RClamp0524PATCT

4-Line Ultra Low Capacitance TVS Diode Array

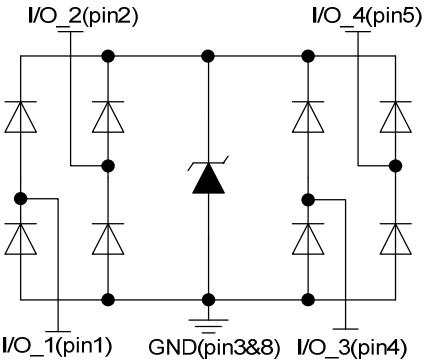
FEATURES

- Solid-state silicon-avalanche technology
- Up to four I/O lines of protection
- Low operating voltage
- Ultra low capacitance
- Low operating and clamping voltage
- Low leakage current
- RoHS compliant

DFN2510

MAIN APPLICATIONS

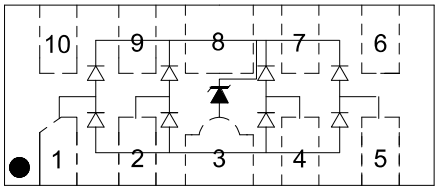
- Digital visual interface(DVI)
- Display port TM interface
- MDDI ports
- PCI express
- SATA interfaces
- High definition multi-media interface(HDMI)



Pin configuration

PROTECTION SOLUTION TO MEET

- IEC61000-4-2 (ESD) ±25kV (air), ±20kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 5A (8/20μs)



Top view

MECHANICAL CHARACTERISTICS

- DFN2510 package
- Molding compound flammability rating: UL 94V-0
- Quantity per reel: 3,000pcs
- Lead finish: lead free
- Marking code: 0524P

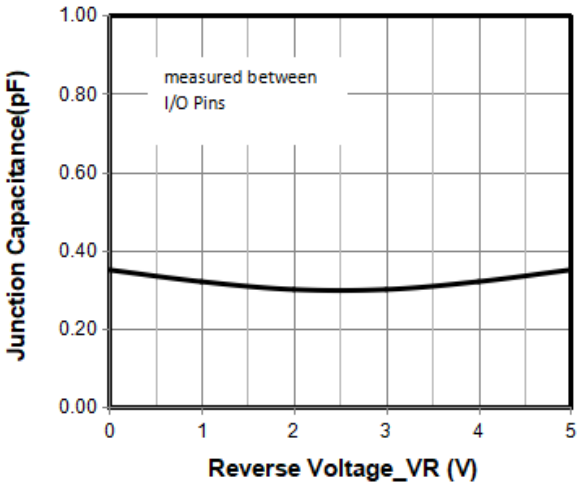
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power（tp=8/20μs）	P_{PP}	80	W
Peak Pulse Current（tp=8/20μs）	I_{PP}	5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±25 ±20	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

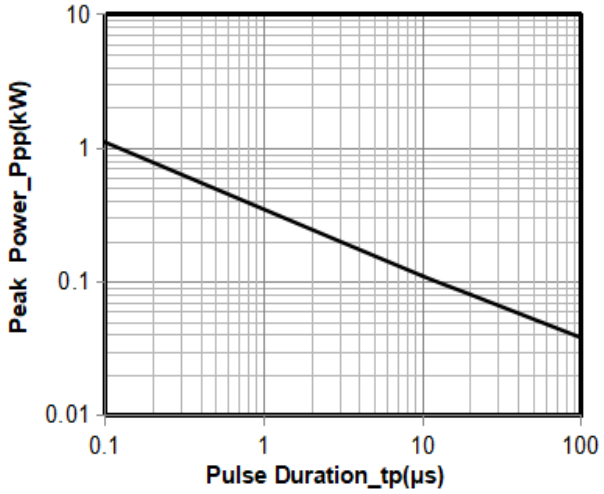
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	Any I/O pin to ground
Breakdown Voltage	V_{BR}	6			V	I_T = 1mA, any I/O pin to ground
Reverse Leakage Current	I_R		0. 01	0.5	μA	V_{RWM} = 5V, any I/O pin to ground
Clamping Voltage	V_C			9	V	I_{PP} = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V_C			16	V	I_{PP} = 5A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C_J		0.3	0.4	pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C_J			0.8	pF	VR = 0V, f = 1MHz, any I/O pin to ground

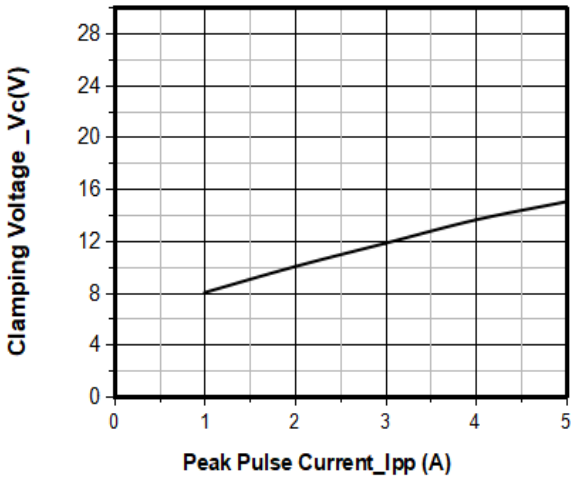
Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)



