1--Line Low Capacitance Bi-directional TVS Diode

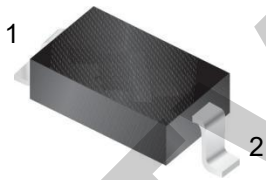
Features

- Low capacitance: typical 1pF
- Reverse working voltage: 12V
- IEC 61000-4-2 (ESD): Air ±30kV, Contact ±30kV
- Bi-directional TVS protection
- Protects high-speed data lines
- RoHS Compliant

Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Marking: DC (Device Code)

SOD-323



Applications

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

Ordering information

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
DCE1211D3Q	DC	SOD-323	Tape and reel	3000pcs / reel	EIA STD RS-481

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

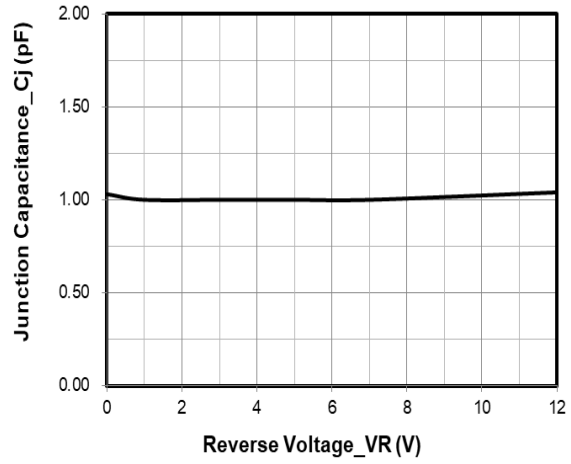
Parameter	Symbol	Value	Unit
Peak Pulse Power (T_P=8/20μs)	P_{PP}	340	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	±30/±30	kV
Peak Pulse Current (T_P = 8/20μs)	I_{PP}	12	A
Junction Temperature	T_J	-55 to +125	℃
Storage temperature	T_{STG}	-55 to +150	℃

Electrical Characteristics

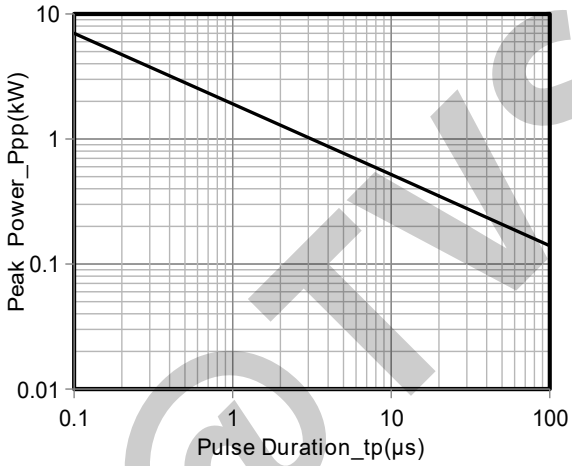
(T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	12	V
Holding Voltage	V_{BR}	IT = 1mA	13.3	-	-	V
Reverse Leakage Current	I_R	VRWM = 12V	-	-	0.2	uA
Clamping Voltage	V_C	IPP = 1A,tp=8/20 μ s	-	17	18	V
Clamping Voltage	V_C	IPP = 12A,tp=8/20 μ s	-	25	28	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	1	-	pF

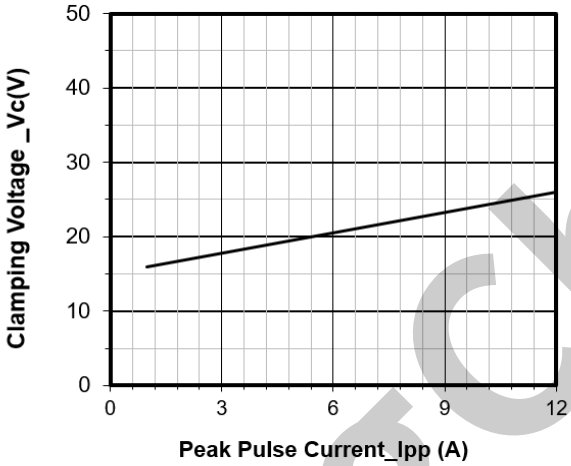
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



