



DW12DLC-B-AT-S ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 400Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 12V
- Junction capacitance: 0.6pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-5 (Lightning) 15A (8/20 μs)
- EC61000-4-4 (EFT) 80A (5/50ns)

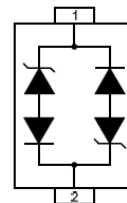
Application

- USB Ports
- Smart Phones
- Wireless Systems
- Ethernet 10/100/1000 Base T

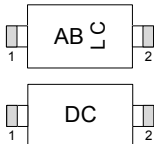
Mechanical Data

- Package:SOD-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Circuit Diagram



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW12DLC-B-AT-S	SOD-323		3000 Tape & Reel	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

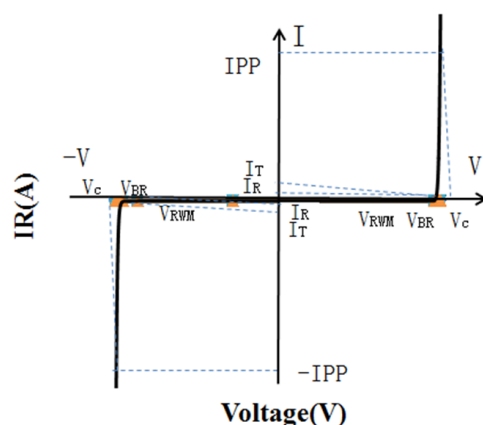
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	400	W
Peak Pulse Current (8/20 μs)	I _{PP}	15	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 30 ± 30	kV
Operating Temperature Range	T _J	-40 to +85	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				12.0	V
Breakdown Voltage	V _{BR}	I _T = 1mA	14.0	15.2	16.5	V
Reverse Leakage Current	I _R	V _{RWM} = 12V			0.5	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20 μs pulse)		16.5		V
Clamping Voltage	V _C	I _{PP} = 15A (8 x 20 μs pulse)		26.0	30.0	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		0.6	1.0	pF

