



DWS24D5-Q ESD Protection Diode

Feature

- Uni-directional ESD protection of one line
- 240Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 24V
- Junction Capacitance: 26pF(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) 6A (8/20 μs)
- IEC61000-4-4(EFT) 40A (5/50ns)

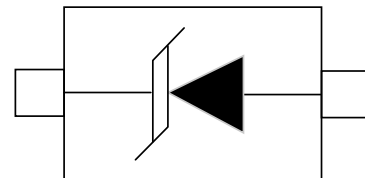
Application

- Cellular handsets and accessories
- Personal Digital Assistants(PDA's)
- Audio and video equipment
- Portable Instrumentation
- Pagers Peripherals

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
DWS24D5-Q	SOD-523		5000 pcs	7 inches



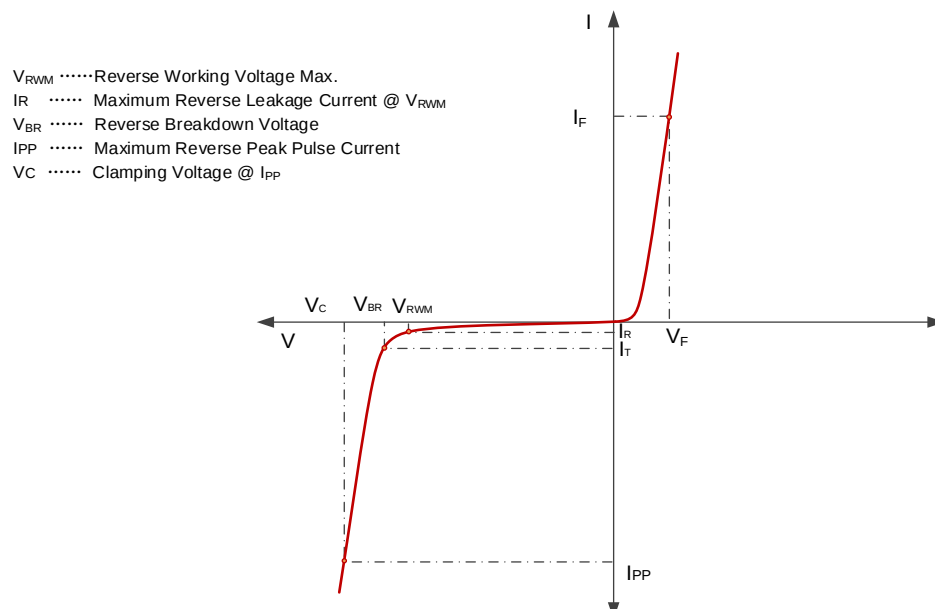
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	240	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 125	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	26.7			
Reverse Leakage Current	I_R	$V_{RWM}=24\text{V}, T=25^{\circ}\text{C}$			0.5	μA
Forward Voltage	V_F	$I_F=10\text{mA}$	0.6		1.2	V
Clamping Voltage	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			29	V
Clamping Voltage	V_C	$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$			40	V
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		26	35	pF