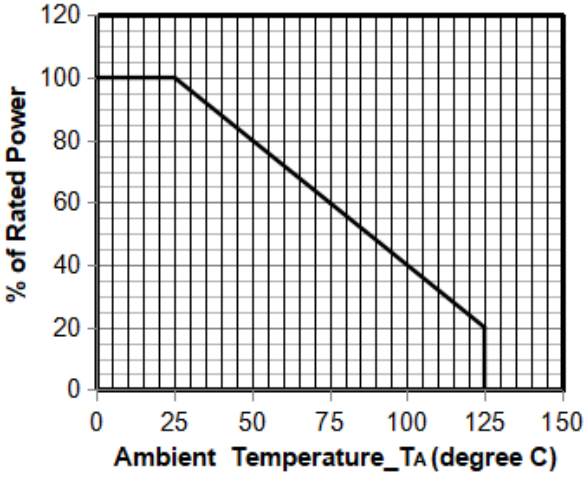
Junction Capacitance vs. Reverse Voltage



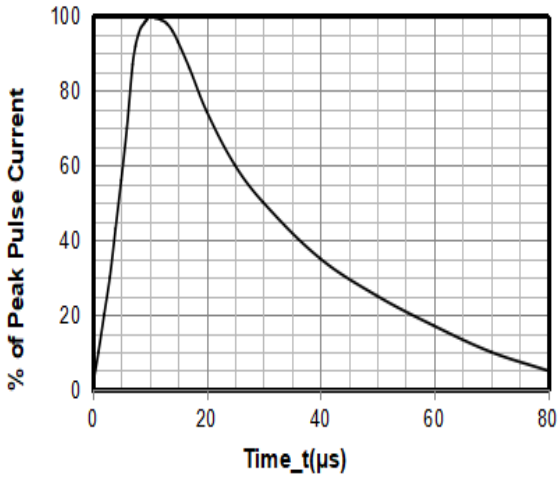
Peak Pulse Power vs. Pulse Time



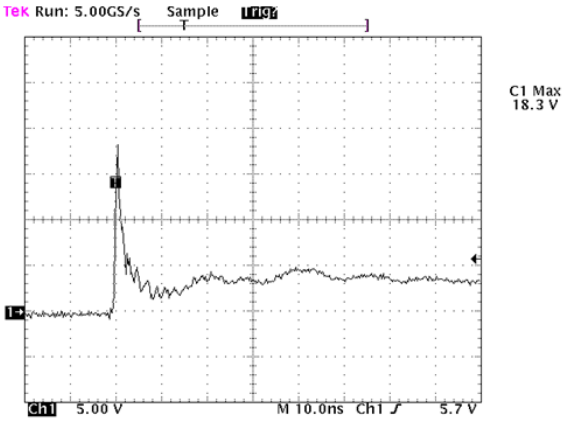
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

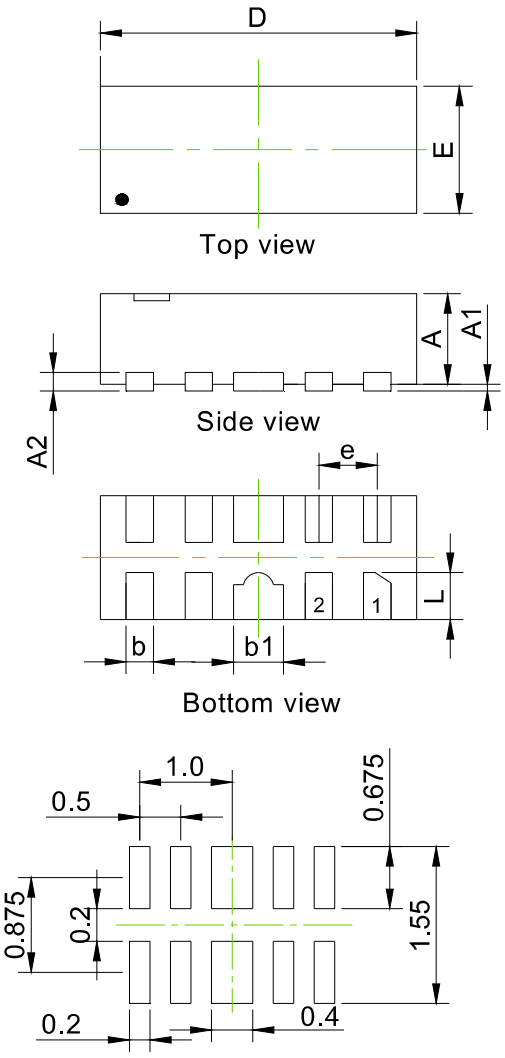


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

DFN2510 Package Information



Recommended soldering footprint

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.65	0.020	0.026
A1	0.00	0.05	0.000	0.002
A2	0.13REF.		0.005REF.	
b	0.15	0.25	0.006	0.010
b1	0.35	0.45	0.014	0.018
D	2.40	2.60	0.094	0.102
E	0.90	1.10	0.035	0.043
e	0.50BSC		0.020BSC	
L	0.30	0.425	0.012	0.017