



DW05D5-BH-S ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 420Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 60pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-5 (Lightning) 30A (8/20 μs)

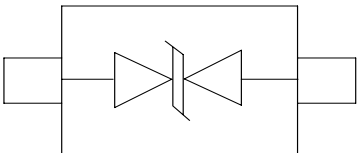
Application

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

Mechanical Data

- Package: SOD-523
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DW05D5-BH-S	SOD-523		3000 pcs	7 inches



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

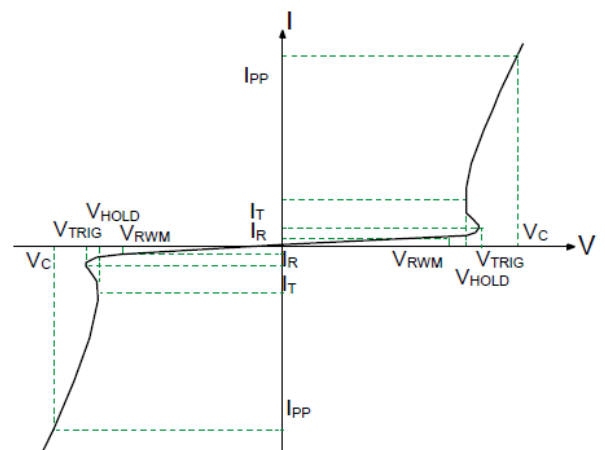
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	420	W
Peak Pulse Current (8/20 μs)	I_{PP}	30	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Operating Temperature Range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0	7.0		V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 10\text{A}$ (8 x 20 μs pulse)		9.0	11.0	V
Clamping Voltage	V_C	$I_{PP} = 30\text{A}$ (8 x 20 μs pulse)		12.0	15.0	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		60	100	pF