Electrical Parameters





Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

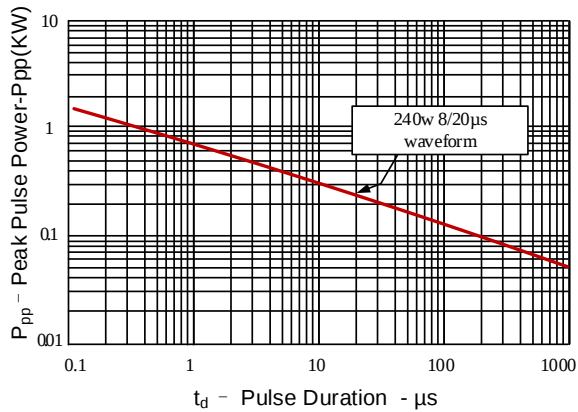


Figure 2: Power Derating Curve

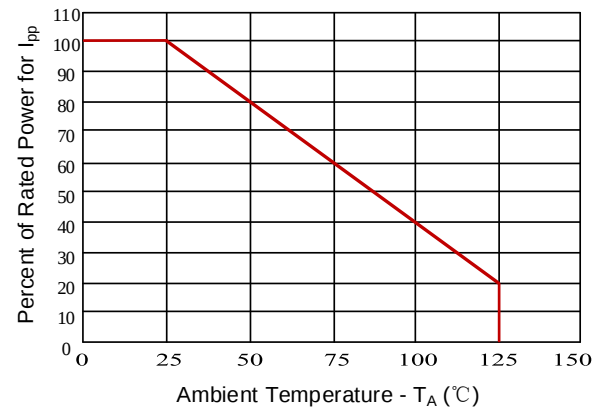


Figure3: Pulse Waveform

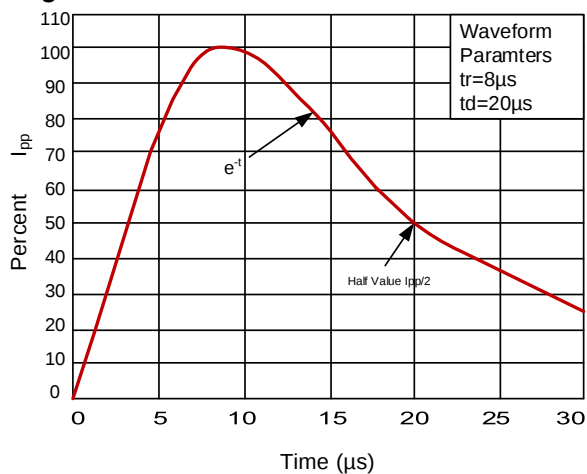
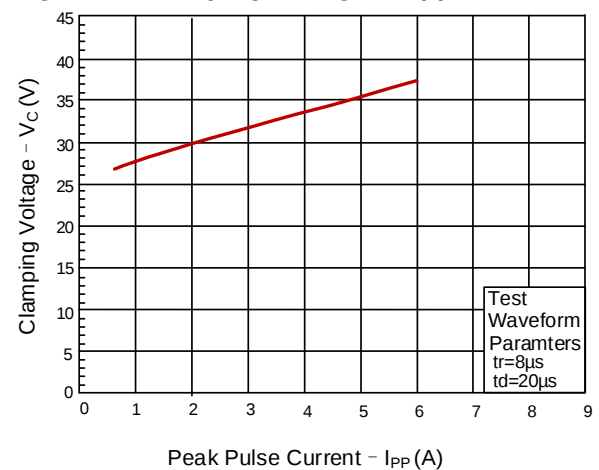
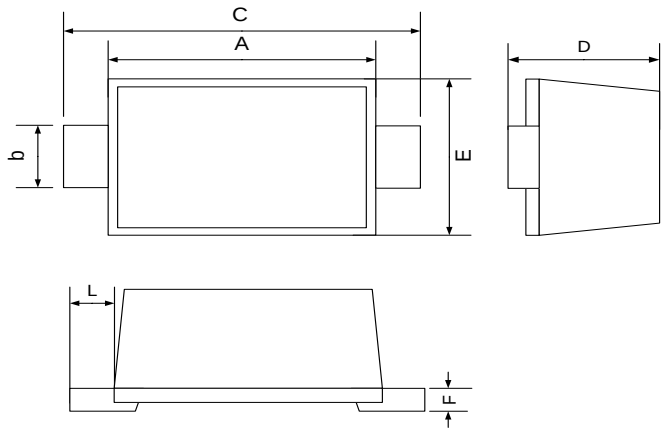


Figure 4: Clamping Voltage vs. I_{pp}





SOD-523 Outline Drawing



Common Dimension (mm)			
PKG	SOD523		
REF.	MIN.	NOM.	MAX.
A	1.100	1.200	1.300
b	0.250	0.300	0.350
C	1.500	1.600	1.700
D	0.510	0.650	0.770
E	0.700	0.800	0.900
F	0.070	0.140	0.200
L		0.200	