



DW05D5BC-B-AT-E ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 85Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 6pF(Typ)
- Low leakage current
- Low clamping voltage
- AEC-Q101 qualified
- IEC61000-4-2 (ESD): $\pm 25kV$ (contact discharge)
 $\pm 25kV$ (air discharge)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 6A (8/20 μs)

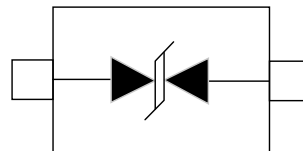
Application

- Microprocessor based equipment
- Personal Digital Assestants(PDA's)
- Portable Instrumentation
- Notebooks, Desktops, and Servers
- 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
DW05D5BC-B-AT-E	SOD-523		5000 pcs	7 inches



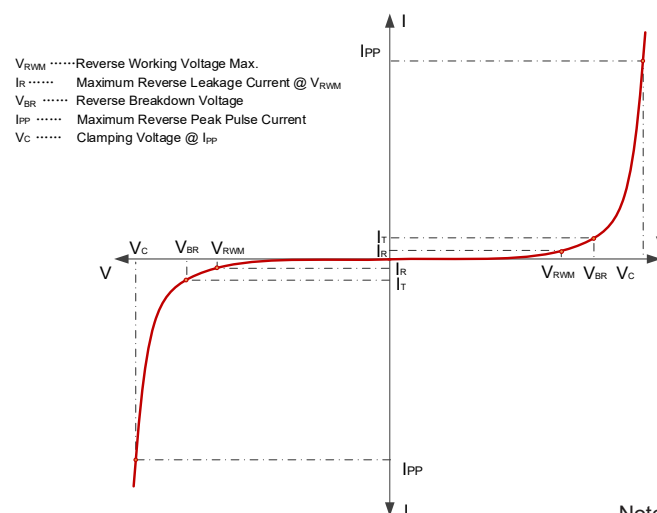
Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	85	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$) (Note1)	I_{pp}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 25 ± 25	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}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6.0			
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}, T=25^{\circ}\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$			14	V
ESD Clamping Voltage	V_C	$I_{PP}=4\text{A},$ $t_p=0.2/100\text{ns(TLP)}$		9.5		V
ESD Clamping Voltage	V_C	$I_{PP}=16\text{A},$ $t_p=0.2/100\text{ns(TLP)}$		12.5		V
Dynamic Resistance	R_{DYN}	$T_{LP}=0.2/100\text{ns}$		0.25		Ω
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		6	8	pF

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



Note1: 8/20 μs pulse waveform.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

