

DW48M2T-B-AT-S ESD Protection Diode

Feature

- Bi-directional ESD protection of two lines
- 550 Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 48V
- Junction capacitance: 10pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 25kV$ air
- IEC 61000-4-5 (Lightning) 7A (8/20 μs)

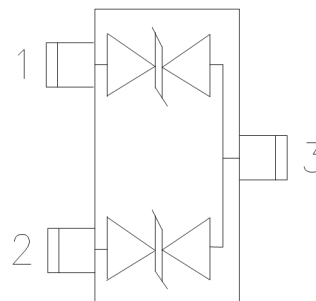
Application

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Server and Desktop PC

Mechanical Data

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

Circuit Diagram



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW48M2T-B-AT-S	SOT-23		3000 Tape & Reel	7 inches

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

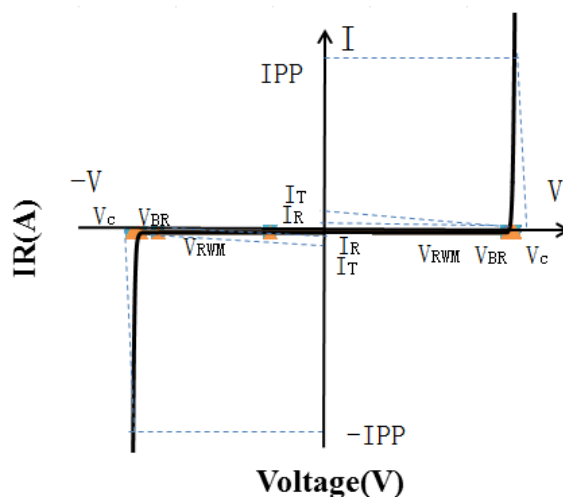
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	550	W
Peak Pulse Current (8/20 μs)	I_{PP}	7	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	T_J	-55 to $+125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to $+150$	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				48	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	54	57.4		V
Reverse Leakage Current	I_R	$V_{RWM} = 48\text{V}$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)		62	72	V
Clamping Voltage	V_C	$I_{PP} = 7\text{A}$ (8 x 20 μs pulse)		78	90	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		10	20	pF

