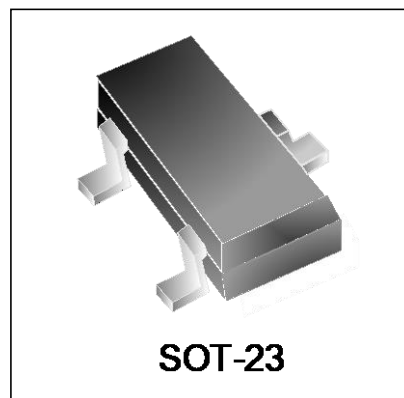


## Features

- 300 watts peak pulse power ( $t_p = 8/20\mu s$ )
- Protects one bidirectional line or two unidirectional lines
- Working Voltages: 12V
- Low clamping voltages

## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 $\mu s$ )



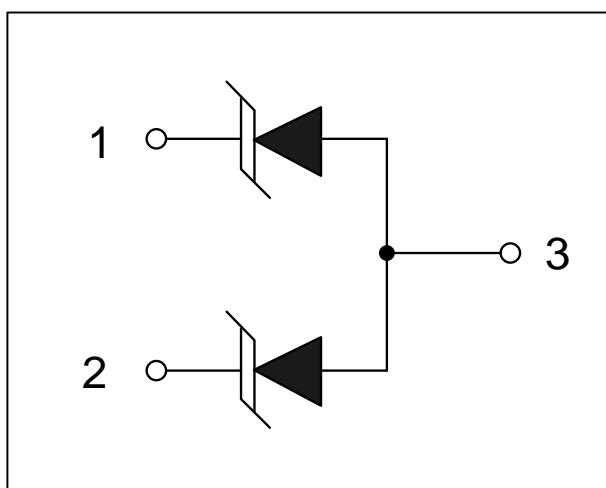
## Mechanical Characteristics

- JEDEC SOT23 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

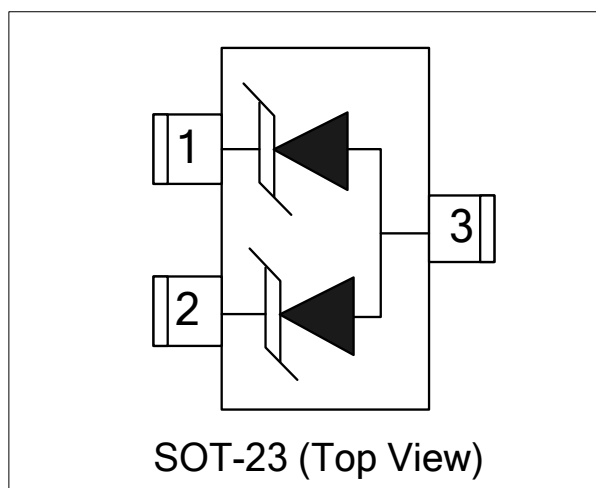
## Applications

- RS-232, RS-422 & RS-485
- Cellular Handsets and Accessories
- Control & Monitoring Systems
- Portable Electronics
- Set-Top Box
- Servers, Notebook, and Desktop PC
- Wireless Bus Protection

## Circuit Diagram



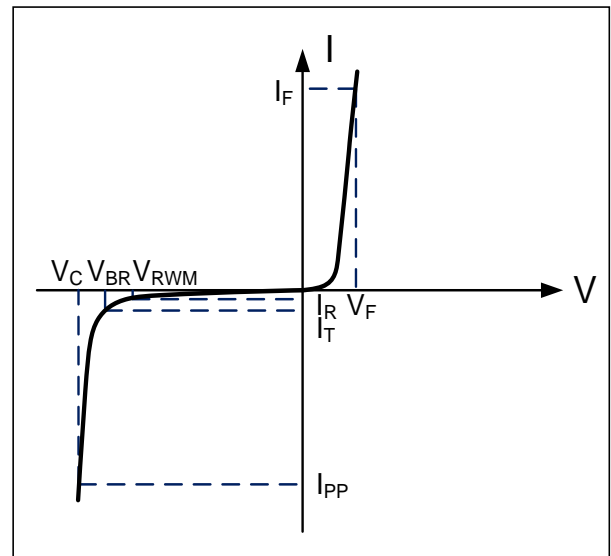
## Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	300	W
Peak Pulse Current ( $t_p=8/20\mu s$ )	$I_{PP}$	12	A
Lead Soldering Temperature	$T_L$	260(10sec)	$^{\circ}C$
Operating Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