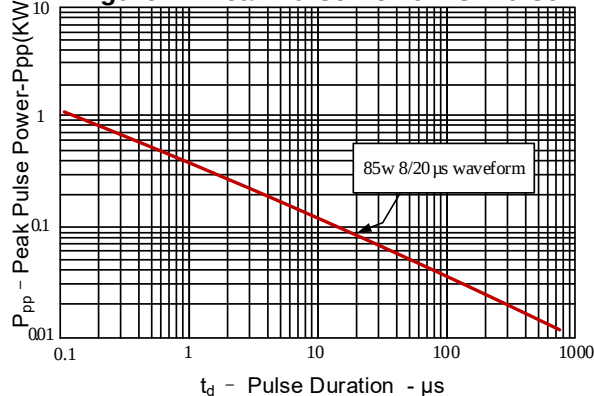


Figure 2: Power Derating Curve

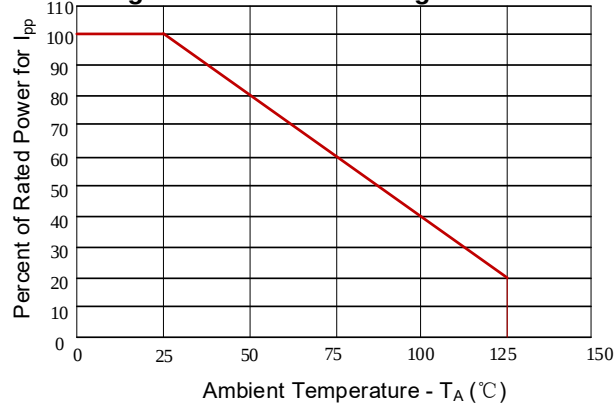


Figure3: Pulse Waveform

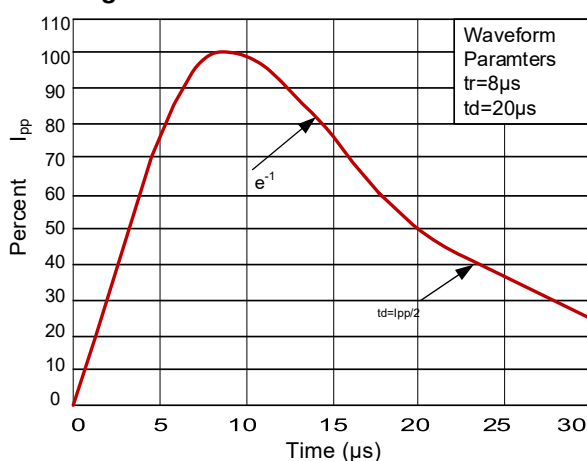


Figure 4: Clamping Voltage vs. Ipp

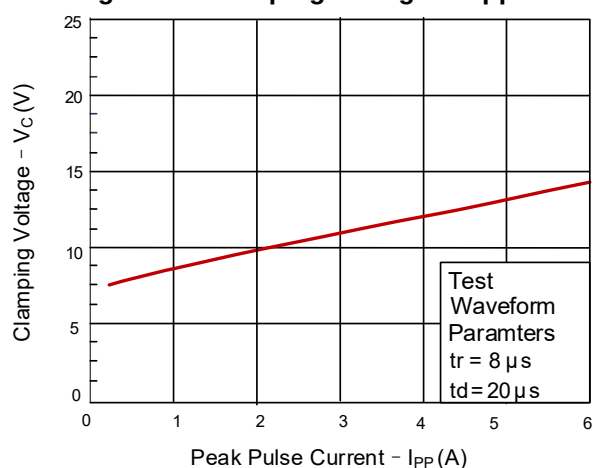


Figure5: TLP Positive I-V Curve

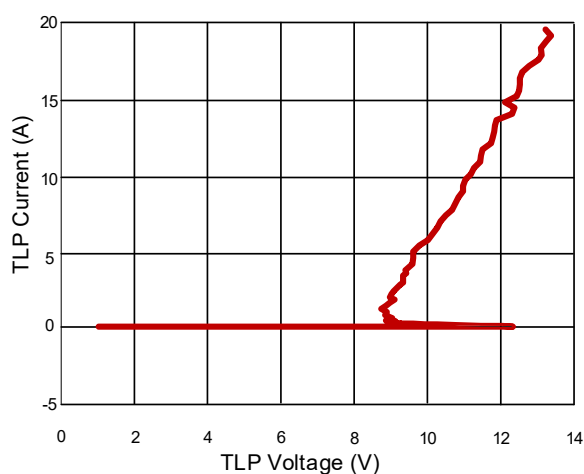
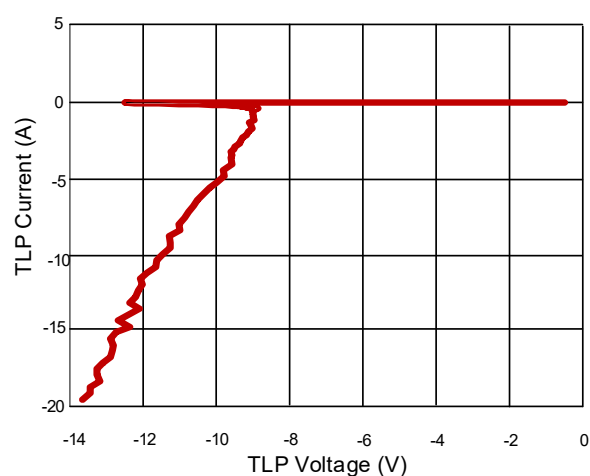
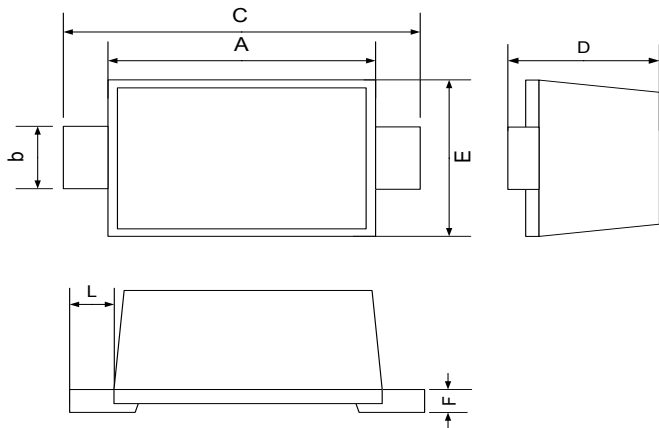


Figure6: TLP Negative I-V Curve



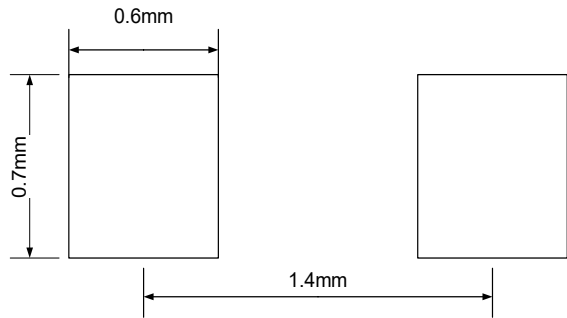


SOD-523 Outline Drawing



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	

Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only.