



## 1. Features

- Ultra-Low capacitance:0.5pF(typ.)
- Reverse stand-off voltage:5V
- IEC 61000-4-2 (Air): ±20KV  
IEC 61000-4-2 (Contact): ±15KV

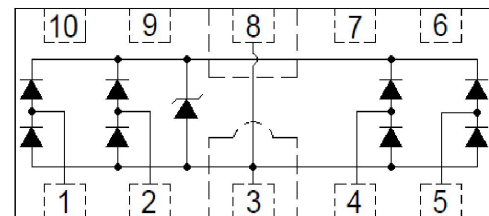
## 2. Pin Description



## 3. Applications

- USB 3.0, USB 2.0
- HDMI 1.3/1.4, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- High speed serial interfaces

## 4. Schematic Diagram



Top View

## 5. Order Information

Type	Package	Size (mm)	Delivery Form	Delivery Quantity
RCLAMP0524P	DFN2510	2.50x1.00x0.50	7" T&R	3,000

## 6. Limiting Values( $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{ESD}$	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±15	kV
		IEC 61000-4-2; Air Discharge	-	±20	kV
$I_{PPM}$	Rated Peak Pulse Current	$t_p = 8/20\ \mu\text{s}$	-	5	A
$T_A$	Ambient Temperature Range	-	-55	125	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-	-55	150	$^\circ\text{C}$



## 7. Electrical Characteristics(T<sub>A</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V <sub>RWM</sub>	Reverse Working Voltage	T <sub>A</sub> = 25 °C	-	-	5	V
V <sub>BR</sub>	Breakdown Voltage	I <sub>R</sub> = 1 mA; T <sub>A</sub> = 25 °C	6	-	-	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V; T <sub>A</sub> = 25 °C	-	-	1	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> =1A, t <sub>P</sub> =8/20μs, Any I/O to GND , Positive	-	8.5	12	V
		I <sub>PP</sub> =5A, t <sub>P</sub> =8/20μs, Any I/O to GND , Positive	-	12	16	V
C <sub>L</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz, I/O to I/O	-	0.3	0.4	pF
		V <sub>R</sub> = 0V, f = 1 MHz, I/O to GND	-	0.5	0.8	pF

