

### Features

- 440 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 24V
- Low Leakage Current

### Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

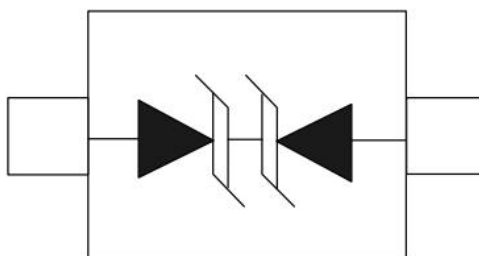
### Mechanical Characteristics

- JEDEC SOD-323 package
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

### 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  $\mu s$ )

### Schematic & PIN Configuration



SOD-323 (Top View)

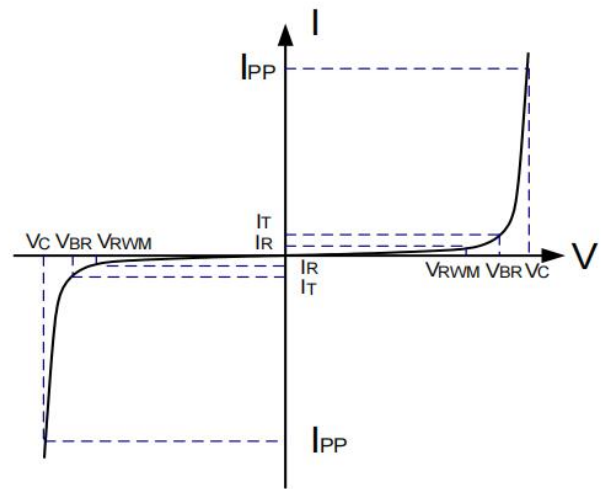


**Absolute Maximum Ratings**

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	440	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ )	$I_{PP}$	8	A
Operating Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

**Electrical Parameters ( $T_a=25^{\circ}C$ )**

Symbol	Parameter
$I_{PP}$	Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Reverse Stand-Off Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



**Electrical Characteristics**

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				24.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_r = 1mA$	26.7			V
Reverse Leakage Current	$I_R$	$V_{RWM}=24V, T=25^{\circ}C$			200	nA
Clamping Voltage	$V_C$	$I_{PP} = 8A, t_p = 8/20\mu s$		49	55	V
Dynamic Resistance <sup>1,2</sup>	$R_{DYN}$	TLP=0.2/100ns		0.5		$\Omega$
ESD Clamping Voltage <sup>1</sup>	$V_C$	$I_{PP} = 4A,$ $t_p = 0.2/100ns$ (TLP)		34.5		V
ESD Clamping Voltage <sup>1</sup>	$V_C$	$I_{PP} = 16A,$ $t_p = 0.2/100ns$ (TLP)		40.5		V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		25	30	pF

**Notes:**

- 1、TLP Setting:  $t_p=100ns, t_r=0.2ns, I_{TLP}$  and  $V_{TLP}$  sample window:  $t_1=70ns$  to  $t_2=90ns$ .
- 2、Dynamic resistance calculated from  $I_{PP}=4A$  to  $I_{PP}=16A$  using "Best Fit" .

