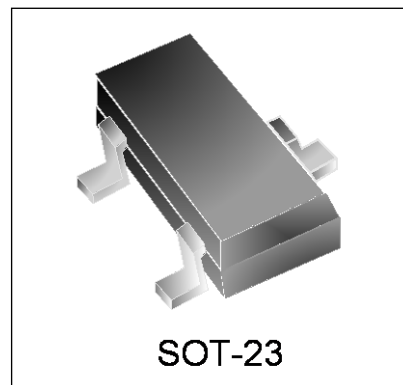


Features

- 60 Watts Peak Pulse Power
- Low Clamping Voltage
- Ultra Low Capacitance
- Working Voltage: 5V
- Low Leakage Current

IEC COMPATIBILITY (EN61000-4)

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



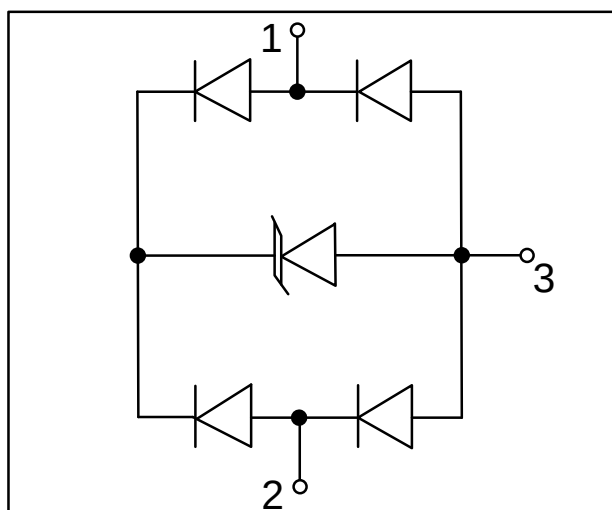
Mechanical Characteristics

- SOT-23 package
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant & HF
- Device meets MSL3 requirement

Applications

- Laptop Computers
- USB 2.0 and USB 3.0
- Cellular Phones
- Digital Cameras
- HDMI 1.3 and HDMI 1.4

Circuit Diagram

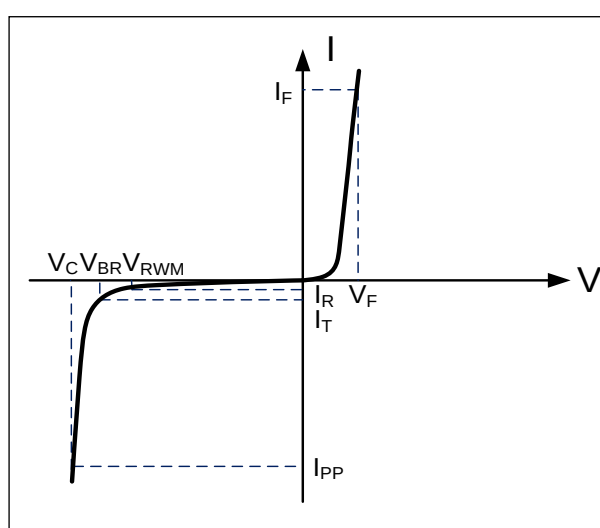


Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	60	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	5	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}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



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

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T=25^\circ C$			200	nA
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$			10	V
Clamping Voltage	V_C	$I_{PP}=5A, t_p=8/20\mu s$		10	12	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A$ $t_p = 0.2/100ns$		8.8		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A$ $t_p = 0.2/100ns$		12		V
Dynamic Resistance ^{1,2}	R_{DYN}	$TLP=0.2/100ns$		0.28		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ I/O pin to GND		0.75	1.2	pF
		$V_R = 0V, f = 1MHz$ Between I/O pins		0.4	0.65	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

