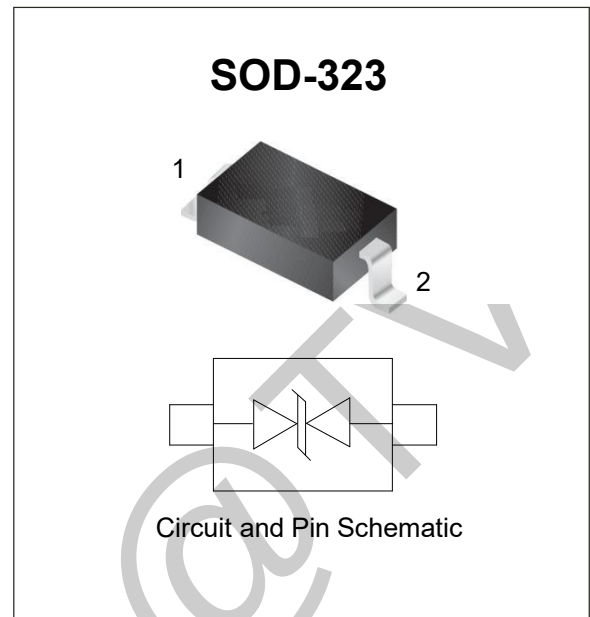


Features

- 150W peak pulse power (8/20 μ s)
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 3.3V, 5V, 8V, 12V, 15V
- Ultra low clamping voltage
- IEC 61000-4-2 ESD: ± 30 kV Air, ± 30 kV Contact
- IEC 61000-4-4 EFT: 40A (5/50ns)
- RoHS Compliant, Halogen Free

Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: Green Molding Compound
- UL Flammability: Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020



Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
DCSDXXC-L	XXX	SOD-323	Tape and reel	10000pcs / reel	EIA STD RS-481

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P=8/20\mu$ s)	P_{PP}	150	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	$\pm 30/\pm 30$	kV
Junction Temperature	T_J	-55~125	°C
Operation temperature	T_{OP}	-55~125	°C
Storage temperature	T_{STG}	-55 to +150	°C

1-Line Bi-directional TVS Diode
Electrical Characteristics

 (T_A = 25 °C unless otherwise specified)

DCSD03C-L Marking:03L

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V _{RWM}		-	-	3.3	V
Holding Voltage	V _{BR}	IT = 1mA	4	-	-	V
Reverse Leakage Current	I _R	VRWM = 3.3V	-	-	0.5	uA
Clamping Voltage	V _C	IPP = 1A, t _p =8/20μs	-	-	5	V
Clamping Voltage	V _C	IPP = 10A, t _p =8/20μs	-	-	10	V
Junction Capacitance	C _J	V _R =0V, f=1MHz	-	16	-	pF

DCSD05C-L Marking:05L

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V _{RWM}		-	-	5	V
Holding Voltage	V _{BR}	IT = 1mA	6	-	-	V
Reverse Leakage Current	I _R	VRWM = 5V	-	-	0.5	uA
Clamping Voltage	V _C	IPP = 1A, t _p =8/20μs	-	-	7	V
Clamping Voltage	V _C	IPP = 8.5A, t _p =8/20μs	-	-	11	V
Junction Capacitance	C _J	V _R =0V, f=1MHz	-	16	-	pF

DCSD08C-L Marking:08L

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V _{RWM}		-	-	8	V
Holding Voltage	V _{BR}	IT = 1mA	8.5	-	-	V
Reverse Leakage Current	I _R	VRWM = 8V	-	-	0.5	uA
Clamping Voltage	V _C	IPP = 1A, t _p =8/20μs	-	-	10	V
Clamping Voltage	V _C	IPP = 7A, t _p =8/20μs	-	-	15	V
Junction Capacitance	C _J	V _R =0V, f=1MHz	-	20	-	pF

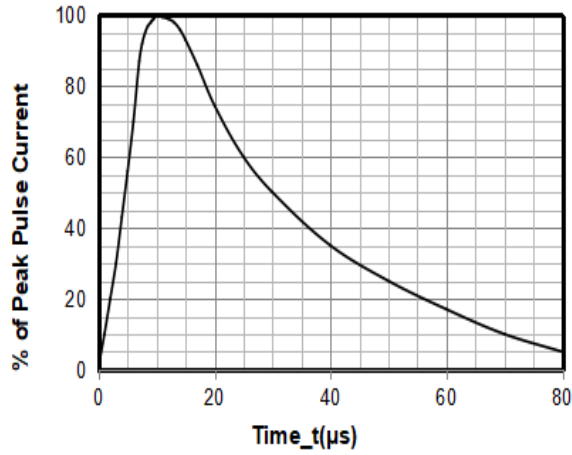
1-Line Bi-directional TVS Diode
DCSD12C-L Marking:12L

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	12	V
Holding Voltage	V_{BR}	$I_T = 1mA$	13.3	-	-	V
Reverse Leakage Current	I_R	$V_{RWM} = 12V$	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$	-	-	15	V
Clamping Voltage	V_C	$I_{PP} = 5A, t_p = 8/20\mu s$	-	-	24	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$	-	10	-	pF