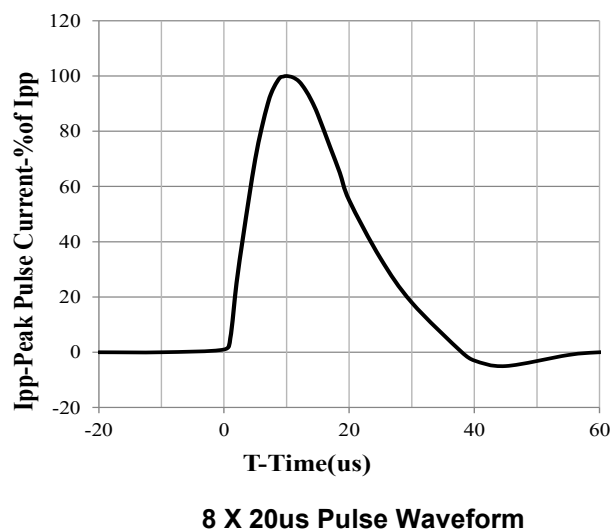
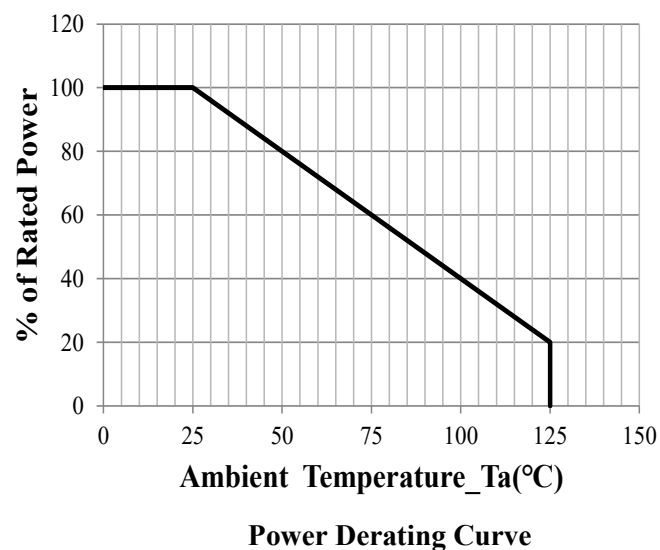
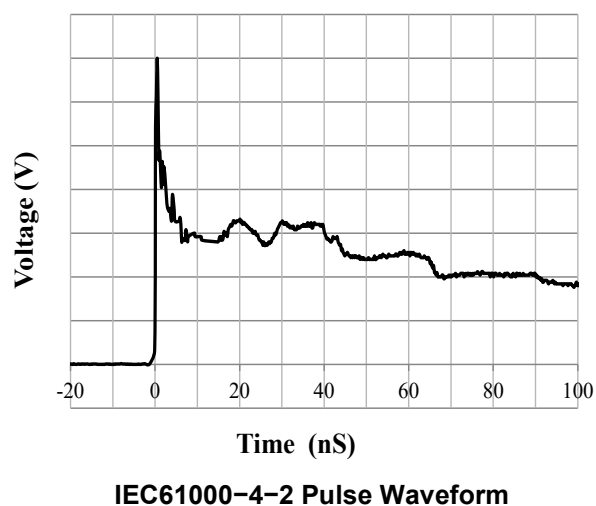
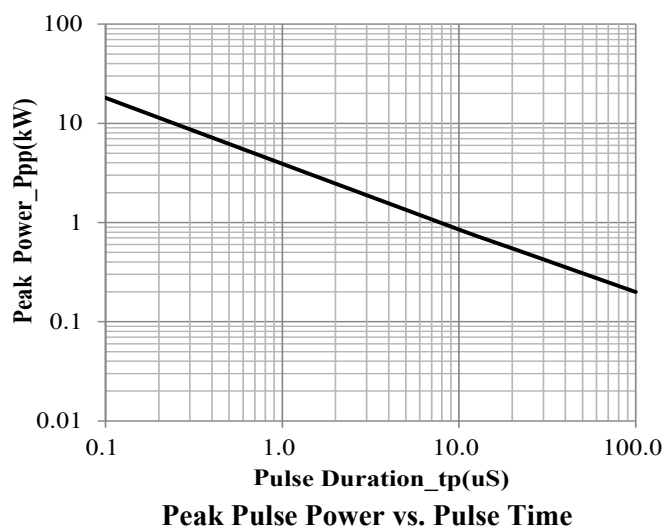
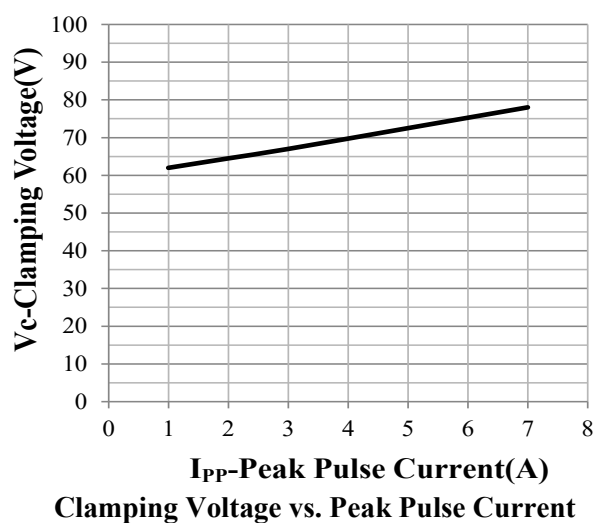
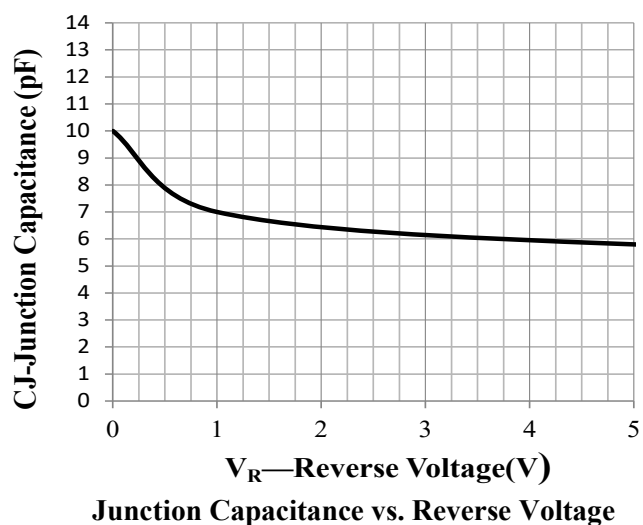
Portion Electronics Parameter

