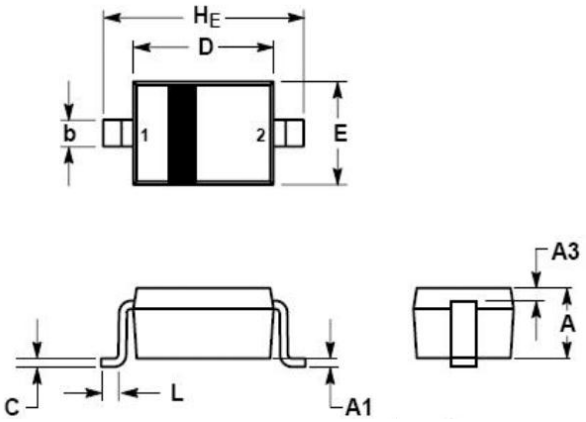
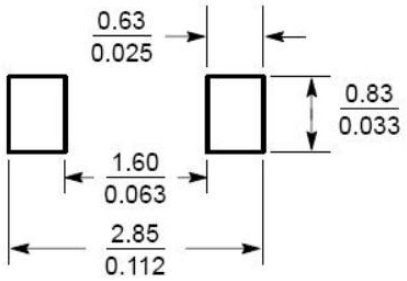
SOD-323 Package Outline Dimensions



Symbol	Dimensions (mm)		
	Min	Nom	Max
A	0.80	0.90	1.00
A1	0.00	0.05	0.10
A3		0.15 REF	
b	0.25	0.32	0.40
C	0.089	0.120	0.177
D	1.60	1.70	1.80
E	1.15	1.25	1.35
L	0.08	-	-
H_E	2.30	2.50	2.70

Recommended Pad Layout



Note:
1. Controlling dimensions in millimeters
2. The pad layout is for reference purpose only

Marking

CC

Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PLC03C	SOD-323	7 inch	3,000