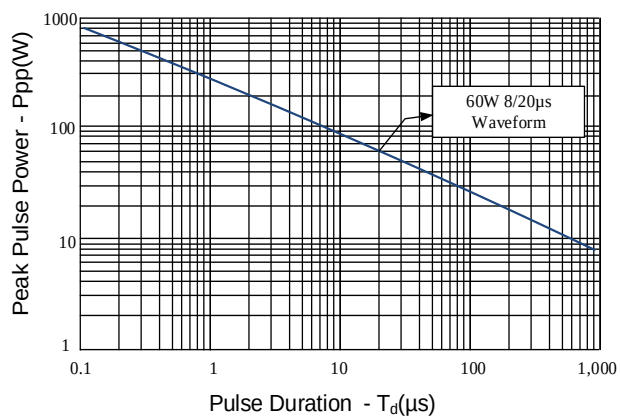


Figure 2: Power Derating Curve

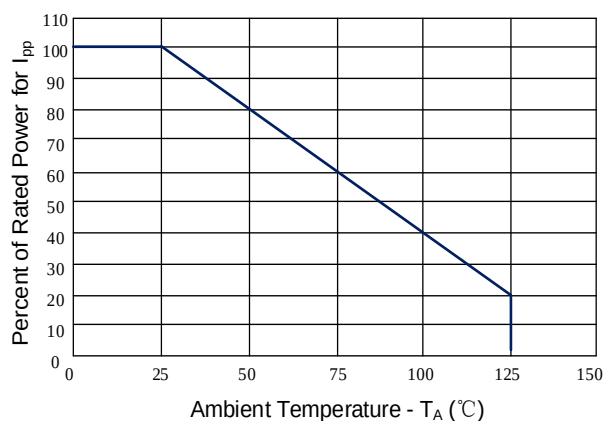


Figure 3: Clamping Voltage vs. Peak Pulse Current

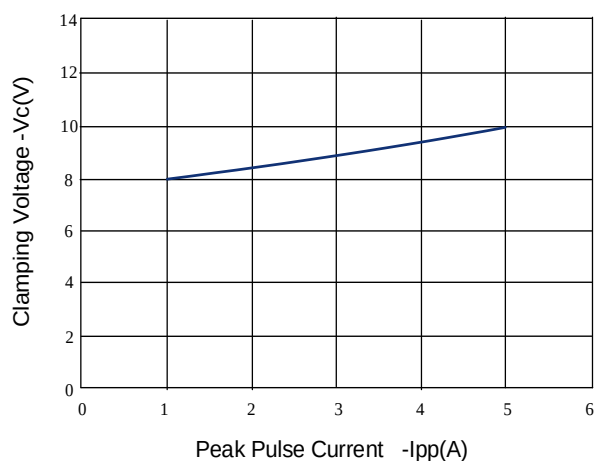


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

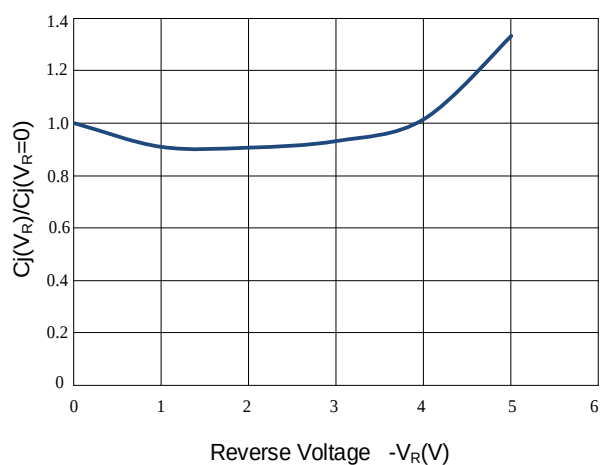


Figure 5: 8/20μs Pulse Waveform

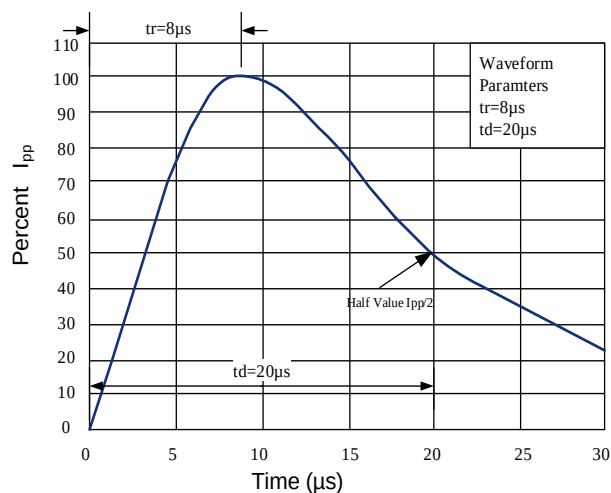
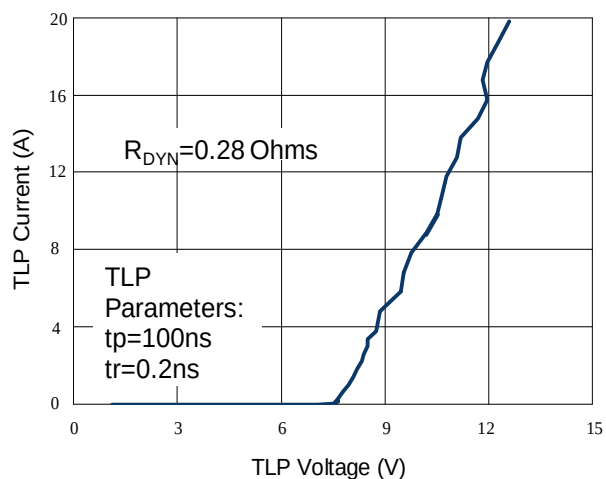
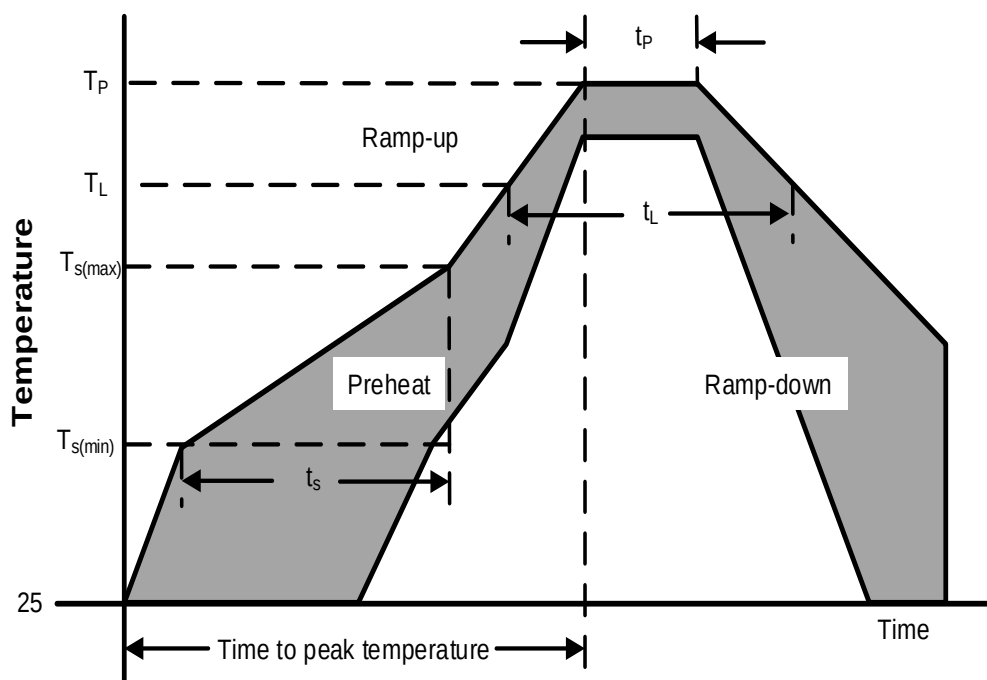


