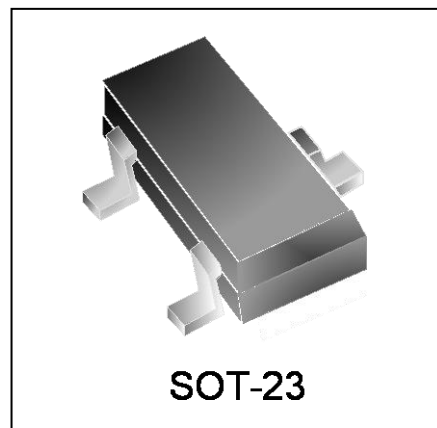


Features

- 250 watts peak pulse power ($t_p = 8/20\mu s$)
- Response Time is Typically $< 1\text{ ns}$
- Protects one bidirectional line or two unidirectional lines
- Working Voltages: 24V
- Low clamping voltages

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 6A (8/20 μs)



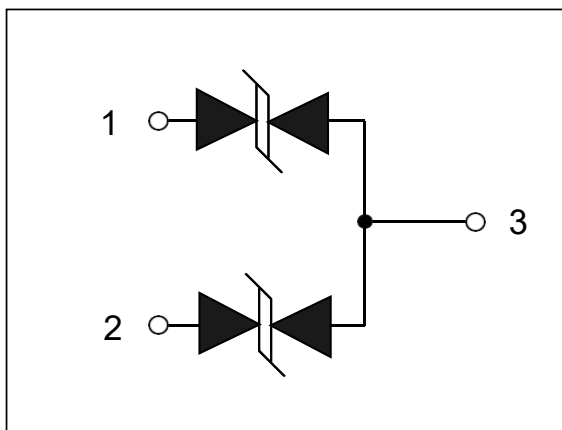
Mechanical Characteristics

- JEDEC SOT-23 package
- Molding compound flammability rating:
- UL 94V-0
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant
- Pb-Free Packages are Available

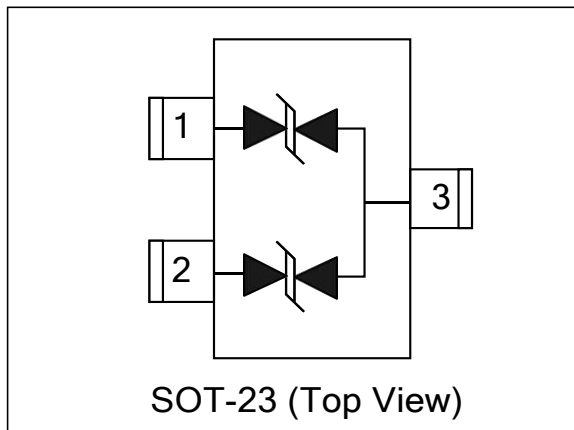
Applications

- Automotive Networks
- Control & Monitoring Systems
- Portable Electronics
- Set-Top Box
- Servers, Notebook, and Desktop PC
- Wireless Bus Protection

Circuit Diagram



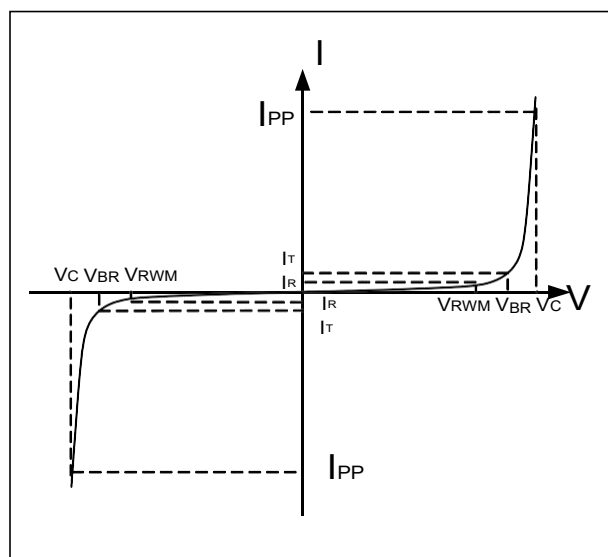
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	250	Watts
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°C)