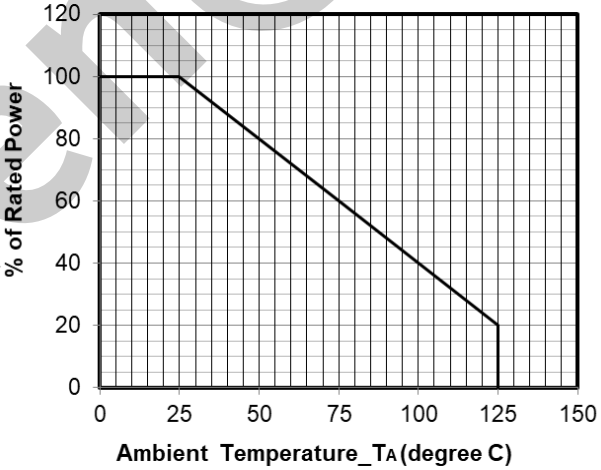
Junction Capacitance vs. Reverse Voltage



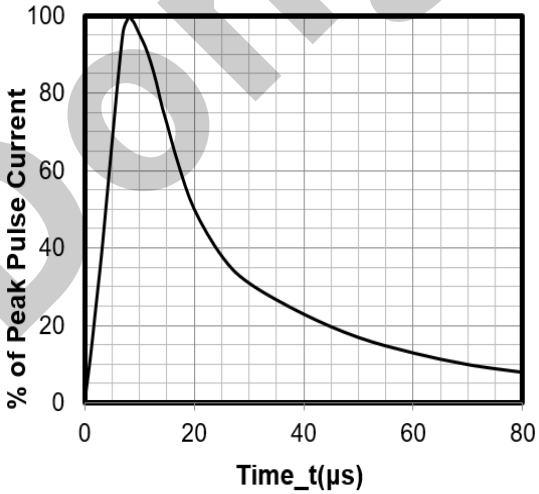
Peak Pulse Power vs. Pulse Time



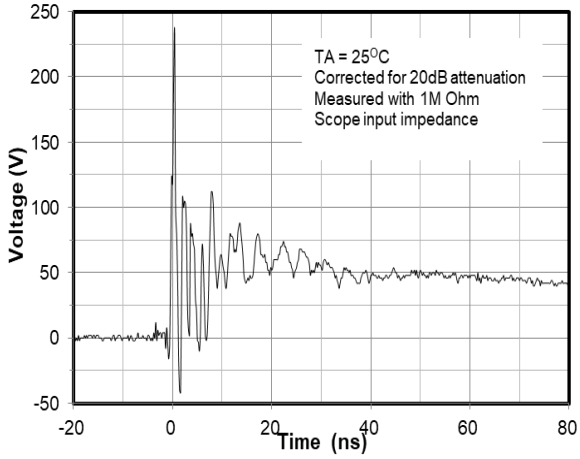
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



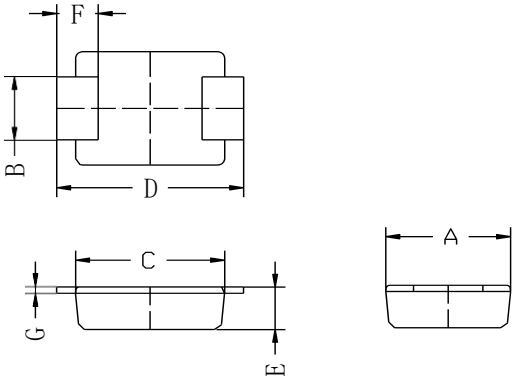
8 X 20μs Pulse Waveform



ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

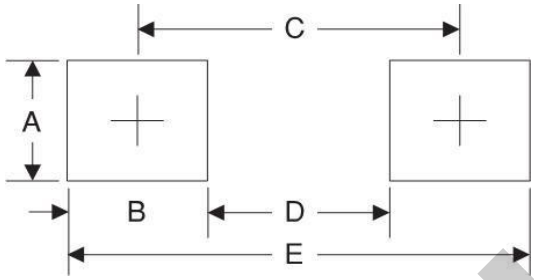
Package Dimensions



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

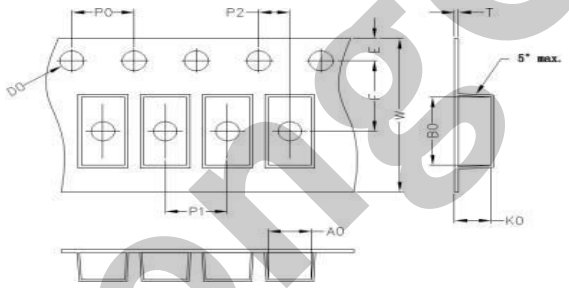
Dimensions in millimeters

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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