



DWSUC05D9E-Q ESD Protection Diode

Feature

- Uni-directional ESD protection of one line
- Working voltage: 5V
- 60W Peak pulse Power (8/20us)
- Junction Capacitance: 0.7pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 30\text{kV}$ contact $\pm 30\text{kV}$ air
- IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)

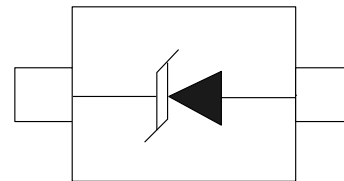
Application

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

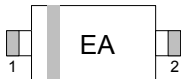
Mechanical Data

- Package: SOD-923
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DWSUC05D9E-Q	SOD-923		8000 pcs	7 inches



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

Parameter	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)	P_{PK}	-	60	W
Peak pulse current ($t_p=8/20\mu\text{s}$)	I_{PP}		3.5	A
ESD (IEC61000-4-2 air discharge)	V_{ESD}	-	30	kV
ESD (IEC61000-4-2 contact discharge)	V_{ESD}	-	30	kV
Junction temperature	T_J	-55	150	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

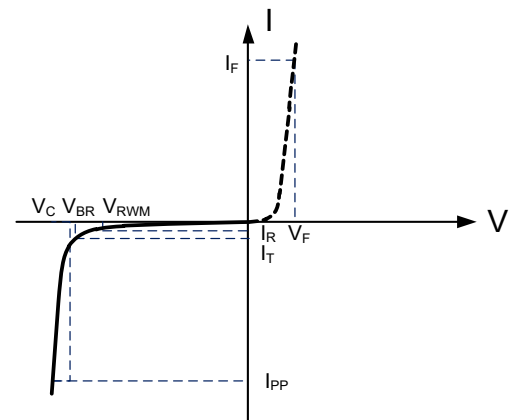
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.5	μA
Holding Voltage	V_C	$I_{PP}=3.5\text{A}$; $t_p=8/20\mu\text{s}$;			15	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.7		pF



Electrical Parameters

Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

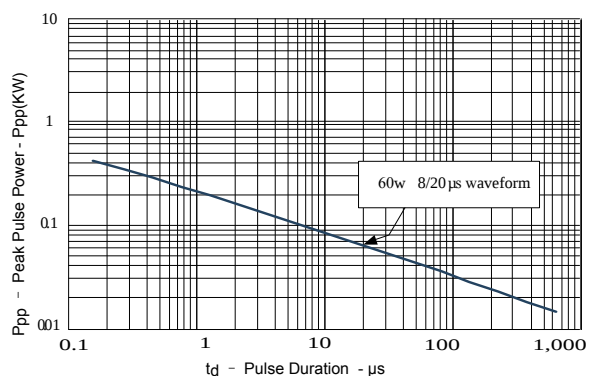


Figure 2: Power Derating Curve

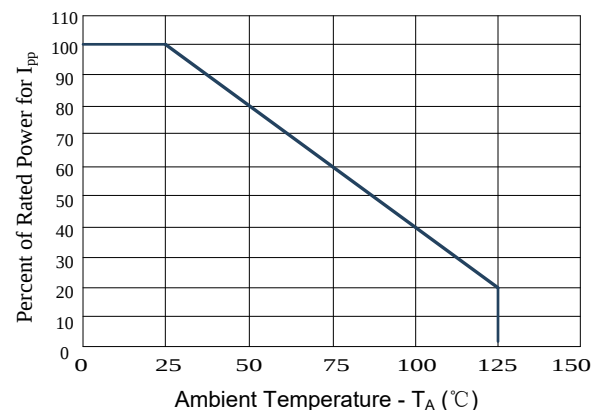


Figure3: Pulse Waveform

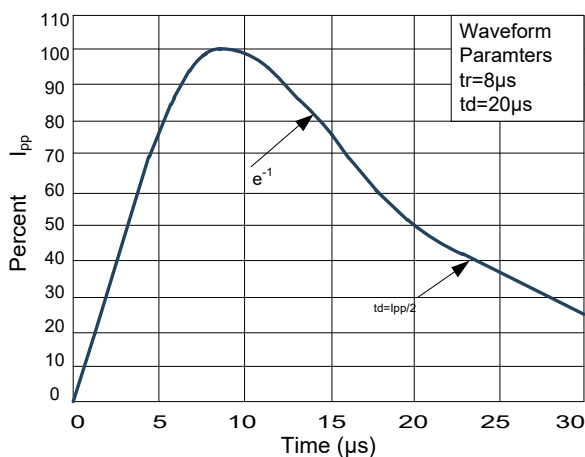
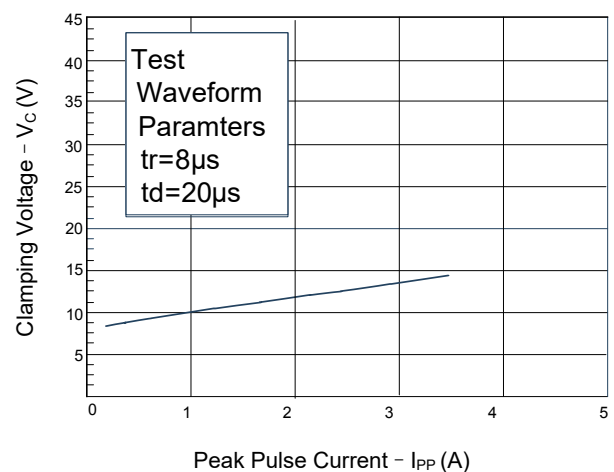
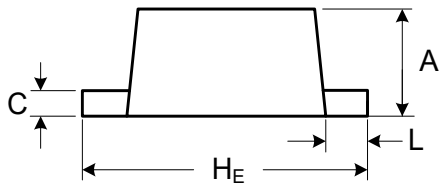
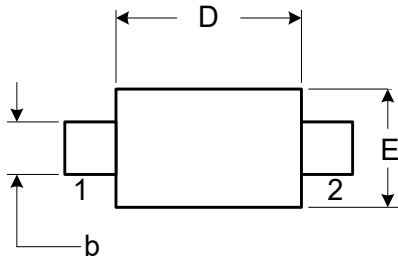


Figure 4: Clamping Voltage vs.Ipp





SOD-923 Outline Drawing



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.35	0.43	0.014	0.0172
b	0.15	0.25	0.006	0.010
C	0.07	0.17	0.0028	0.0068
D	0.75	0.85	0.030	0.034
E	0.55	0.65	0.022	0.026
H _E	0.90	1.10	0.036	0.044
L	0.05	0.15	0.002	0.006