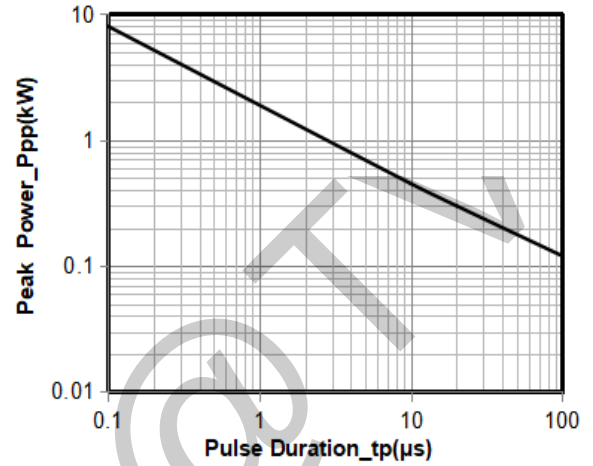
DCSD15C-L Marking:15L

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	15	V
Holding Voltage	V_{BR}	$I_T = 1mA$	16.7	-	-	V
Reverse Leakage Current	I_R	$V_{RWM} = 15V$	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$	-	-	20	V
Clamping Voltage	V_C	$I_{PP} = 3A, t_p = 8/20\mu s$	-	-	30	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$	-	8	-	pF

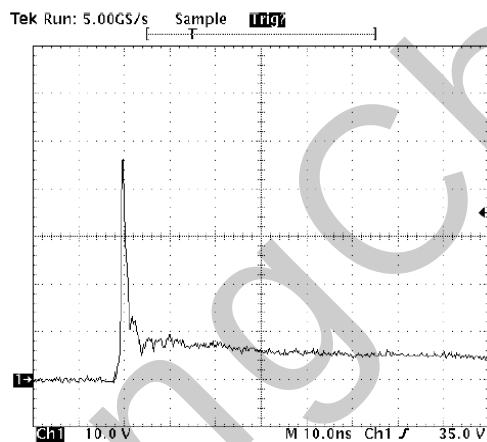
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



8 X 20 μ s Pulse Waveform



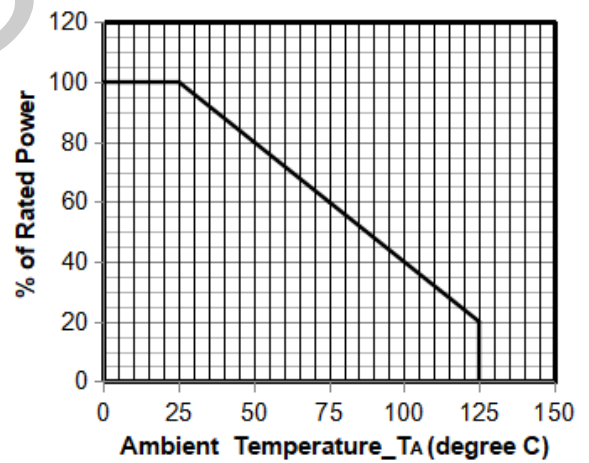
Peak Pulse Power vs. Pulse Time



Note: Data is taken with a 10x attenuator

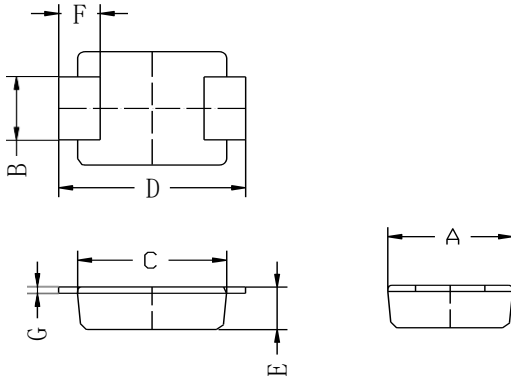
ESD Clamping Voltage

8 kV Contact per IEC61000-4-2



Power Derating Curve

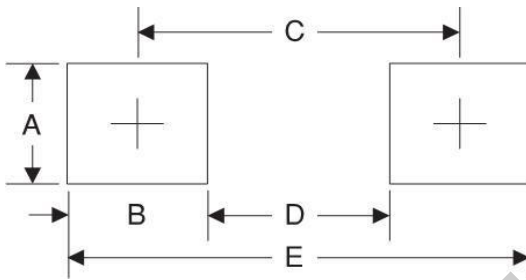
Package Dimensions



SMBF		
Dim	Min	Max
A	3.45	3.75
B	1.90	2.10
C	4.15	4.35
D	5.10	5.50
E	1.05	1.55
F	0.70	1.35
G	0.15	0.25

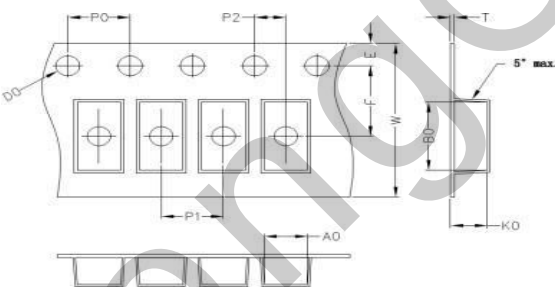
Dimensions in millimeters

Pad Dimensions



Symbol	Unit (mm)	Unit (inch)
A	2.30	0.091
B	2.00	0.078
C	4.10	0.161
D	2.10	0.083
E	6.10	0.240

Tape and Reel Specification



A0	B0	K0	D0	E	F
3.80 ±0.2	5.75 ±0.2	1.40 ±0.2	1.50 ±0.1	1.75 ±0.2	5.50 ±0.2
P0	P1	P2	T	W	
4.0 ±0.1	8.0 ±0.1	2.0 ±0.1	0.25 ±0.05	12 ±0.5	
Trailer Tape		50 Empty Pockets			
Leader Tape		100 Empty Pockets			

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