1-Line Low Capacitance Bi-directional

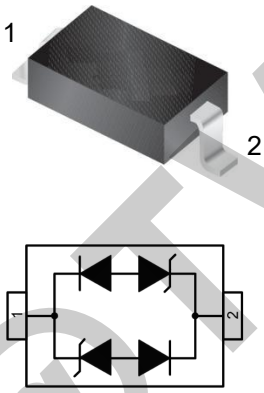
Features

- 340W peak pulse power (8/20εs)
- Ultra low capacitance: 1pF typical
- Ultra low leakage: nA level
- Low clamping voltage
- IEC 61000-4-2 ESD: Air ±30kV, Contact ±30kV
- RoHS Compliant

Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: Green Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020

SOD-323



Circuit and Pin Schematic

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
DL3321D3	KL3	SOD-323	Tape and reel	10000pcs / reel	EIA STD RS-481

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

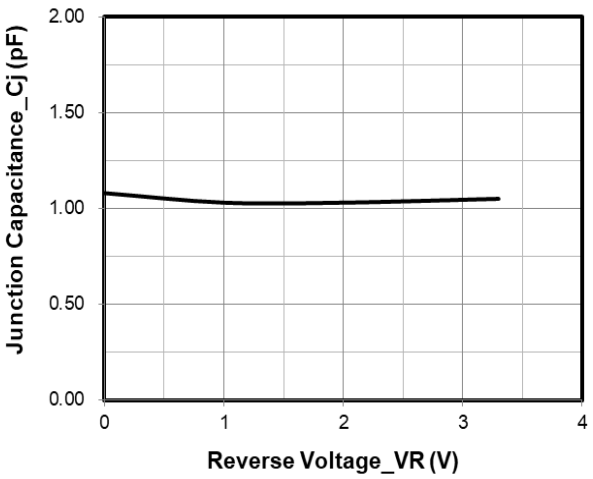
Parameter	Symbol	Value	Unit
Peak Pulse Power (T_P=8/20μs)	P_{PP}	340	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	±30/±30	kV
Peak Pulse Current (T_P = 8/20μs)	I_{PP}	21	A
Junction Temperature	T_J	-55 to +125	℃
Operation temperature	T_{OP}	-55 to +125	℃
Storage temperature	T_{STG}	-55 to +150	℃

Electrical Characteristics

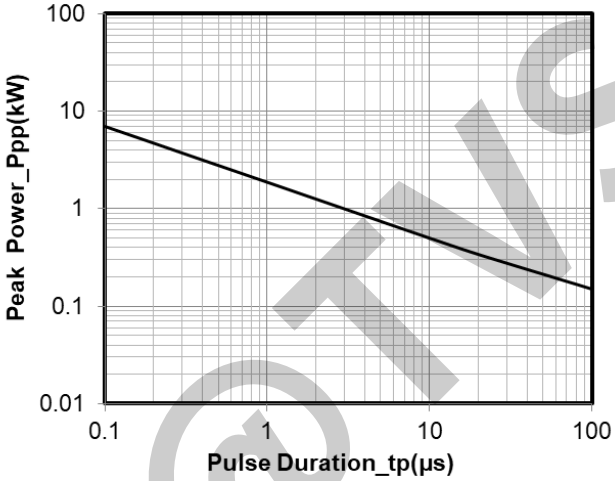
(T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}		-	-	3.3	V
Holding Voltage	V_{BR}	IT = 1mA	4	5.2	6	V
Reverse Leakage Current	I_R	VRWM = 3.3V	-	1	500	uA
Punch-Through Voltage	V_{pt}	IT = 2 μ A	3.5	-	-	V
Snap-Back Voltage	V_{SB}	IT = 50mA	2.8	-	-	V
Clamping Voltage	V_C	IPP = 1A,t_p=8/20μs	-	-	6.5	V
Clamping Voltage	V_C	IPP = 21A,t_p=8/20μs	-	-	16	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	1	-	pF

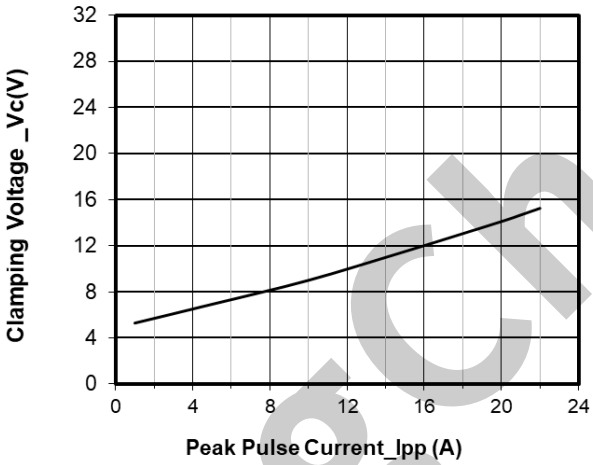
Typical Performance Characteristics (TA=25℃ unless otherwise Specified)



