



Micro Commercial Components



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# ESDLC5V0PA6

## ESD Protection Device

### Features

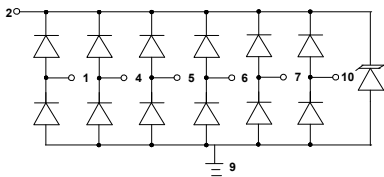
- Ultra Low Capacitance 0.3pF typical
- Low operating Voltage: 5.0 V
- Low clamping voltage
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Lightning) 5A (8/20us)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"
- Marking:0506

### Maximum Ratings

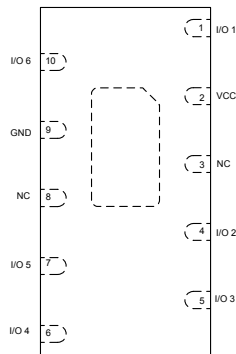
- Junction Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Contact Air	$V_{ESD}$	$\pm 8$ $\pm 15$	KV
Peak Pulse Power (8/20us)	$P_{pk}$	100	W
Peak Pulse Current (8/20us)	$I_{pp}$	5	A

Internal Structure

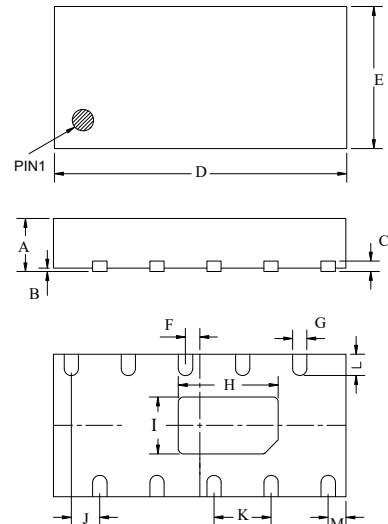


Circuit Diagram



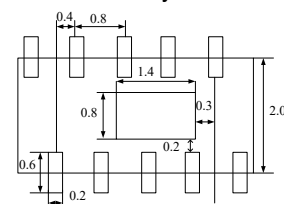
Pin Schematic

### DFN4120-10



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.020	0.024	0.50	0.60	
B	0.000	0.002	0.00	0.05	
C	0.006 REF.		0.150 REF.		
D	0.162	0.166	4.05	4.15	
E	0.075	0.082	1.95	2.05	
F	0.008 REF.		0.200 REF.		
G	0.006	0.010	0.15	0.25	
H	0.050	0.060	1.25	1.50	
I	0.026	0.036	0.65	0.90	
J	0.016 REF.		0.40 REF.		
K	0.032 REF.		0.80 REF.		
L	0.008	0.016	0.20	0.40	
M	0.010 REF.		0.25 REF.		

Suggested Solder Pad Layout (mm)

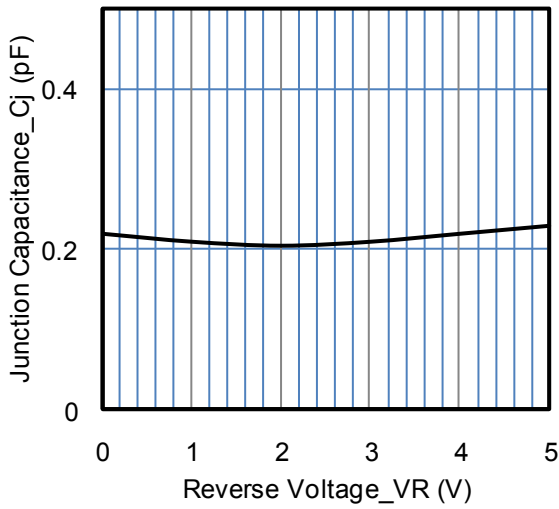


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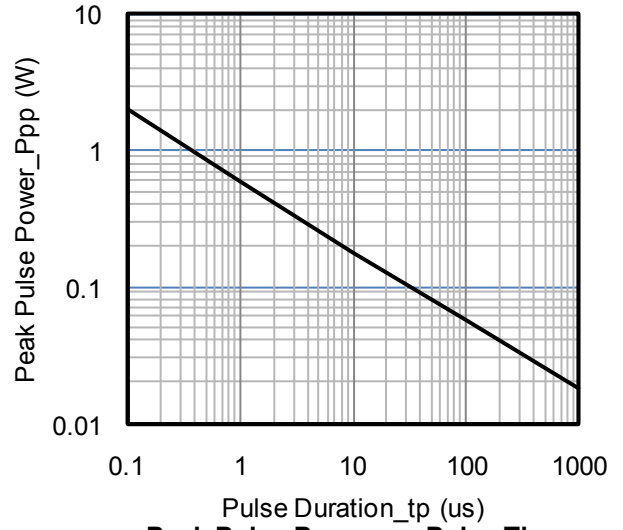
### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	Any I/O pin to ground
Breakdown Voltage	V <sub>BR</sub>	6			V	I <sub>T</sub> = 1mA, any I/O pin to ground
Reverse Leakage Current	I <sub>R</sub>			0.5	μA	V <sub>RWM</sub> = 5V, any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			15	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			20	V	I <sub>PP</sub> = 5A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C <sub>J</sub>		0.30	0.40	pF	V <sub>CC</sub> = 5V, V <sub>IN</sub> = 2.5V, f = 1MHz, any I/O pin to ground

