

Features

- 440 watts peak pulse power ($t_p = 8/20\mu s$)
- Protects one bidirectional line or two unidirectional lines
- Working voltages: 24V
- Low clamping voltages
- AEC-Q101 Qualified

Mechanical Characteristics

- JEDEC SOT-23 package
- Marking : marking code
- Packaging : tape and reel per EIA 481
- RoHS compliant

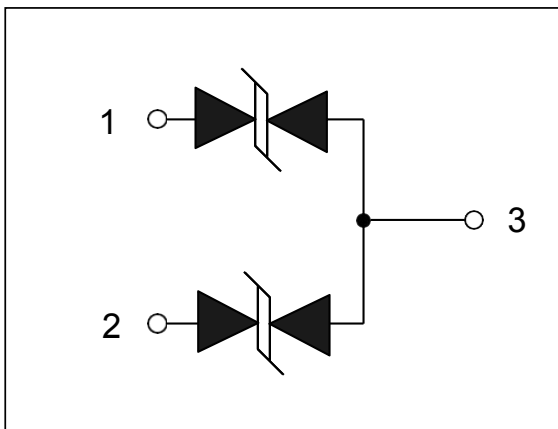
Applications

- Automotive networks
- Control & monitoring systems
- Portable electronics
- Set-top box
- Servers, notebook, and desktop PC
- Wireless bus protection

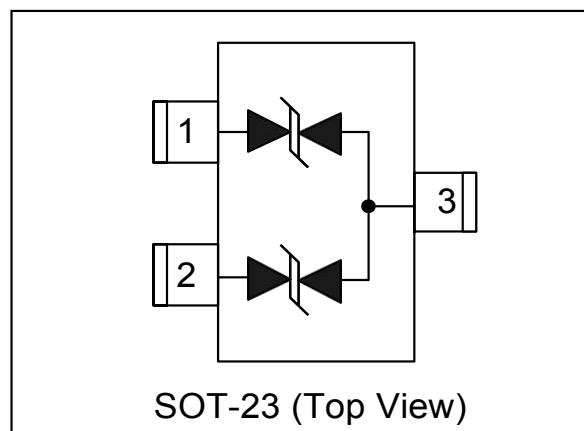
IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 8A (8/20 μs)

Circuit Diagram



Schematic & PIN Configuration

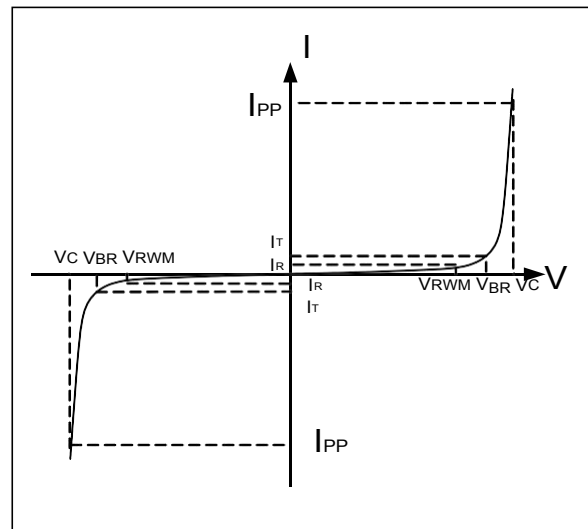


Absolute Maximum Ratings (Ta=25°C)

Rating	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs)	PPP	440	Watt
Peak Pulse Current (tp=8/20μs)	IPP	8	A
Operating Temperature	TJ	-55 to + 125	°C
Storage Temperature	TSTG	-55 to +150	°C

Electrical Parameters (Ta=25°C)

Symbol	Parameter
IPP	Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
VRWM	Reverse Stand-Off Voltage
IR	Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current



Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	VRWM				24	V
Reverse Breakdown Voltage	VBR	IT=1mA	26.7			V
Reverse Leakage Current	IR	VRWM=24V, T=25°C			200	nA
Clamping Voltage	VC	IPP=8A, tp=8/20µs		50	55	V
Dynamic Resistance ^{1,2}	RDYN	TLP=0.2/100ns		0.5		Ω
ESD Clamping Voltage ¹	VC	IPP = 4A, tp = 0.2/100ns (TLP)		34.5		V
ESD Clamping Voltage ¹	VC	IPP = 16A, tp = 0.2/100ns (TLP)		40.5		V
Junction Capacitance	Cj	Pin 1 to 3 or Pin 2 to 3 VR = 0V, f = 1MHz		20	30	pF

Notes : 1 \ TLP Setting : tp=100ns, tr=0.2ns, ITLP and VTLP sample window:t1=70ns to t2=90ns.
 2 \ Dynamic resistance calculated from IPP=4A to IPP=16A using 'Best Fit