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

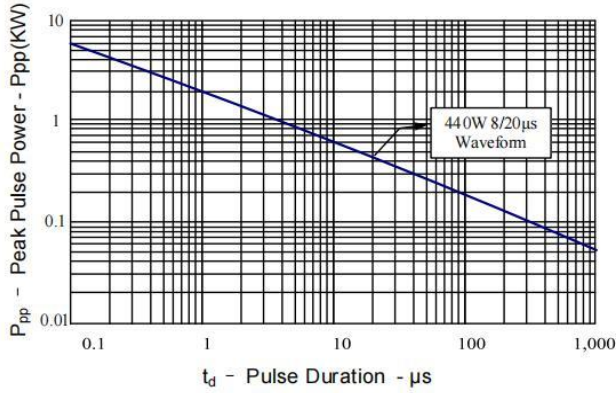


Figure 2: Power Derating Curve

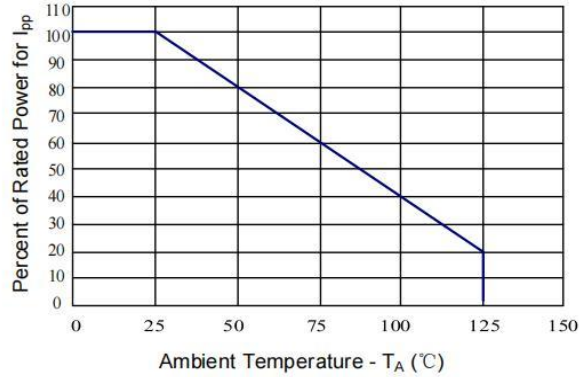


Figure 3: Clamping Voltage vs. Peak Pulse Current

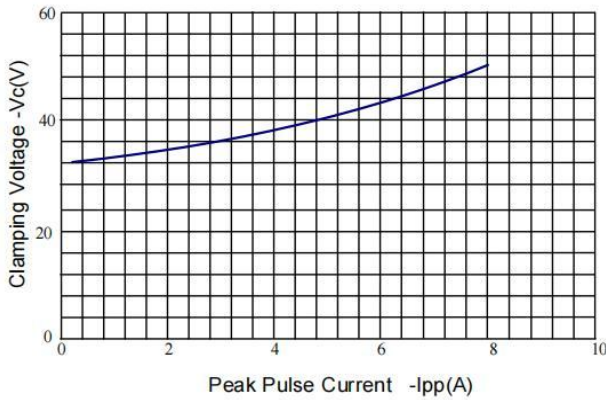


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

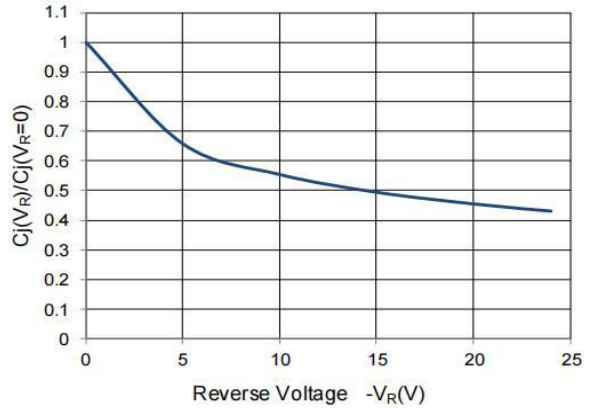


Figure 5: TLP Positive I-V Curve

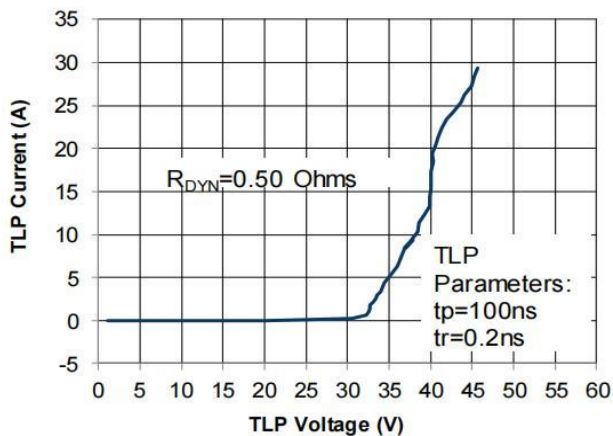
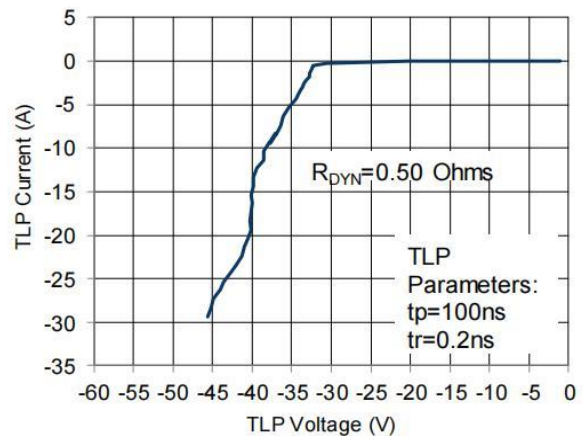



