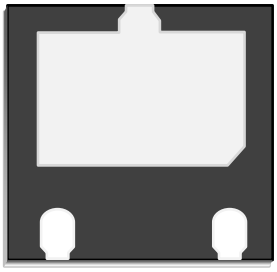
WS10P4N3

Transient Voltage Suppressor

Features

- 5460 Watts Peak Power (tp = 8/20μs)
- Excellent Clamping Capability
- Low profile package
- Solid-state silicon technology



DFN2020-3L
(bottom view)

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5 (Lightning) 260A (8/20μs)**

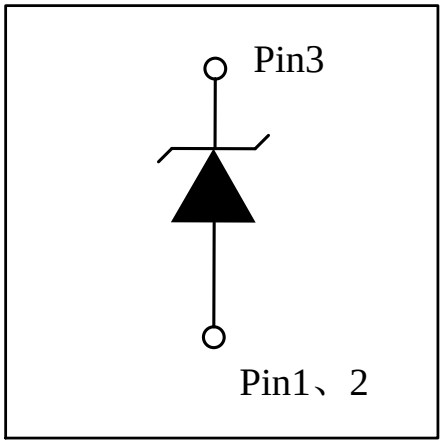
Mechanical Characteristics

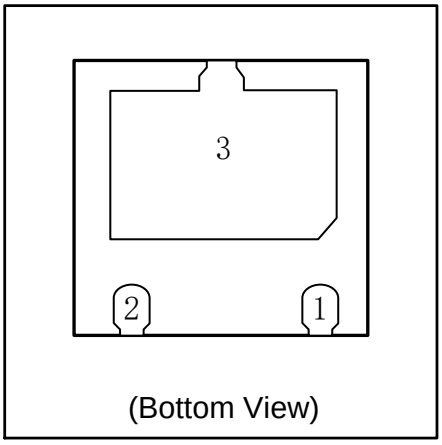
- DFN2020-3L package
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant & HF

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computer & Consumer Electronics
- Industrial Electronics
- Microcontroller Input Protection

PIN Configuration



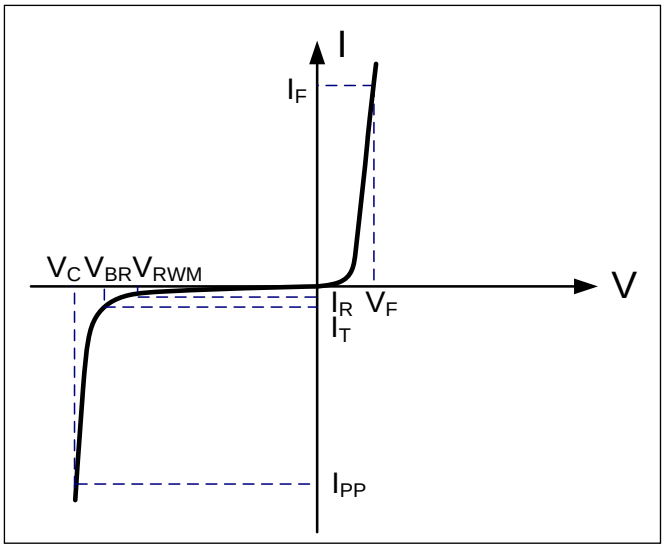


Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power（t_p=8/20μs）	P_{PP}	5460	Watts
Peak Pulse Current（t_p=8/20μs）	I_{PP}	260	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℃ unless otherwise noted)

WS10P4N3						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				10	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	11		13	V
Forward Voltage	V_F	I_F=10mA	0.6		1.2	V
Reverse Leakage Current	I_R	V_{RWM}=10V			200	nA
Clamping Voltage[1]	V_C	I_{PP}=260A, t_p=8/20μs		19	21	V
Dynamic Resistance[2,3]	R_{DYN}	TLP=0.2/100ns		0.01		Ω
ESD Clamping Voltage[1]	V_C	IPP = 4A, tp = 0.2/100ns (TLP)		11.2		V
ESD Clamping Voltage[1]	V_C	IPP = 16A, tp = 0.2/100ns (TLP)		11.3		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		1700	2000	pF

Note：1.Measured from pin 3 to pin 1& pin 2；

2. TLP Setting：t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t_1=70ns to t_2=90ns.

3、Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using “Best Fit”.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