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

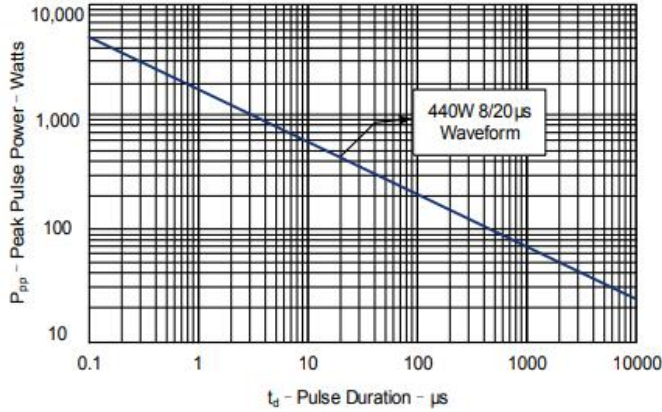


Figure 2: Power Derating Curve

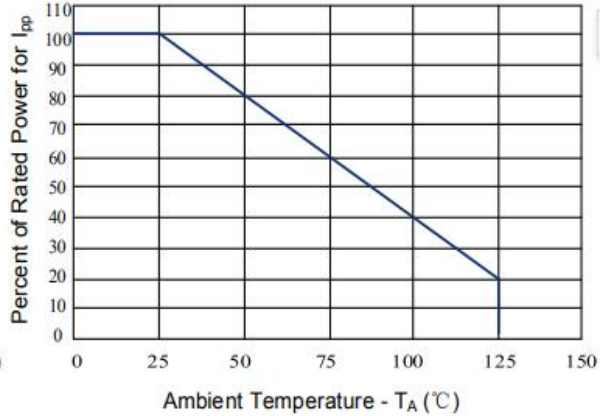


Figure 3: Clamping Voltage vs. Peak Pulse Current

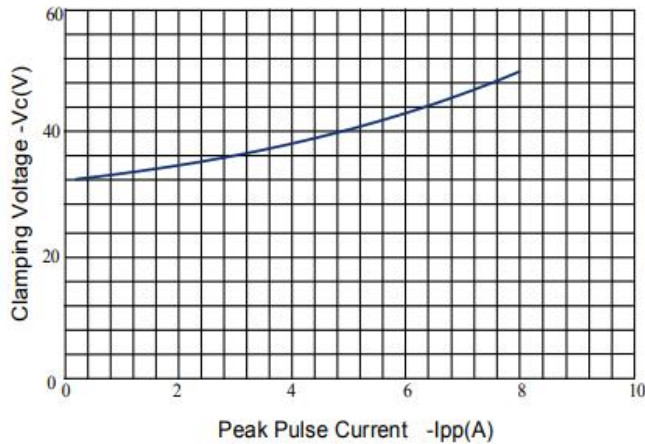


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

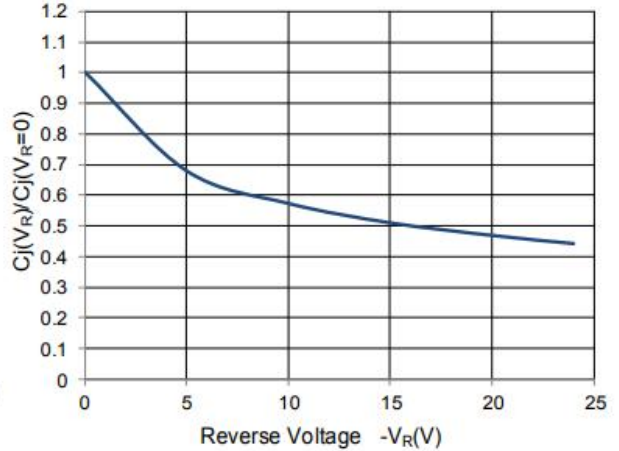


Figure 5: Pulse Waveform

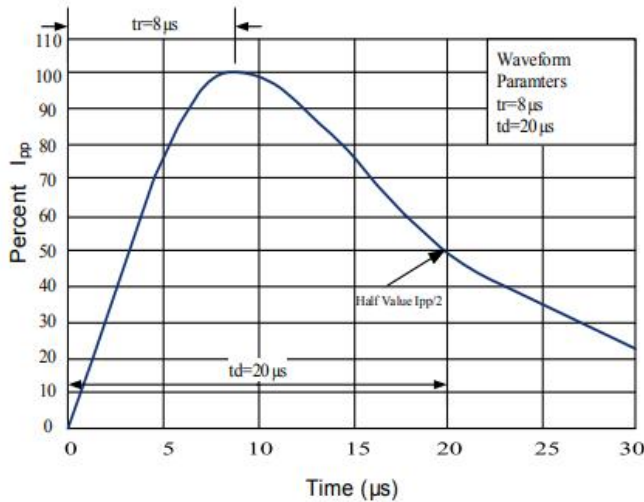
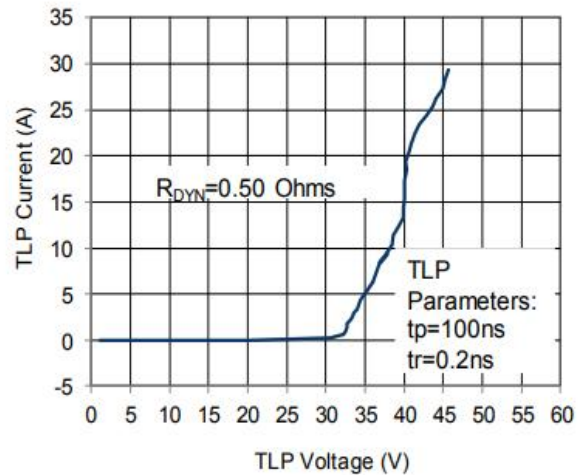


Figure 6: TLP I-V Curve



Marking code

Part Number	Marking Code
CTSY24M1B2MAQ	

Package Information

Qty: 3k/Reel

Outline Drawing - SOT-23

PACKAGE OUTLINE

SOT-23

DIMENSIONS				
SYMBOL	MILLIMETERS		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	0.024	0.028
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		0.037 BSC	
e1	1.80	2.00	0.071	0.079
L	0.30	0.50	0.012	0.020
θ	0	8°	0	8°

DIMENSIONS		
DIM	INCHES	MILLIMETER S
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:
Controlling Dimension: Millimeter.