

# KWSRC4120

## Features

- 150 Watts Peak Pulse Power( $t_p=8/20\mu s$ )
- Replacement for DFN4120-10
- Protects six I/O and one power line
- Low Clamping Voltage
- Reverse Voltage:5V
- Low Leakage Current
- Response Time is Typically  $<1\text{ ns}$

## Mechanical Characteristics

- DFN4120-10L package
- ROHS Compliant

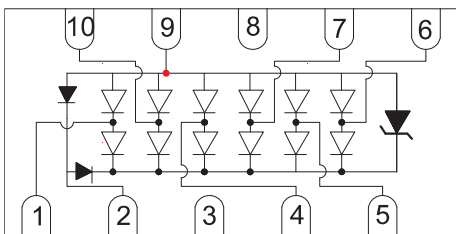
## IEC Compatibility(EN61000-4)

- IEC61000-4-2(ESD) $\pm 15\text{ kV}$ (air), $\pm 8\text{ kV}$ (contact)
- IEC61000-4-4(EFT)40A(5/50ns)
- IEC61000-4-5(Surge)5A(8/20 $\mu s$ )

## Applications

- USB3.0,HDMI
- Power Line
- Industrial Controls
- Set-Top Box
- Servers,Notebook,and Desktop PC

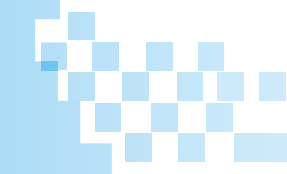
## Schematic & Pin Configuration



**DFN4120-10L Top View**

## Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power( $t_p=8/20\mu s$ )	PPK	150	Watts
Lead Soldering Temperature	TL	260(10 sec.)	$^{\circ}\text{C}/\text{W}$
Operating Temperature	TJ	-55-150	$^{\circ}\text{C}$
Storage Temperature	TSTG	-40-120	$^{\circ}\text{C}$
IEC61000-4-2	VPP	Air 15 Contact 8	KV



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## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$	pin2-pin9			5	V
Reverse Breakdown Voltage	$V_{BR}$	pin2-pin9 $I_T=1mA$	6.1		8.5	V
Leakage Current	$I_R$	Any I/O-GND@ $V_{RWM}$			1	$\mu A$
Clamping Voltage	$V_C$	@ 1A			15	V
Peak Pulse Current	$V_C$	@5A			28	A
Junction Capacitance	$C_{IO-IO}$	$V_R=0V, f=1MHz$			0.4	pf
	$C_{IO-GND}$	$V_R=0V, f=1MHz$			0.85	pf