Figure 6: TLP I-V Curve



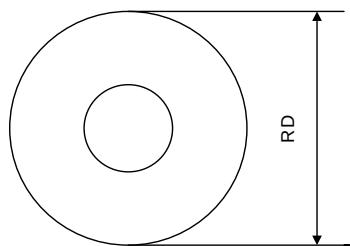
Soldering Parameters

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

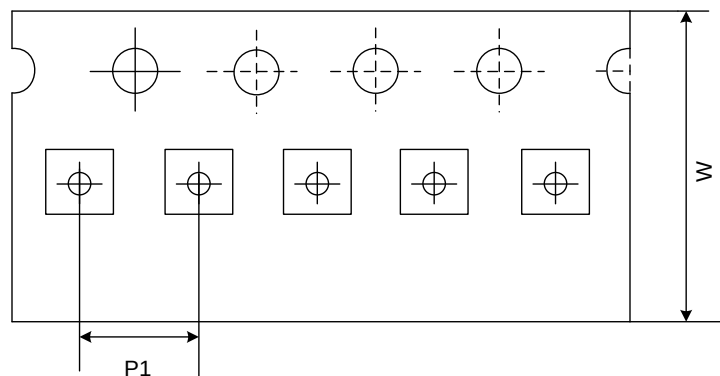


Tape And Reel Information

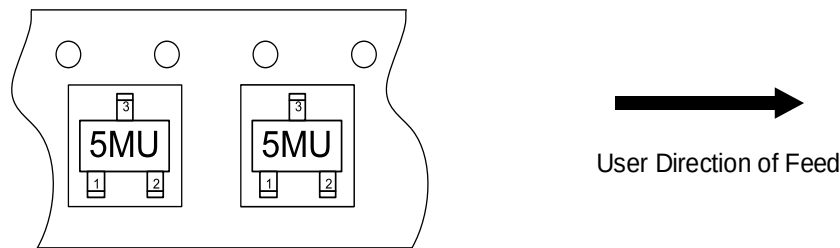
Reel Dimensions



Tape Dimensions



Quadrant Assignments For PIN1 Orientation In Tape



RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Outline Drawing – SOT-23

Cutting Drawing SOT-23

PACKAGE OUTLINE

The image shows the top and side views of the SOT-23 package. The top view labels dimensions D (total width), E (total length), E1 (length of the main body), b (width of the mounting pads), e (pitch between pads), and e1 (total width of the mounting pads). The side view labels dimensions A (maximum height), A1 (height of the main body), and A2 (height of the mounting pads). The package is shown with three pins labeled 1, 2, and 3.

The image shows a cross-sectional view of the SOT-23 package. It labels the lead thickness as 0.25, the lead angle as θ , the lead length as L, and the lead width as c.

The image shows a 3D isometric view of the SOT-23 package. The pins are labeled 1, 2, and 3.

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°

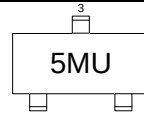
The image shows the top view of the SOT-23 package with internal dimensions. It labels dimensions M (distance from the top edge to the center of the mounting pads), C (distance from the top edge to the center of the mounting pads), Z (distance from the top edge to the center of the mounting pads), e (pitch between pads), e1 (total width of the mounting pads), and b (width of the mounting pads). The package is shown with three pins labeled 1, 2, and 3.

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:

Controlling Dimension: Millimeter.

Marking Codes

Part Number	Marking Code
WE05M2UC	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

No.1001, Shiwan (7) Road, Pudong District, Shanghai, P.R.China.201207

Tel: 86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.comWAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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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.