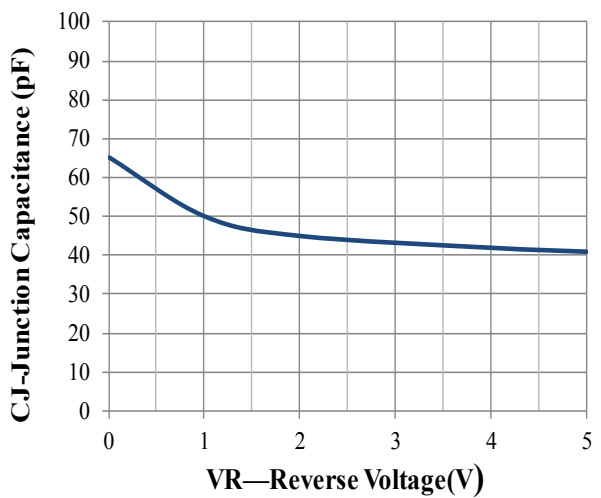
Electrical Parameters

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C

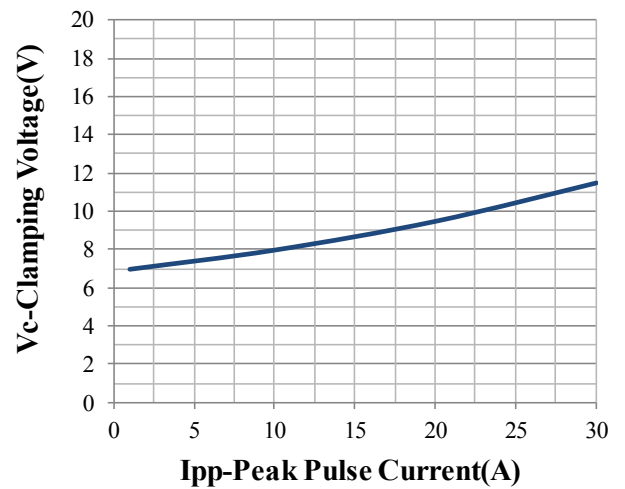




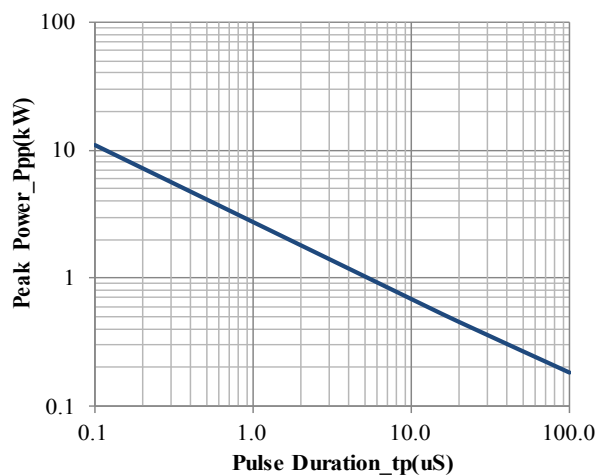
Typical Characteristics



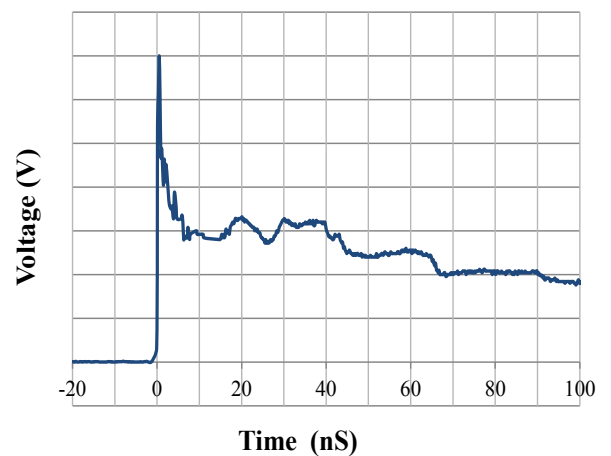
Junction Capacitance vs. Reverse Voltage



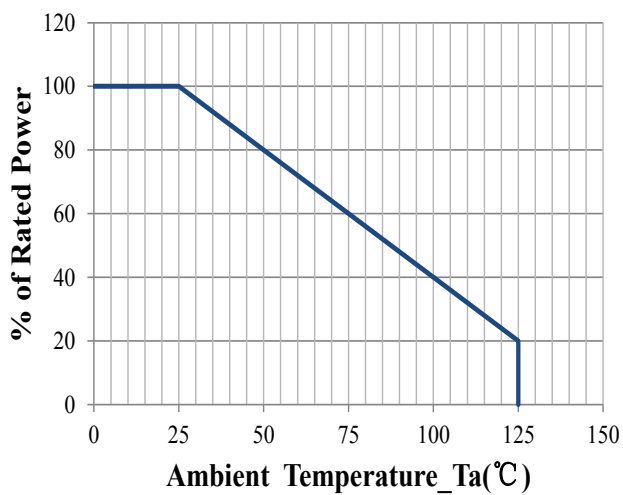
Clamping Voltage vs. Peak Pulse Current



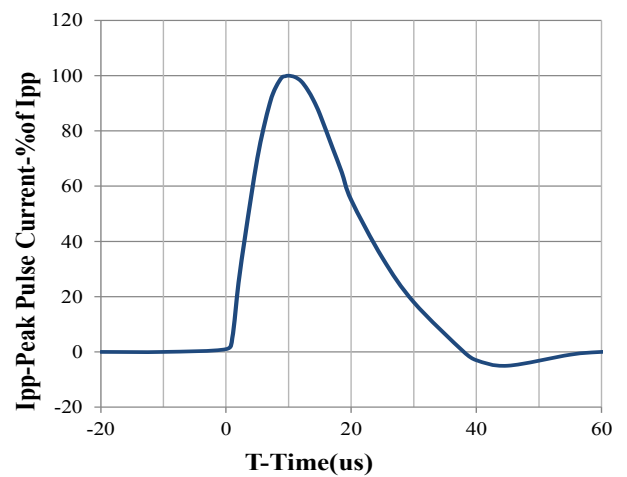
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



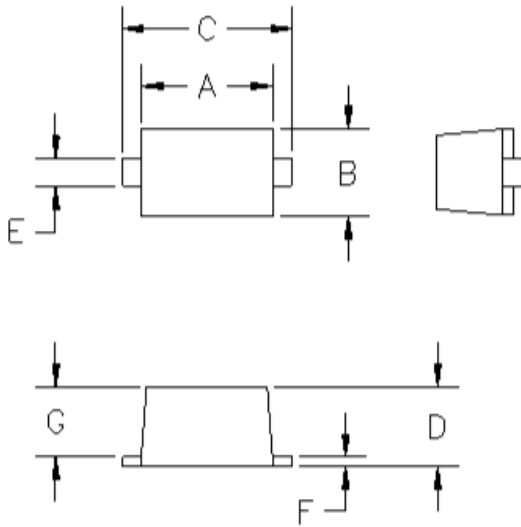
Power Derating Curve



8 X 20us Pulse Waveform



SOD-523 Outline Drawing



DIMENSIONS					
DIM ^N	INCHES		MM		NOTE
	. MIN	MAX	MIN	MAX	
A	.043	.051	1.10	1.30	—
B	.028	.035	0.70	0.90	—
C	.059	.067	1.50	1.70	—
D	.020	.028	0.50	0.70	—
E	.010	.014	0.25	0.35	—
F	.004	.008	0.10	0.20	—
G	.020	.028	0.50	0.70	—