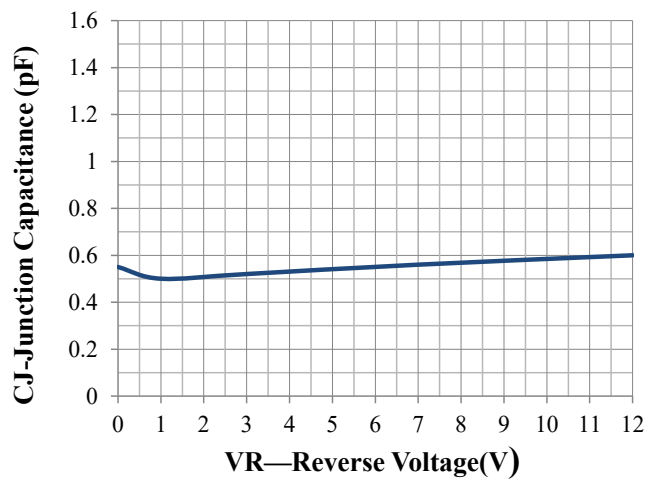
Electrical Parameters

Symbol	Parameter
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @I _C

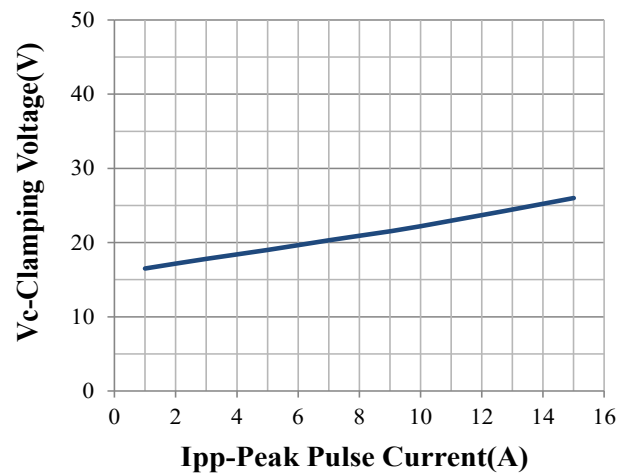




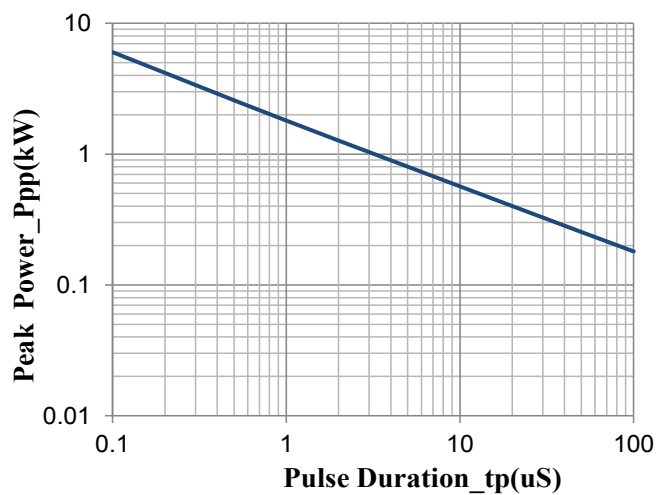
Typical Characteristics



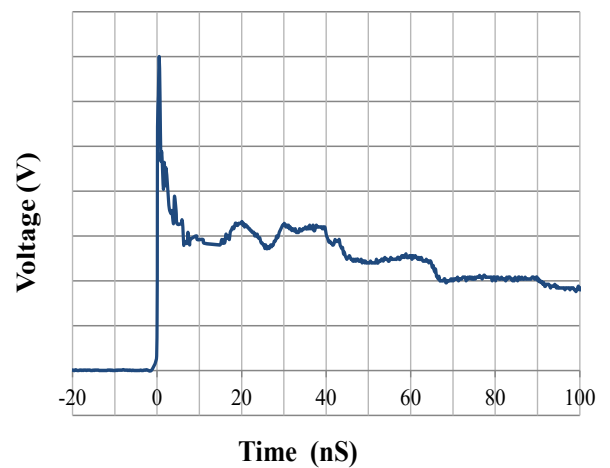
Junction Capacitance vs. Reverse Voltage



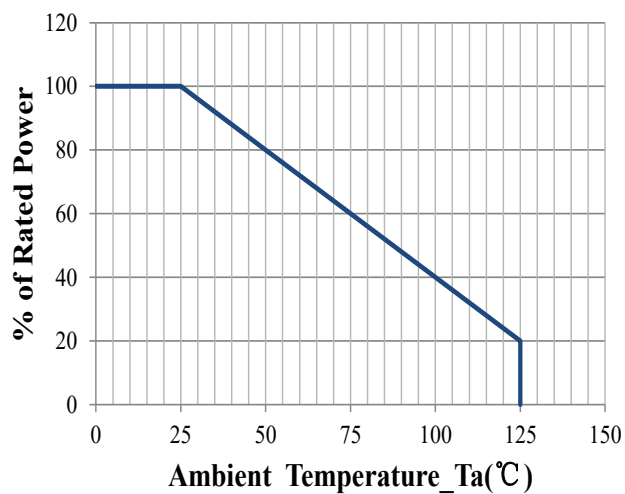
Clamping Voltage vs. Peak Pulse Current



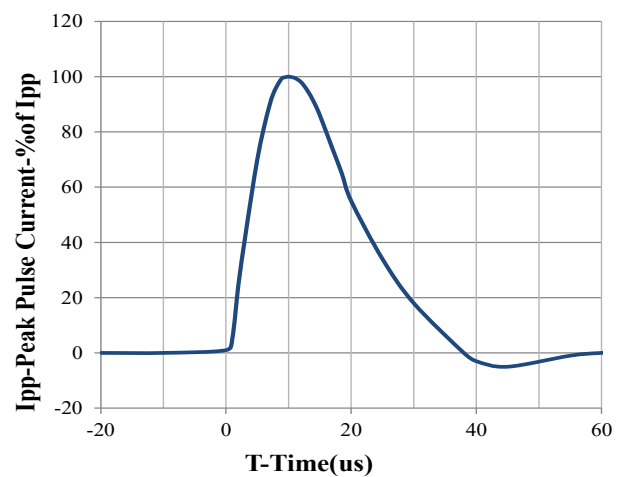
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



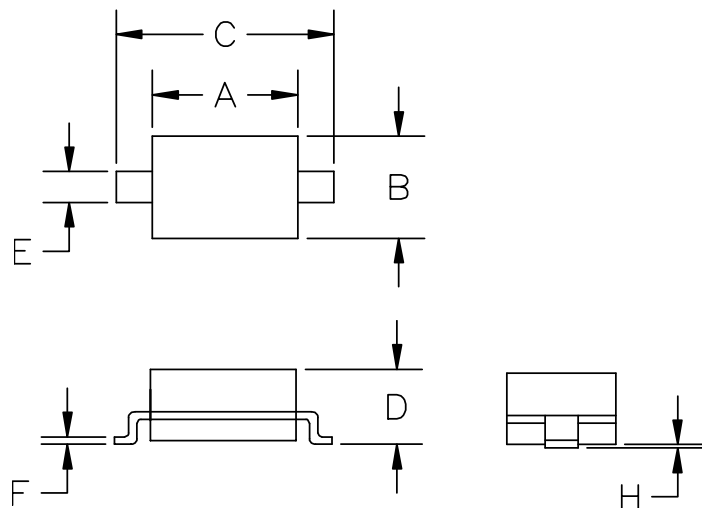
Power Derating Curve



8 X 20us Pulse Waveform



Outline Drawing – SOD-323



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004