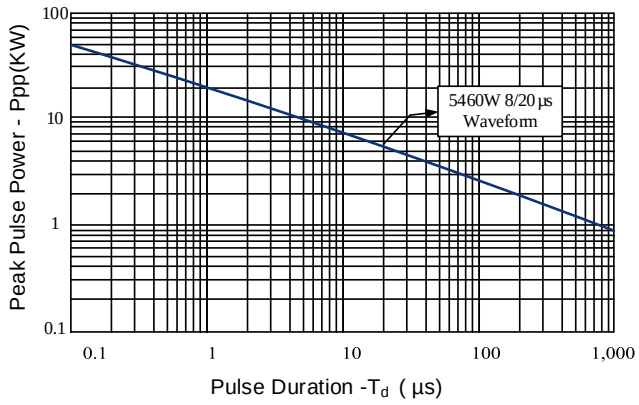


Figure 2: Power Derating Curve

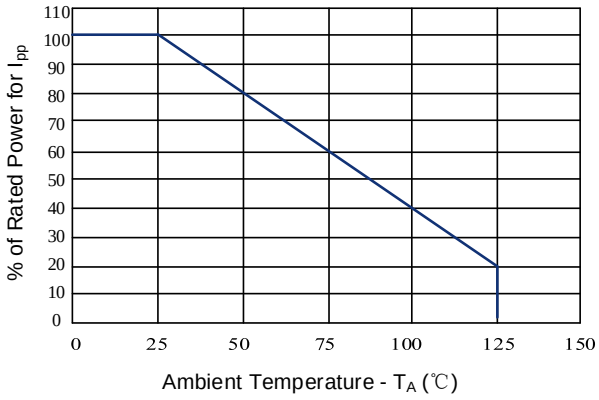


Figure 3: Clamping Voltage vs. Peak Pulse Current

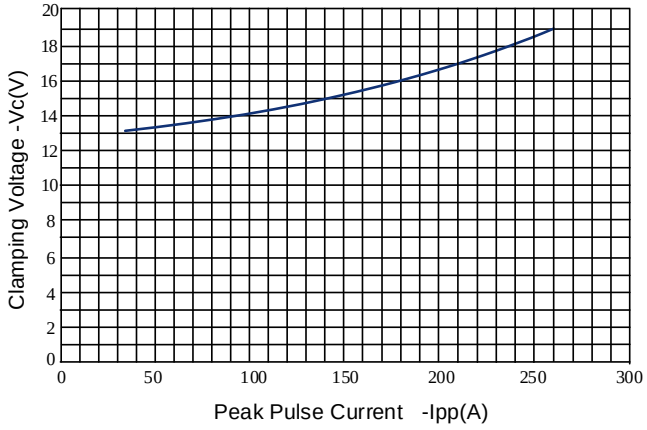


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

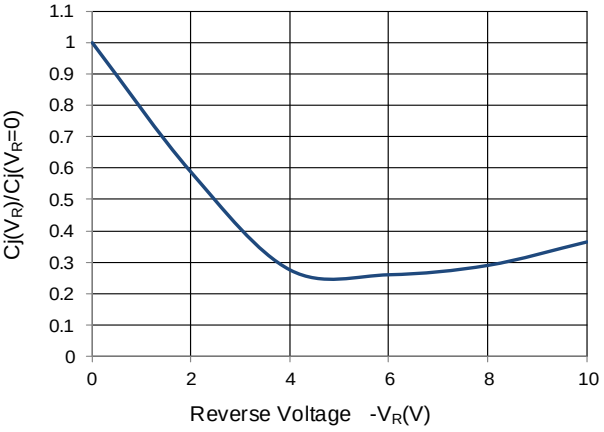


Figure 5: 8/20μs Pulse Waveform

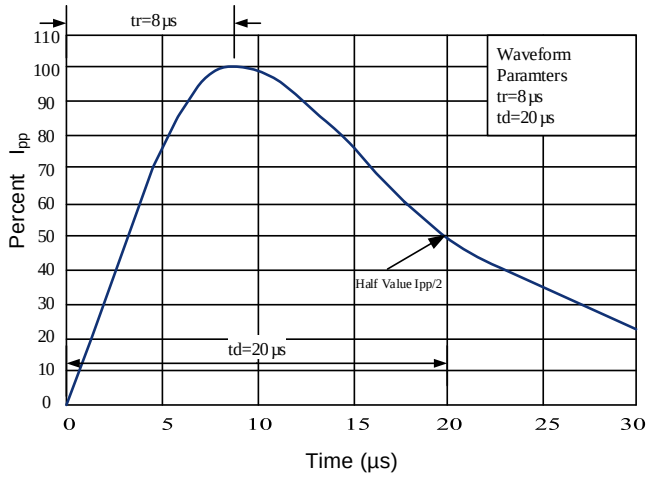
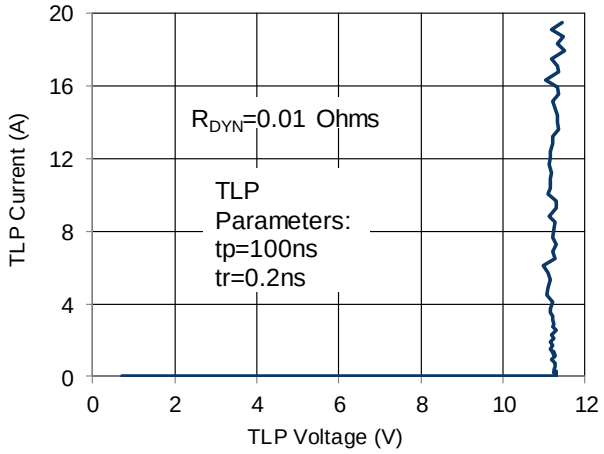
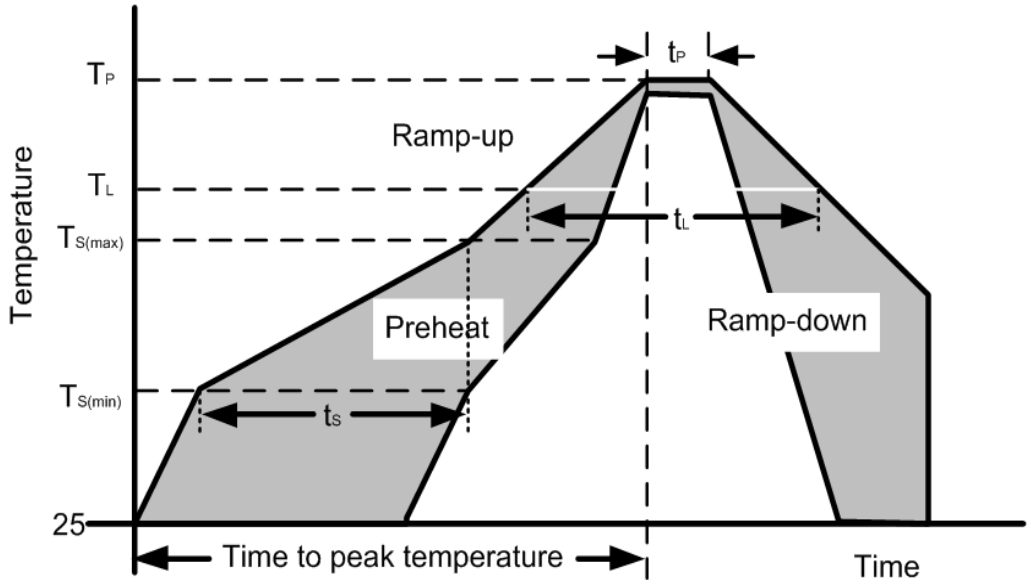


Figure 6: TLP I-V Curve



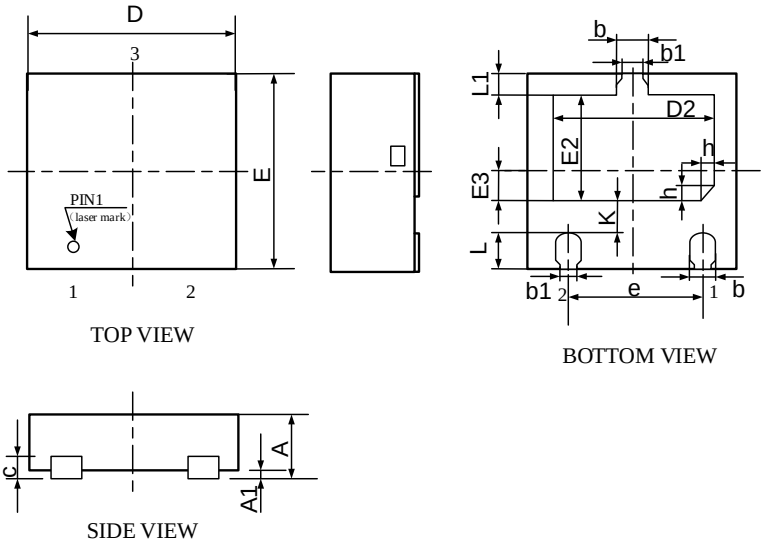
Soldering Parameters

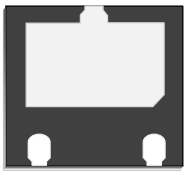
Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (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



Outline Drawing –DFN2020-3L

PACKAGE OUTLINE





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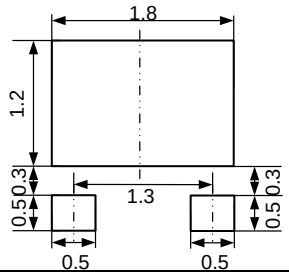
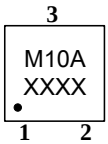
SYMBOL	MILLIMETERS		
	MIN	NOM	MAX
A	0.45	0.55	0.60
A1	0.00	0.02	0.05
b	0.25	0.30	0.35
b1		0.20REF	
c		0.152REF	
D	1.90	2.00	2.10
D2	1.40	1.50	1.60
e		1.30BSC	
E	1.90	2.00	2.10
E2	0.95	1.05	1.15
E3	0.20	0.30	0.40
L	0.35	0.40	0.45
L1	0.20	0.25	0.30
h		0.20REF	
K	0.20	0.30	0.40

Land Pattern



Marking Codes

Part Number	Marking Code
WS10P4N3	 M10A=Specific Device Code XXXX=Lot Code

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.com
WAYON website: **http://www.way-on.com**

For additional information, please contact your local Sales Representative.

单击下面可查看定价，库存，交付和生命周期等信息

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