## 8. Typical Characteristics

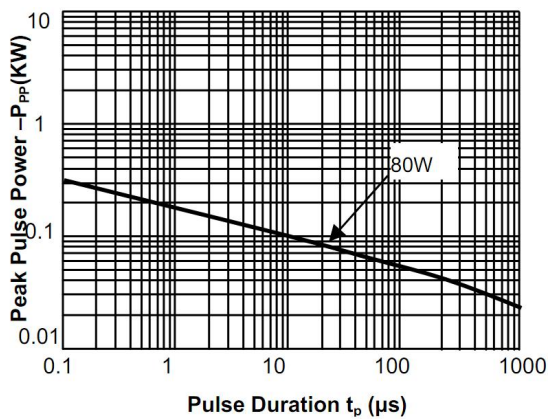


Fig.1 Peak Pulse Power Rating Curve

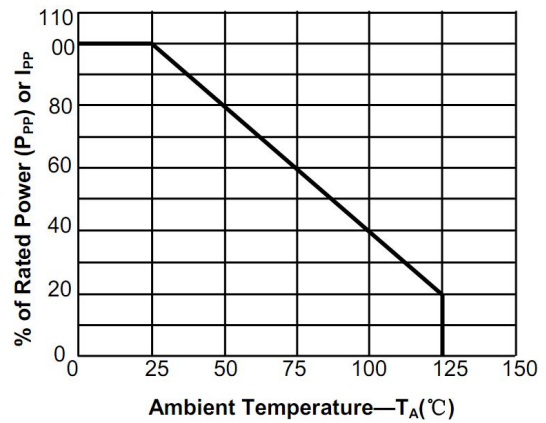


Fig.2 Pulse Derating Curve

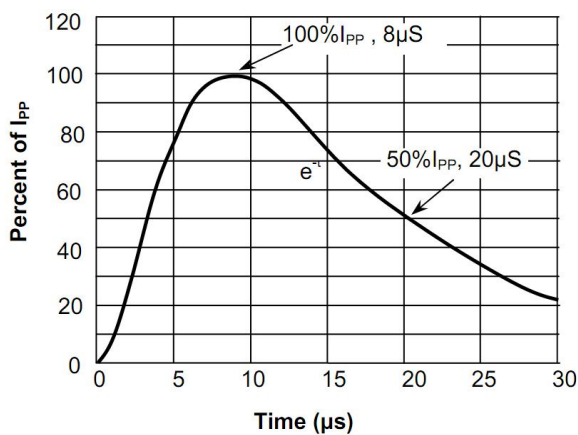


Fig.3 Pulse Waveform-8/20μs

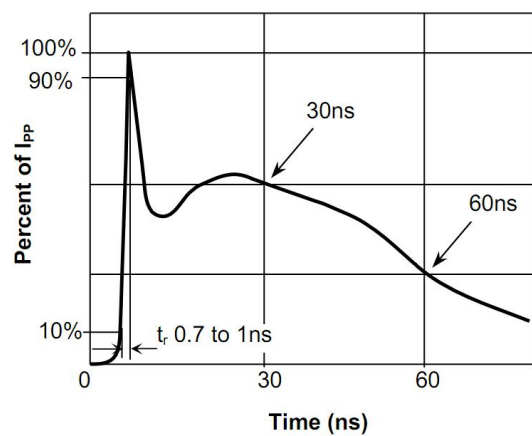
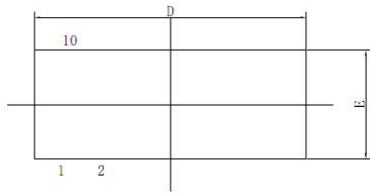


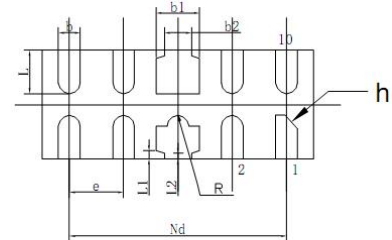
Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

**9. Package Dimension****DFN2510 Package Outline**

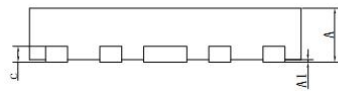
Top View



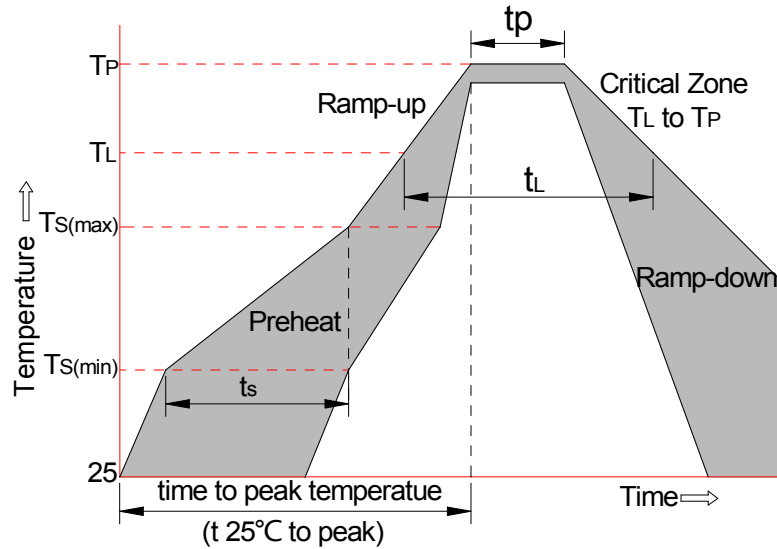
Side View



Bottom View



Symbol	Dimensions in millimeters		
	Min	Nom	Max
<b>A</b>	0.45	0.50	0.55
<b>A1</b>	-	0.02	0.05
<b>b</b>	0.15	0.20	0.25
<b>b1</b>	0.35	0.40	0.45
<b>b2</b>	0.20	0.25	0.30
<b>c</b>	0.10	0.15	0.20
<b>D</b>	2.45	2.50	2.55
<b>e</b>	0.50BSC		
<b>Nd</b>	2.00 BSC		
<b>E</b>	0.95	1.00	1.05
<b>L</b>	0.35	0.40	0.45
<b>L1</b>	0.075 REF		
<b>L2</b>	0.05 REF		
<b>h</b>	0.08	0.12	0.15
<b>R</b>	0.05	0.10	0.15

**10. 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) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C



## 11. Contact Information

Online product information is available at [www.wdsemi.com](http://www.wdsemi.com)

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