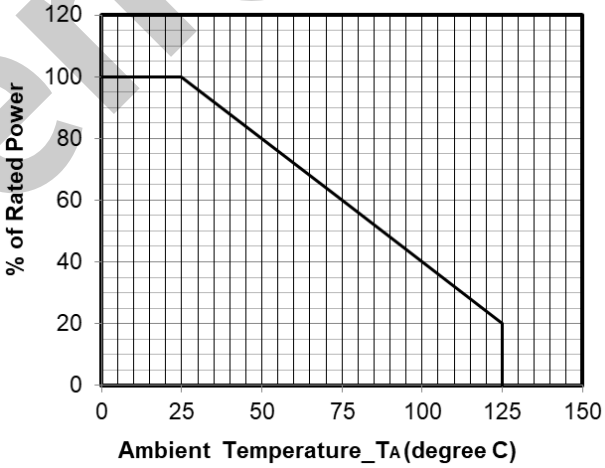
Junction Capacitance vs. Reverse Voltage



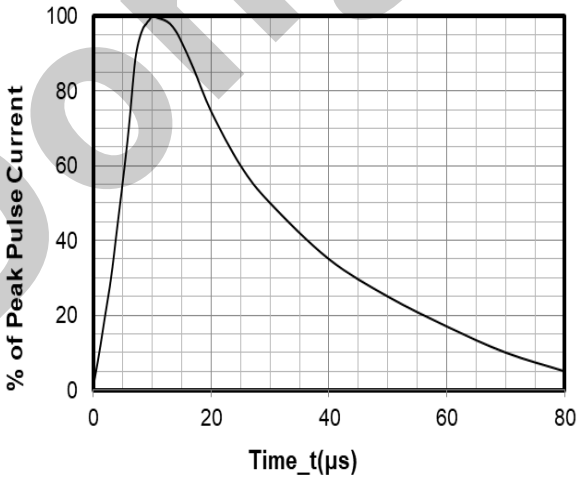
Peak Pulse Power vs. Pulse Time

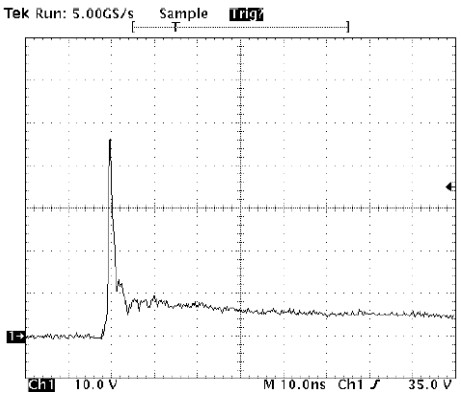


Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



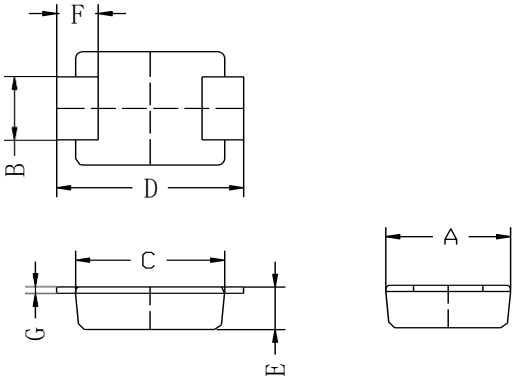


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

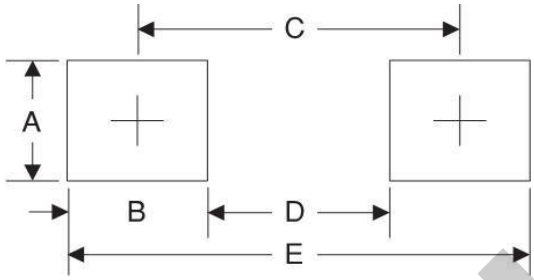
Package Dimensions



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

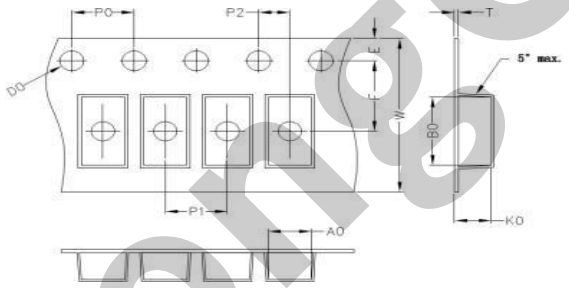
Dimensions in millimeters

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			

Important Notice

DongChen Electronics reserves the right to make changes without further notice to any products herein.

DongChen Electronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does DongChen Electronics assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.

“Typical” parameters which may be provided in DongChen Electronics data sheets and/or specifications can and do vary in different applications and actual performance may vary over time.

All operating parameters, including “Typicals,” must be validated for each customer application by the customer’s technical experts.

DongChen Electronics does not convey any license under its patent rights nor the rights of others.

The products listed in this document are designed to be used with ordinary electronic equipment or devices.

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers, and other safety devices), please be sure to consult with our sales representative in advance.

Head Office
Contact Information:
DongChen Electronics Co.,Ltd.
Address：2F., No.407, Sec. 2, Longgang Rd.,Zhongli Dist., Taoyuan City 32097, Taiwan (R.O.C.)
Tel: 03-284-1808
Fax: 03-284-1404
Mail:dc@dongchen.com.tw
Web:www.dongchen.com.tw