



DWSUC05M3LC-Q ESD Protection Diode

Feature

- 55Watts peak pulse power($t_p=8/20\mu s$)
- Uni-directional configurations
- Solid-state silicon-avalanche technology
- Low leakage current
- Low clamping voltage
- AEC-Q101 qualified
- IEC61000-4-2 (ESD): $\pm 20kV$ (contact discharge)
 $\pm 25kV$ (air discharge)
- IEC61000-4-4(EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning)4A (8/20 μs)

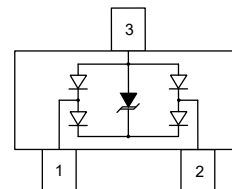
Application

- USB2.0 and USB3.0
- HDMI1.3 and HDMI1.4
- Open Alliance IEEE 100/1000BASE-T1 Ethernet
- Low-Voltage Differential Signaling(LVDS)
- High speed data lines protection

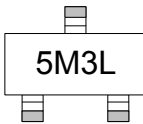
Mechanical Data

- Package: SOT-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DWSUC05M3LC-Q	SOT-323	 5M3L	3000 pcs	7 inches



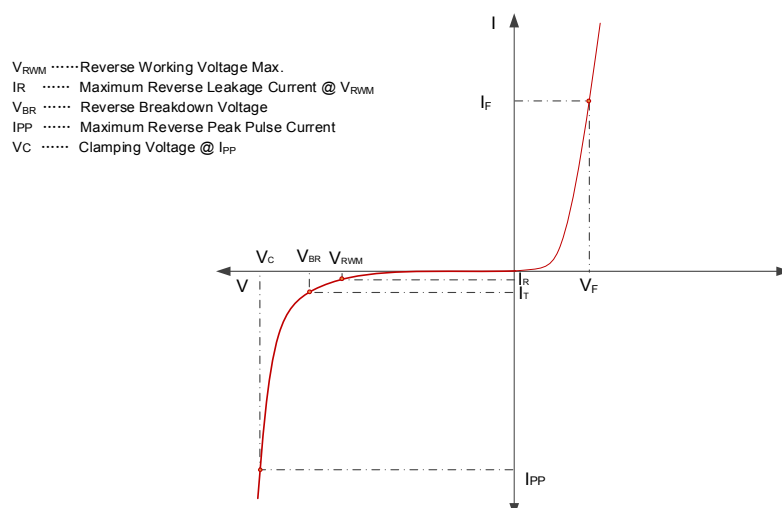
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	55	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$) (Note1)	I_{pp}	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 25 ± 20	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature Range	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to + 125	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$, $T=25^{\circ}\text{C}$			0.5	μA
Forward Voltage	I_F	$I_F=10\text{mA}$	0.6		1.2	V
Clamping Voltage	V_C	$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$			14	V
Junction Capacitance	C_j	$V_R=0\text{V}$, $f=1\text{MHz}$ I/O pins to GND		0.45	0.55	pF