Figure 6: TLP Negative I-V Curve



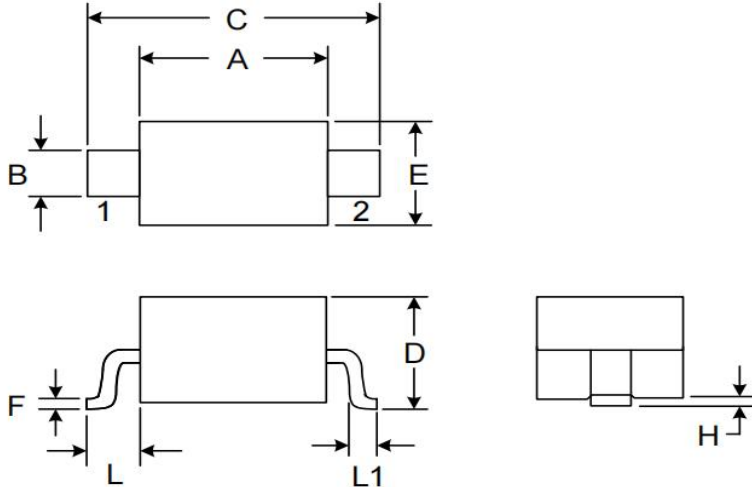

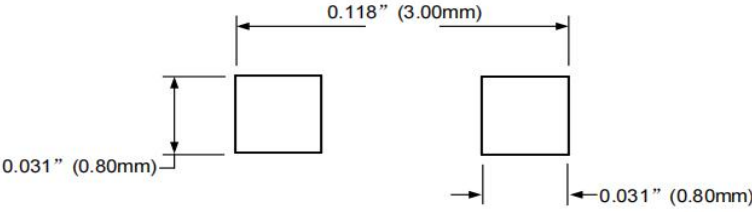
Marking Codes

Part Number	Marking Code
CTCY24V0N1B2MB	

Package Information

Qty: 3k/Reel

Outline Drawing –SOD-323

<p style="text-align: center;"><b>PACKAGE OUTLINE</b></p> 	<div style="text-align: center;">   <b>SOD-323</b> </div> <p style="text-align: center;"><b>DIMENSIONS</b></p> <table border="1"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="2">MILLIMETERS</th> <th colspan="2">INCHES</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>1.52</td> <td>1.80</td> <td>0.060</td> <td>0.071</td> </tr> <tr> <td>B</td> <td>0.25</td> <td>0.40</td> <td>0.010</td> <td>0.016</td> </tr> <tr> <td>C</td> <td>2.46</td> <td>2.71</td> <td>0.097</td> <td>0.107</td> </tr> <tr> <td>D</td> <td>0.80</td> <td>1.16</td> <td>0.031</td> <td>0.046</td> </tr> <tr> <td>E</td> <td>1.11</td> <td>1.40</td> <td>0.044</td> <td>0.055</td> </tr> <tr> <td>F</td> <td>0.08</td> <td>0.20</td> <td>0.003</td> <td>0.008</td> </tr> <tr> <td>L</td> <td colspan="2">0.475 REF</td> <td colspan="2">0.019REF</td> </tr> <tr> <td>L1</td> <td>0.25</td> <td>0.40</td> <td>0.010</td> <td>0.016</td> </tr> <tr> <td>H</td> <td>0.00</td> <td>0.10</td> <td>0.000</td> <td>0.004</td> </tr> </tbody> </table>	SYMBOL	MILLIMETERS		INCHES		MIN	MAX	MIN	MAX	A	1.52	1.80	0.060	0.071	B	0.25	0.40	0.010	0.016	C	2.46	2.71	0.097	0.107	D	0.80	1.16	0.031	0.046	E	1.11	1.40	0.044	0.055	F	0.08	0.20	0.003	0.008	L	0.475 REF		0.019REF		L1	0.25	0.40	0.010	0.016	H	0.00	0.10	0.000	0.004
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