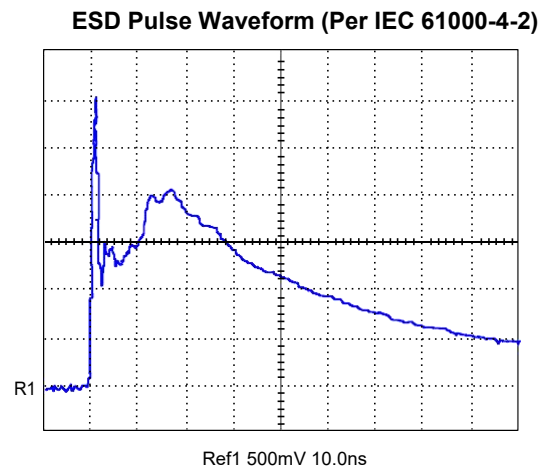
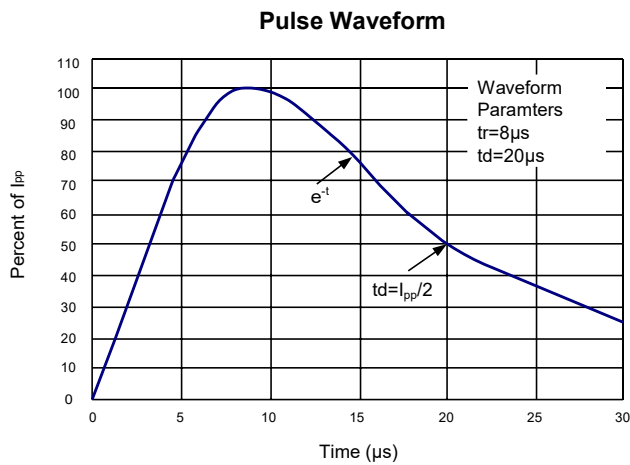
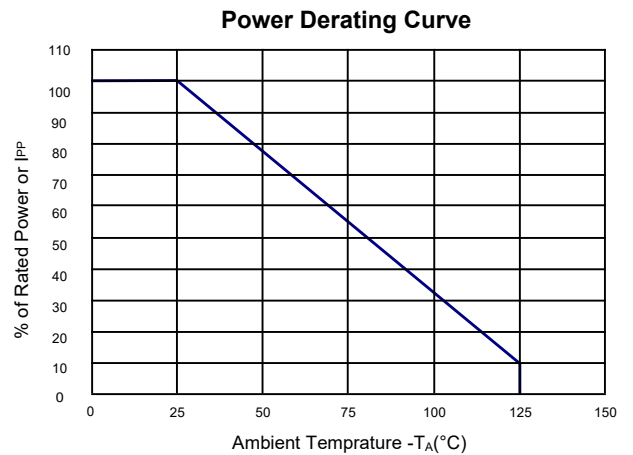
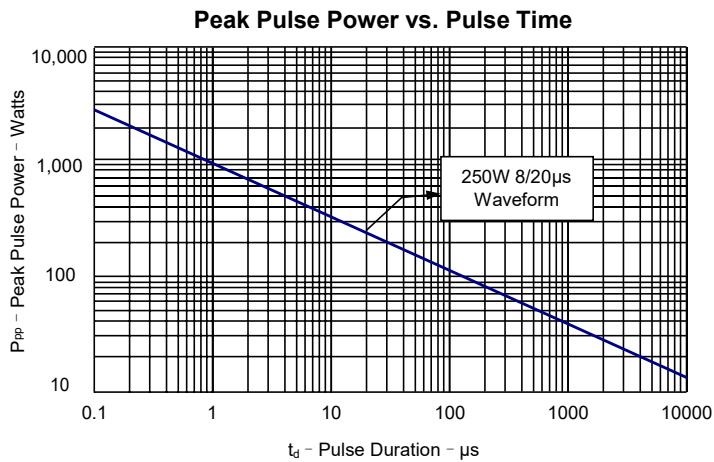
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

CSE24BCS23						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	26.7			V
Reverse Leakage Current	I_R	$V_{RWM}=24V$, $T=25^{\circ}C$			1	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			6	A
Maximum Clamping Voltage	V_C	$I_{PP}=6A$, $t_p=8/20\mu s$			40	V
Junction Capacitance	C_j	Pin 1 to 3 or Pin 2 to 3 $V_R=0V$, $f=1MHz$		15		pF

Typical Characteristics



Outline Drawing – SOT-23

PACKAGE OUTLINE

The image shows three views of the SOT-23 package. The top view shows dimensions D (total width), E (total height), E1 (height to the top of the package body), b (width of the central pad), e (pitch between pads), and e1 (total width between pads). The side view shows dimensions A (total height), A1 (height to the top of the package body), and A2 (height to the bottom of the package body). The end view shows dimensions L (length of the package body) and c (width of the package body). The angle theta is also indicated.

A 3D perspective view of the SOT-23 package, showing the three pins labeled 1, 2, and 3.

SOT-23

DIMENSIONS

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
θ	0	8°	0	8°

A schematic diagram of the SOT-23 package showing the internal structure and dimensions. The diagram includes dimensions Z (height to the top of the package body), M (height to the top of the package body), C (height to the bottom of the package body), e (pitch between pads), e1 (total width between pads), and b (width of the central pad).

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.

Package Information

Qty: 3k/Reel

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