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



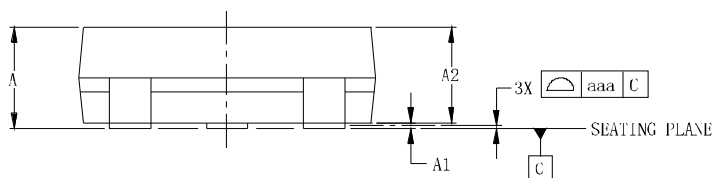
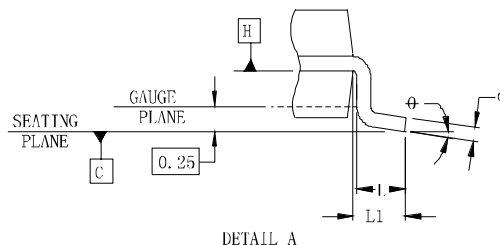
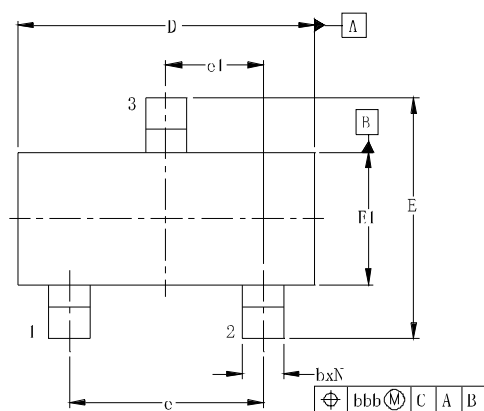


Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



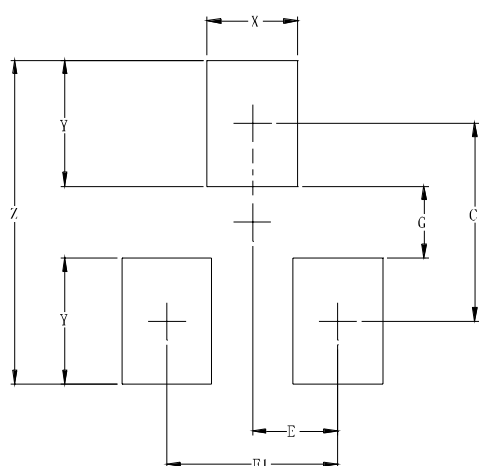


SOT-23 Package Outline Drawing



DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.035	—	.044	0.89	—	1.12
A1	.000	—	.004	0.01	—	0.10
A2	.035	.037	.040	0.88	0.95	1.02
b	.012	—	.020	0.30	—	0.51
c	.003	—	.007	0.08	—	0.18
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075			1.90 BSC		
e1	.037			0.95 BSC		
L	.015	.020	.024	0.40	0.50	0.60
L1	.022			(0.55)		
N	3			3		
theta	0°	—	8°	0°	—	8°
aaa	.004			0.10		
bbb	.008			0.20		

Suggested Land Pattern



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	.087	2.20
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60