## Electrical Parameters (T=25 $^{\circ}C$ )

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

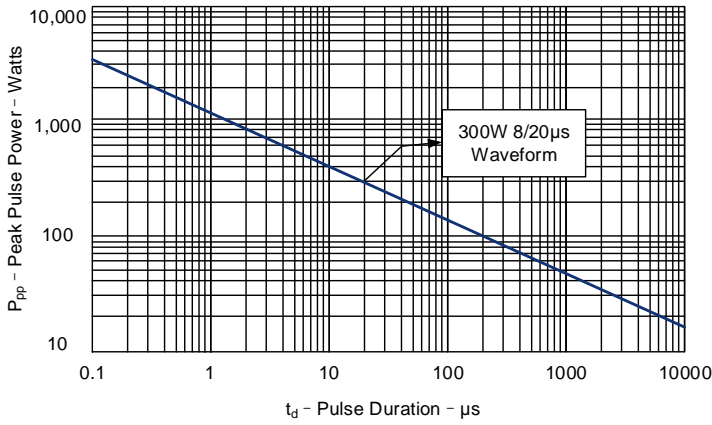


## Electrical Characteristics

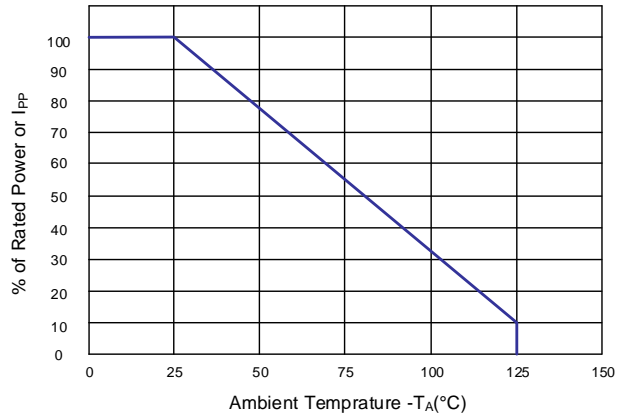
DW12M2T-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3			V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T=25^{\circ}C$			1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			19	V
Maximum Clamping Voltage	$V_C$	$I_{PP}=12A, t_p=8/20\mu s$			25	V
Junction Capacitance	$C_j$	Pin 1 to 2 $V_R = 0V, f = 1MHz$		30		pF
Junction Capacitance	$C_j$	Pin 1 to 3 and Pin 2 to 3 $V_R = 0V, f = 1MHz$		50		pF

# Typical Characteristics

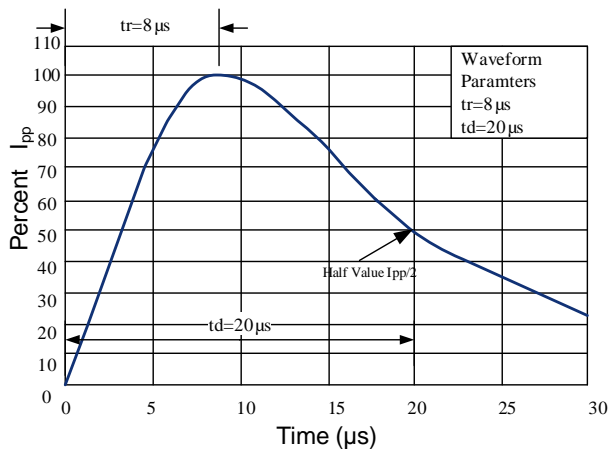
**Peak Pulse Power vs. Pulse Time**



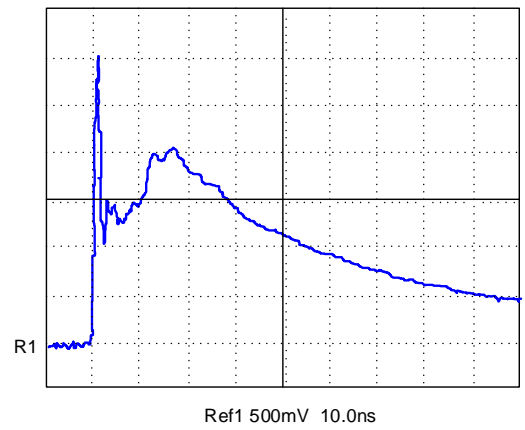
**Power Derating Curve**



**8/20μs Pulse Waveform**



**ESD Pulse Waveform (Per IEC 61000-4-2)**



# Outline Drawing – SOT-23

### PACKAGE OUTLINE

**SOT-23**

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.60	0.70	0.0236	0.0275
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	2.25	2.55	0.089	0.100
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.0374 BSC	
e1	1.80	2.00	0.071	0.079
L	0.30	0.50	0.012	0.020
$\theta$	0	8°	0	8°

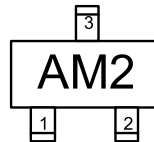
DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.0795	2.02
C	0.0315	0.80
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.9 BSC
b	0.0315	0.80

**Notes**

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

## Marking Codes

Part Number	DW12M2T-S
Marking Code	AM2



## Package Information

Qty: 3k/Reel