Electrical Parameters





Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

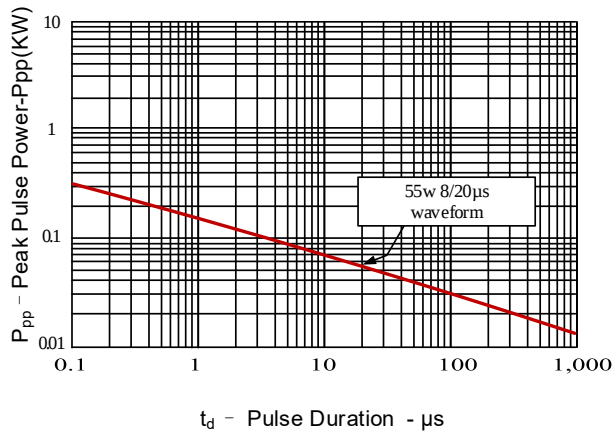


Figure 2: Power Derating Curve

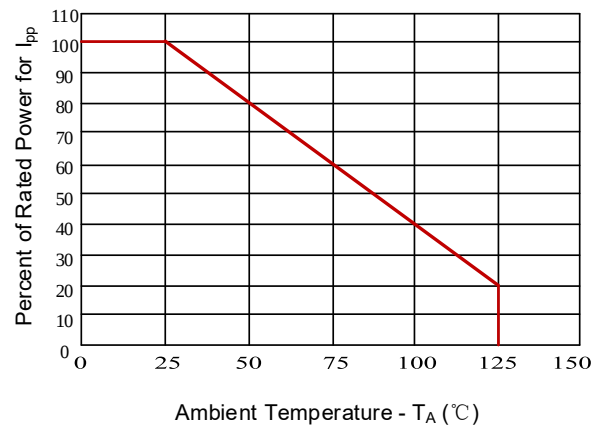


Figure3: Pulse Waveform

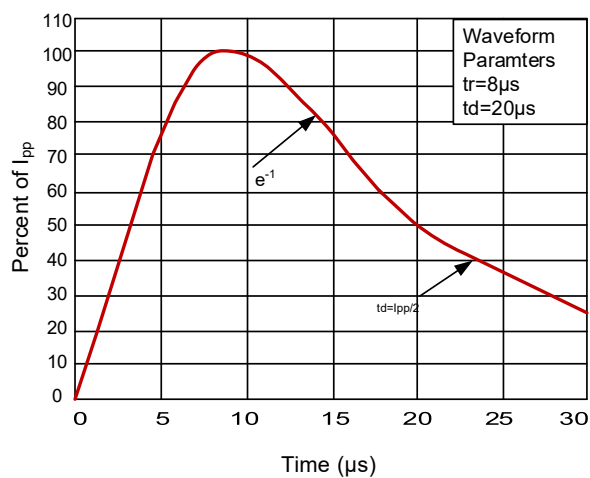
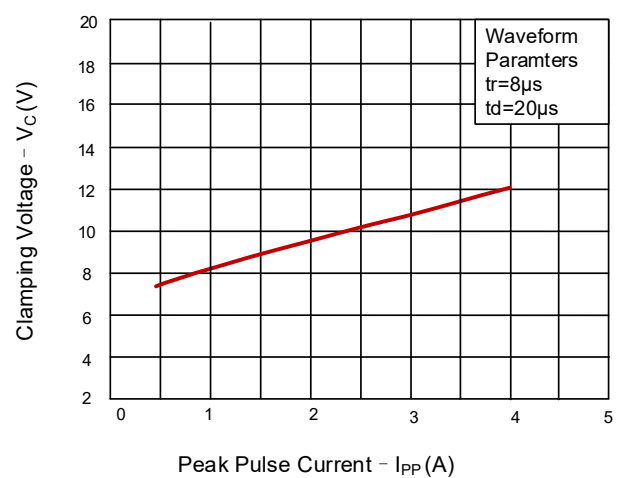
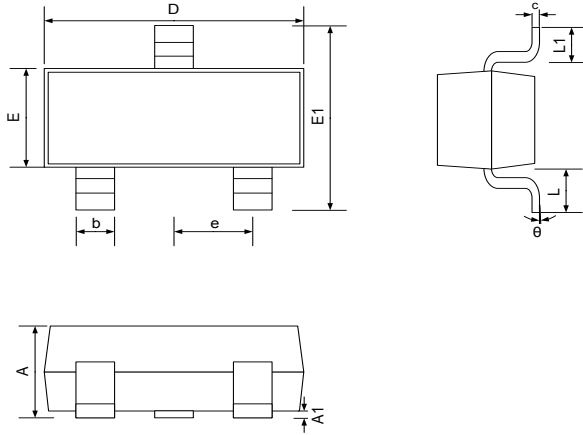


Figure 4: Clamping Voltage vs. Ipp





SOT-323 Outline Drawing



COMMON DIMENSION (mm)			
PKG	SOT323		
REF.	MIN.	NOM.	MAX.
A	0.80	1.00	1.10
A1	0.00	0.05	0.10
b	0.20	0.30	0.40
c	0.08	0.12	0.15
D	2.00	2.10	2.20
E	1.15	1.25	1.35
E1	2.15	2.30	2.45
e		0.650TPY	
L		0.525REF	
L1	0.26	0.36	0.46
θ	0°	4°	8°