Figure1: Peak Pulse Power Vs Pulse Time

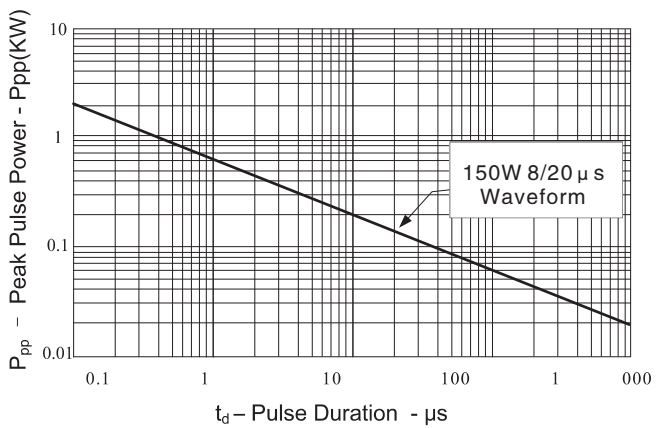


Figure2: Power Derating Curve

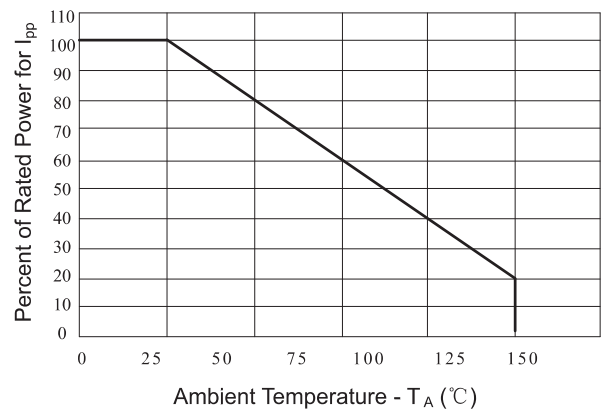


Figure3: Pulse waveform

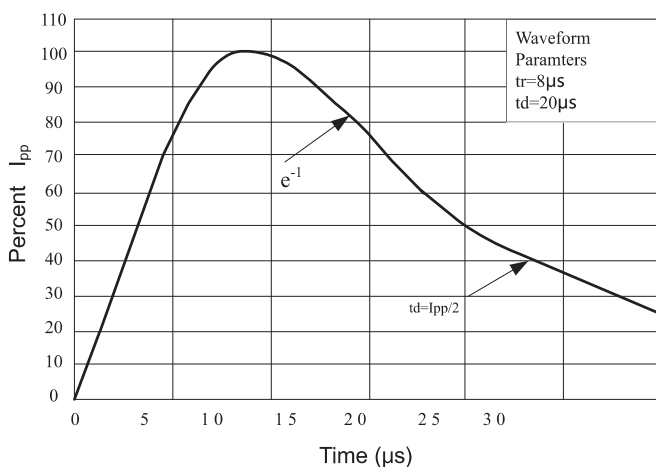
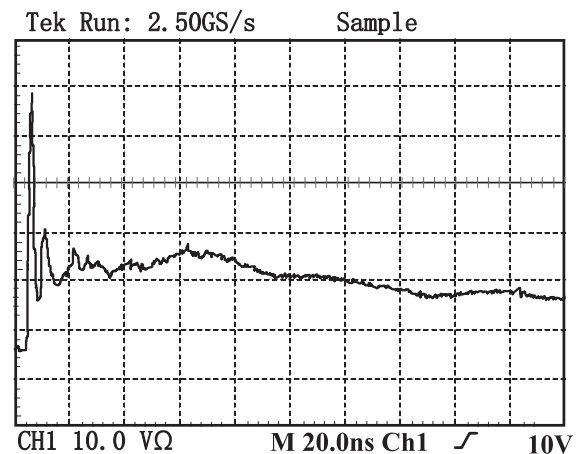
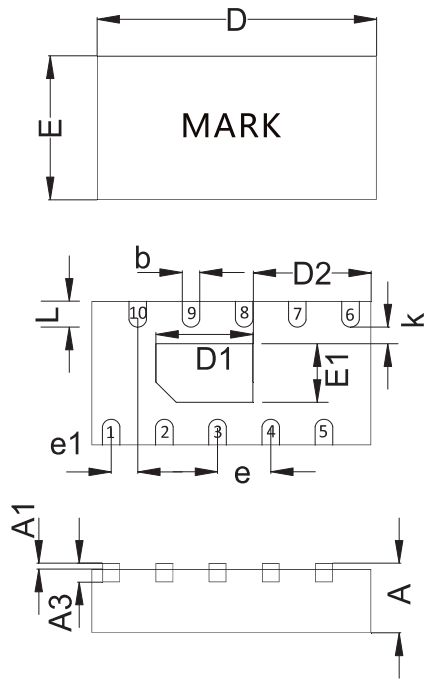


Figure4: ESD Clamping (8kV Contact @IEC61000-4-2)



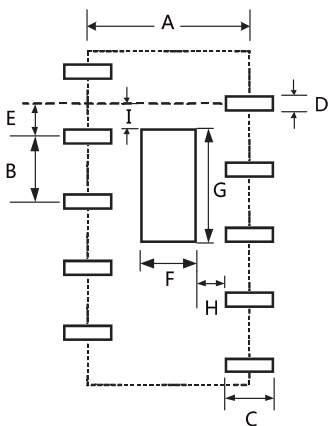
**KWSRC4120**

**Outline Drawing-DFN4120-10**



DIM	Millimeters		Inch	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
A1		0.05	0.002	
A3	0.152(BSC)		0.006(BSC)	
D	4.05	4.15	0.159	0.166
E	1.95	2.05	0.077	0.082
D1	1.3	1.5	0.051	0.060
E1	0.7	0.9	0.028	0.036
D1	0.95	1.05	0.038	0.042
D2	1.65	1.85	0.065	0.074
b	0.15	0.25	0.006	0.01
K	0.20MIN		0.008MIN	
e	0.80BSC		0.032BSC	
L	0.25	0.35	0.01	0.014

**LAYOUT**



DIM	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	1.924	2	2.076	0.07696		0.08304
B	0.800TYP			0.031TYP		
C	0.600TYP			0.023TYP		
D	0.150	0.200	0.250	0.006	0.008	0.010
E	0.400TYP			0.015TYP		
F	0.700	0.800	0.900	0.028	0.032	0.036
G	1.300	1.400	1.500	0.052	0.056	0.060
H	0.200MIN			0.008MIN		
I	0.300TYP			0.012TYP		

**Marking Code & Packaging**

Part number	Component Package	Quantity	Packaging Option
KWSRC4120	DFN4120-10	6000pcs	13"