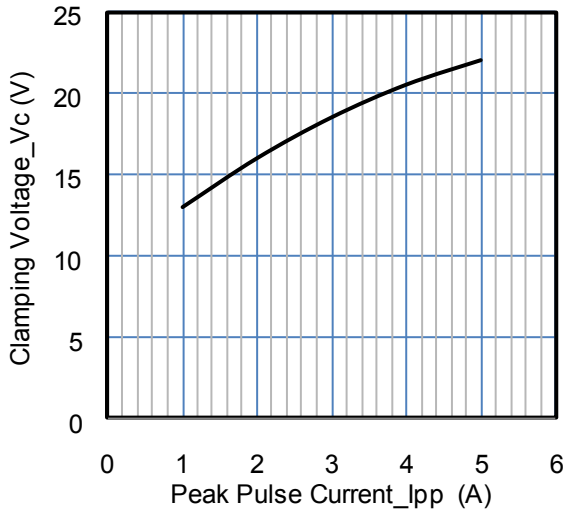
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



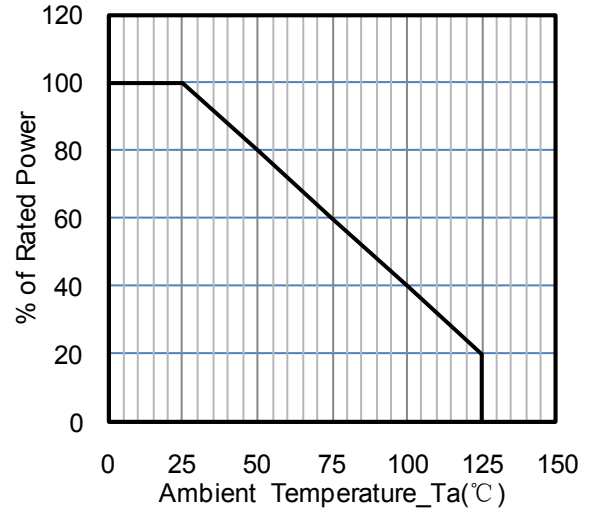
**Junction Capacitance vs. Reverse Voltage**



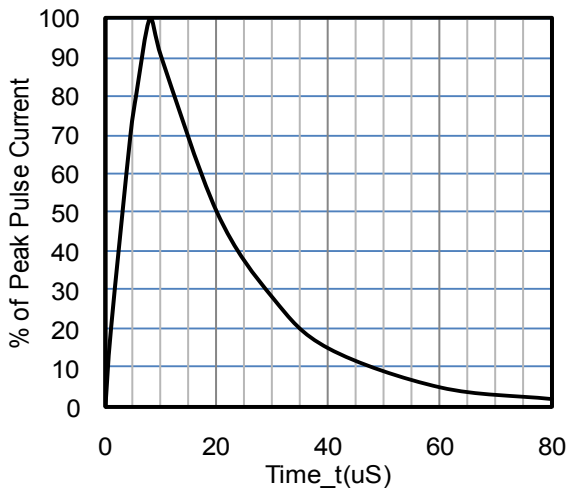
**Peak Pulse Power vs. Pulse Time**



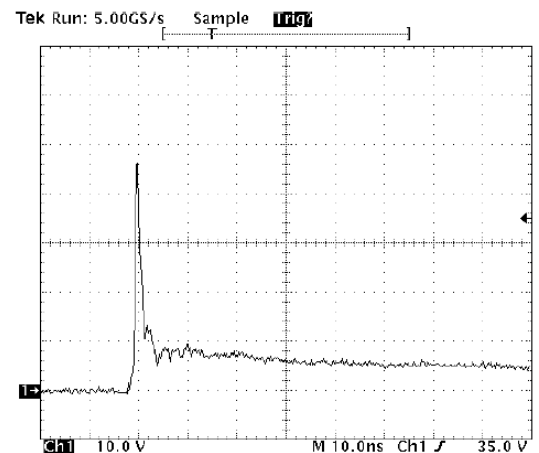
**Clamping Voltage vs. Peak Pulse Current**



**Power Derating Curve**



**8 X 20uS Pulse Waveform**



**ESD Clamping Voltage**

**8 kV Contact per IEC61000-4-2**



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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