

DW15M2T-B-AT-W ESD Protection Diode

Feature

- Bi-directional ESD protection of two lines
- 288 Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 15V
- Junction capacitance: 9pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 Qualified
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC61000-4-5 (Lightning) 12A (8/20 μs)

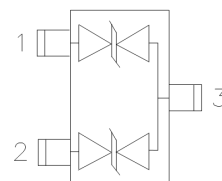
Application

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

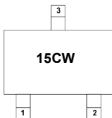
Mechanical Data

- Package: SOT-23
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW15M2T-B-AT-W	SOT-23		3000 Tape & Reel	7 inches

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

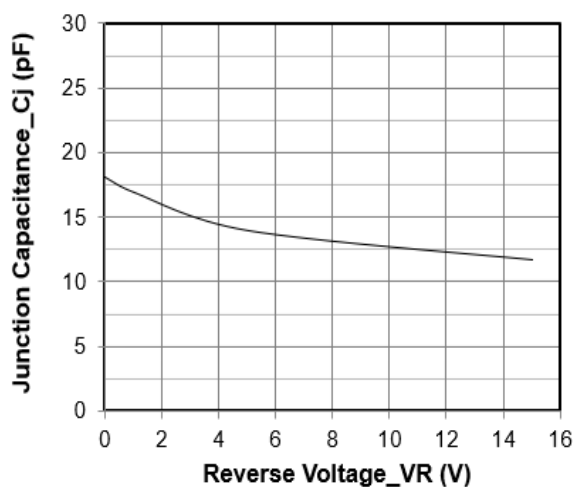
Parameter	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{pk}	-	288	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{pp}		12	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 30	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 30	kV
Junction temperature	T_J	-55	125	$^\circ\text{C}$
Storage temperature	T_{STG}	-55	150	$^\circ\text{C}$

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

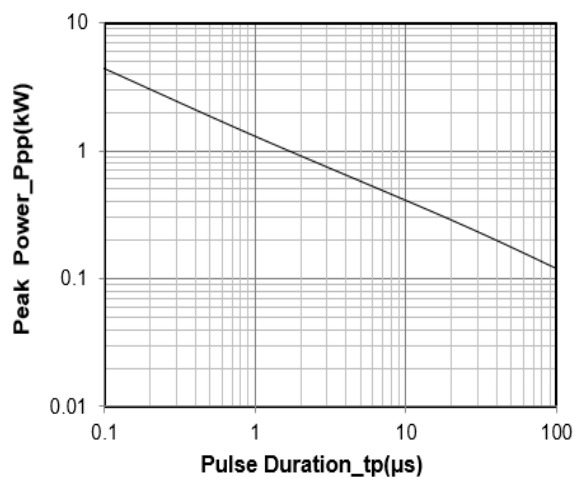
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			15	V	Pin1 or Pin 2 to Pin3
Breakdown Voltage	V_{BR}	16.7			V	$I_T = 1\text{mA}$, Pin1 or Pin 2 to Pin3
Reverse Leakage Current	I_R			0.2	μA	$V_{RWM} = 15\text{V}$, Pin1 or Pin 2 to Pin3
Clamping Voltage	V_C			20	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse), Pin1 or Pin 2 to Pin3
Clamping Voltage	V_C			24	V	$I_{PP} = 12\text{A}$ (8 x 20 μs pulse), Pin1 or Pin 2 to Pin3
Junction Capacitance	C_J		18		pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Pin1 or Pin 2 to Pin3
Junction Capacitance	C_J		9		pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Pin 1 to Pin 2



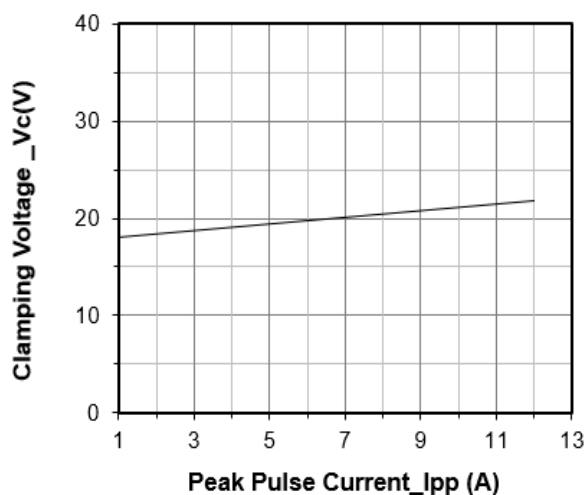
Typical Characteristic ($T_A = 25^\circ\text{C}$ unless otherwise noted)



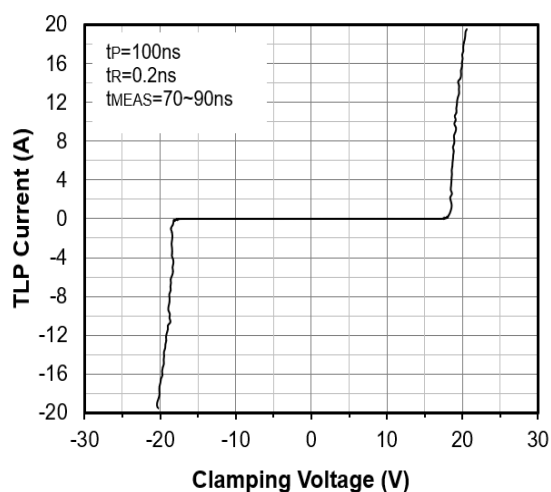
Junction Capacitance vs. Reverse Voltage



