

### Features

- 210 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Protects one I/O or power line
- Replacement for MLV(0805)
- Low clamping voltage
- Working voltage: 15V
- Low leakage current
- Solid-state silicon-avalanche technology



### 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) 7A (8/20 $\mu s$ )

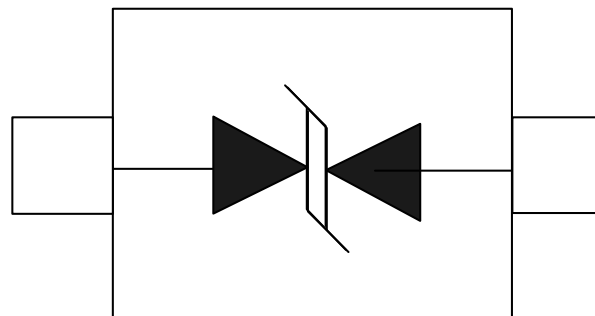
### Mechanical Characteristics

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

### Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras

### Schematic & PIN Configuration

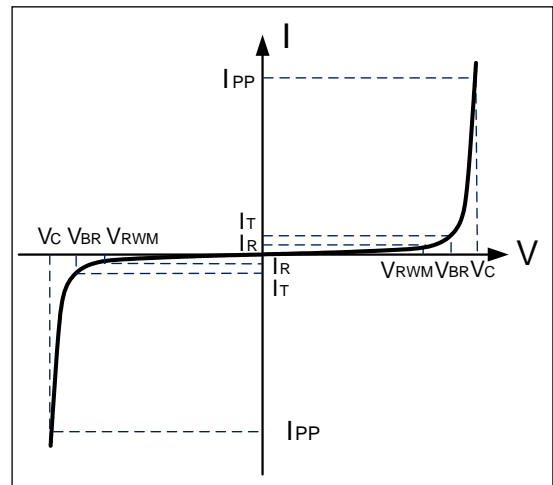


SOD-323 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	210	Watts
Peak Pulse Current( $t_p = 8/20\mu s$ )	$I_{PP}$	7	A
Operating Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

Electrical Parameters

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



Electrical Characteristics(T=25°C unless otherwise noted)

WE15D3BC-B						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	16.7		22	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 15V$			500	nA
Clamping Voltage	$V_C$	$I_{PP} = 7A, t_p = 8/20\mu s$		26	30	V
Dynamic Resistance <sup>1,2</sup>	$R_{DYN}$	TLP=0.2/100ns		0.34		$\Omega$
ESD Clamping Voltage <sup>1</sup>	$V_C$	$I_{PP} = 4A, t_p = 0.2/100ns$ (TLP)		20.2		V
ESD Clamping Voltage <sup>1</sup>	$V_C$	$I_{PP} = 16A, t_p = 0.2/100ns$ (TLP)		24.3		V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		20	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".