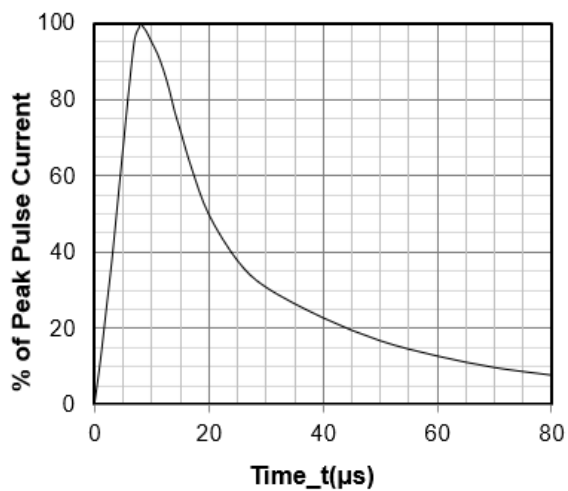
Peak Pulse Power vs. Pulse Time



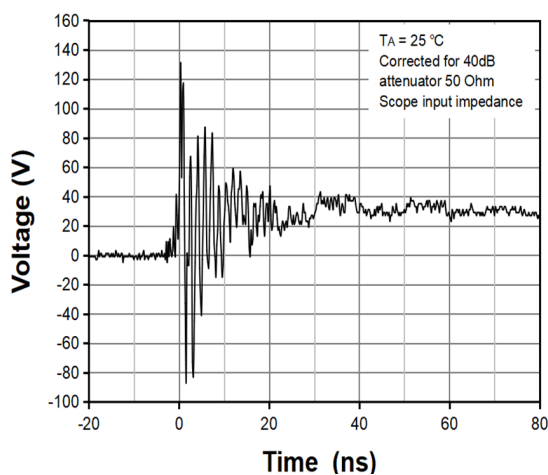
Clamping Voltage vs. Peak Pulse Current ($t_p = 8/20\mu\text{s}$)



TLP Measurement



8 X 20 μs Pulse Waveform

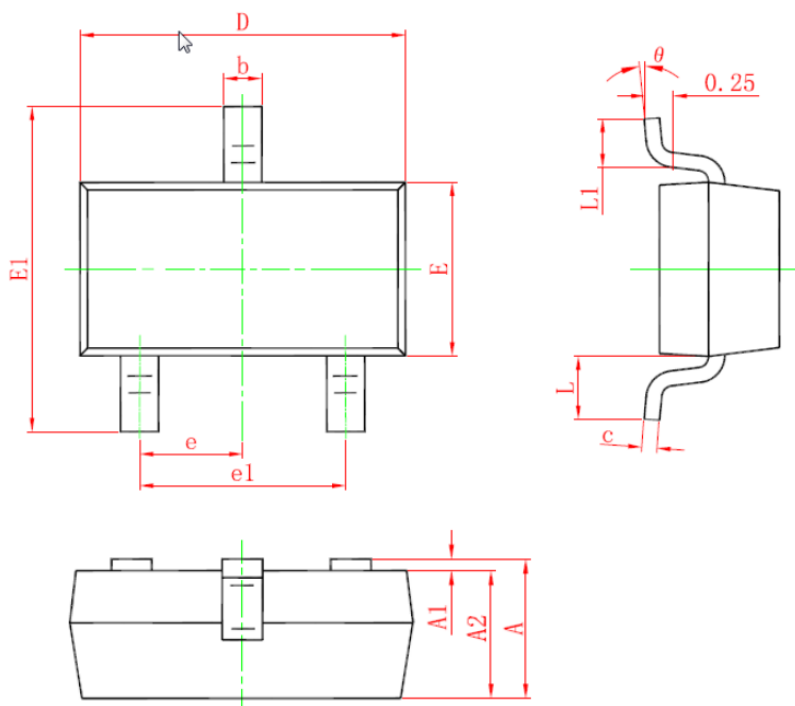


ESD Clamping Voltage

8 kV Contact per IEC61000-4-2



Outline Drawing – SOT-23



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	--	1.15	0.035	--	0.045
A1	0.00	--	0.10	0.000	--	0.004
A2	0.90	--	1.05	0.035	--	0.041
b	0.30	--	0.50	0.012	--	0.020
c	0.08	--	0.15	0.003	--	0.006
D	2.80	--	3.00	0.110	--	0.118
E	1.20	--	1.40	0.047	--	0.055
E1	2.25	--	2.55	0.089		0.100
e	0.95TYP			0.037TYP		
e1	1.80	--	2.00	0.071	--	0.079
L	0.55REF			0.022REF		
L1	0.30	--	0.50	0.012	--	0.020
θ	0°	--	8°	0°	--	8°