Figure 1: Peak Pulse Power Vs Pulse Time

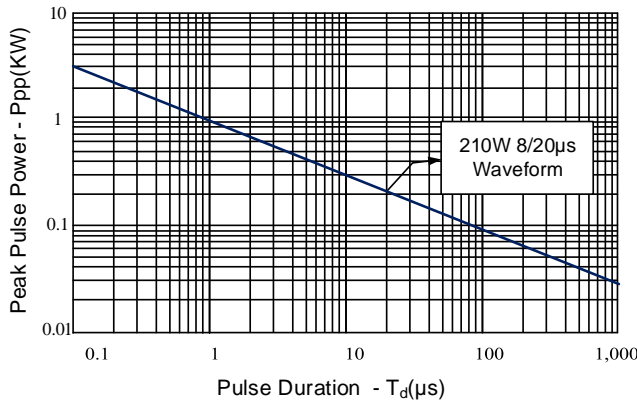


Figure 2: Power Derating Curve

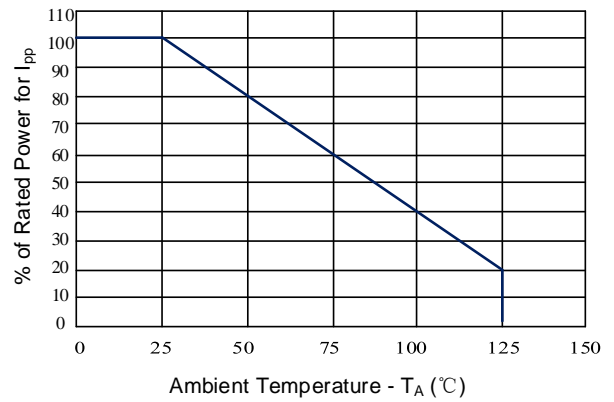


Figure 3: Clamping Voltage vs. Peak Pulse Current

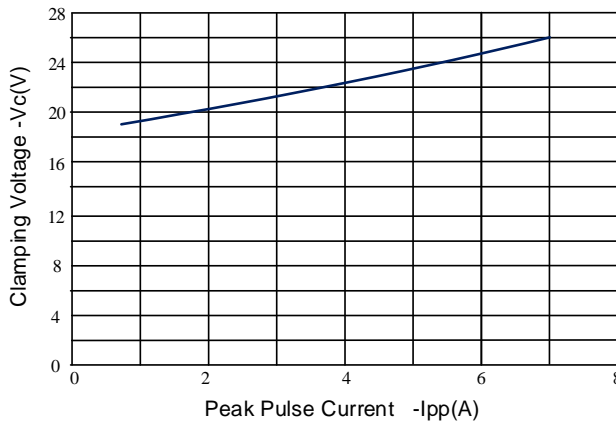


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

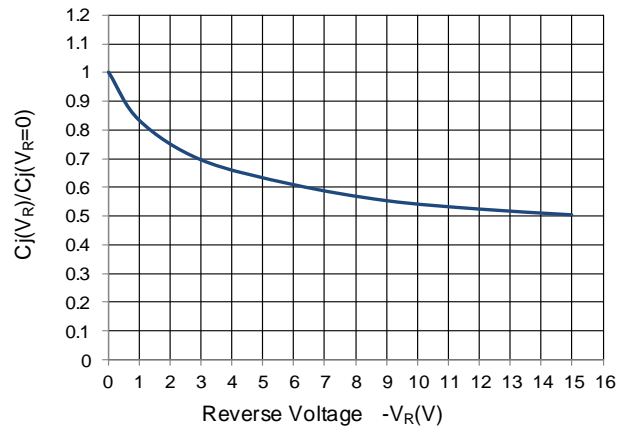


Figure 5: TLP Positive I-V Curve

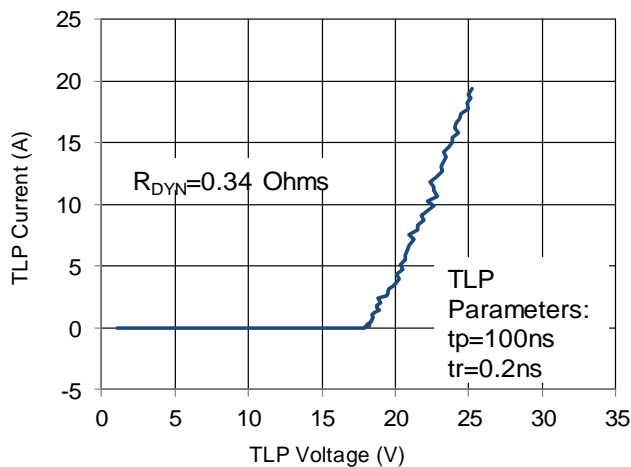
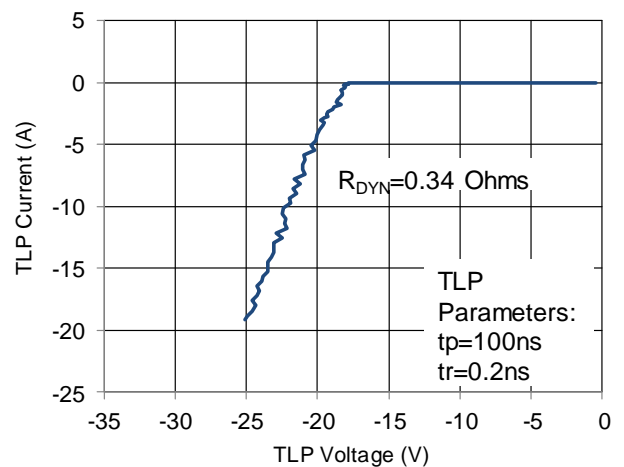
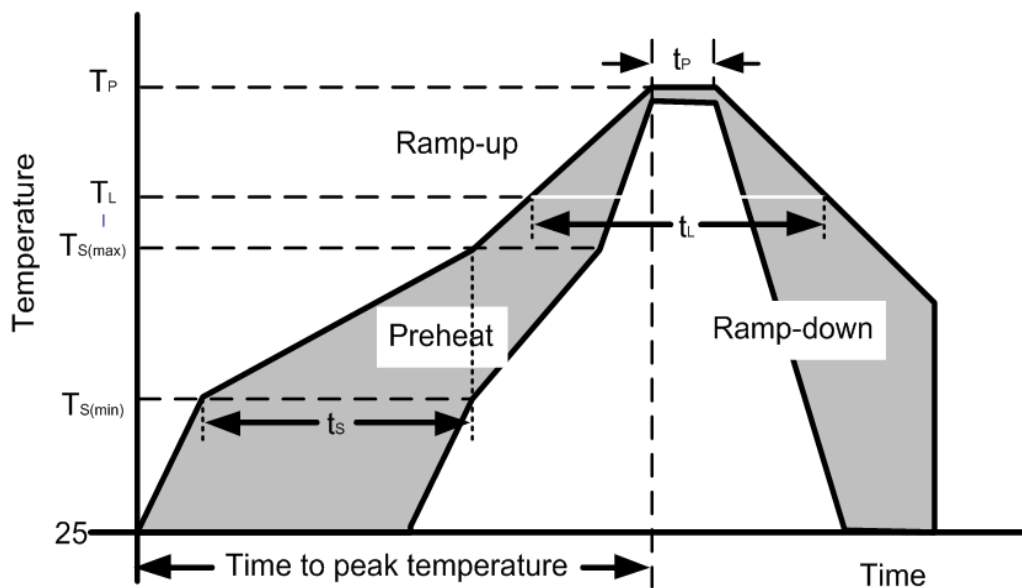


Figure 6: TLP Negative I-V Curve



Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ( $T_{S(min)}$ )	150°C
	Temperature Max ( $T_{S(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 190 secs
Average ramp up rate (Liquidus Temp) ( $T_L$ ) to peak		5°C/second max
$T_{S(max)}$ to $T_L$ —Ramp-up Rate		5°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Temperature ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_P$ )		260+0/-5 °C
Time within actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature ( $T_P$ )		8 minutes Max.
Do not exceed		280°C



PACKAGE OUTLINE		DIMENSIONS			
		<p>SOD-323</p>			
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	

MOUNTING PAD	

**Notes:**  
Controlling Dimension: Millimeter.

### Marking Codes

Part Number	Marking Code
WE15D3BC-B	

### Package Information

Qty: 3k/Reel

### CONTACT INFORMATION

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*Specifications are subject to change without notice.  
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
Users should verify actual device performance in their specific applications.*