



Micro Commercial Components  
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# ESDLC3304P8

## ESD Protection Device

### Features

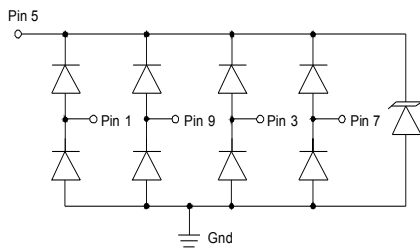
- Low operating voltage:3.3V
- Low clamping voltage
- Ultra low leakage: nA level
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Lightning) 25A (8/20us)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"
- Marking: 3304

### Maximum Ratings

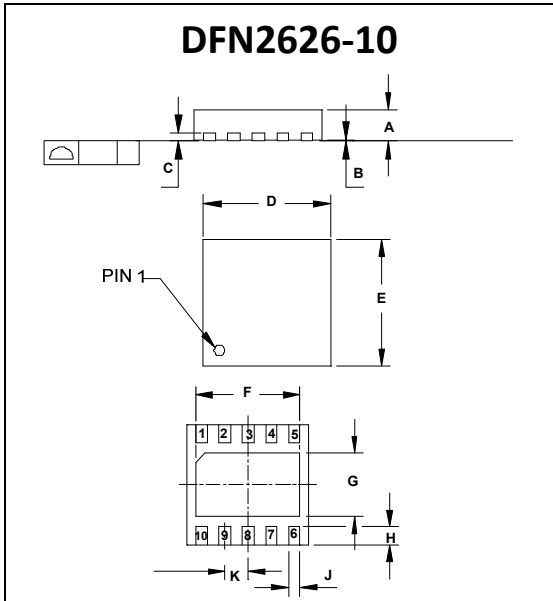
- Junction Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Contact Air	$V_{ESD}$	$\pm 15$ $\pm 25$	KV
Peak Pulse Power (8/20us)	$P_{pk}$	450	W
Peak Pulse Current (8/20us)	$I_{pp}$	25	A

### Dimensions and Pin Configuration

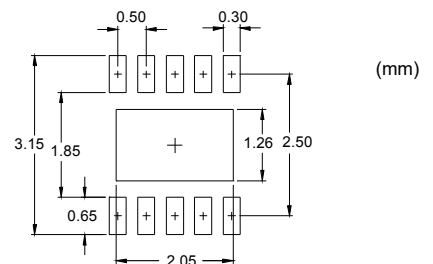


Circuit and Pin Schematic



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.020	0.024	0.50	0.60	
B	0.000	0.002	0.00	0.05	
C	0.007		0.17		
D	0.098	0.106	2.50	2.70	
E	0.098	0.106	2.50	2.70	
F	0.079	0.089	2.00	2.25	
G	0.044	0.054	1.11	1.36	
H	0.012	0.016	0.30	0.40	
J	0.008	0.012	0.20	0.30	
K	0.020BSC		0.50BSC		

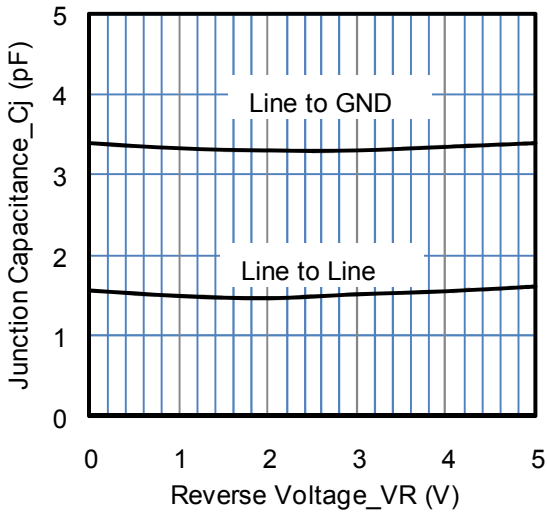
### Suggested Solder Pad Layout



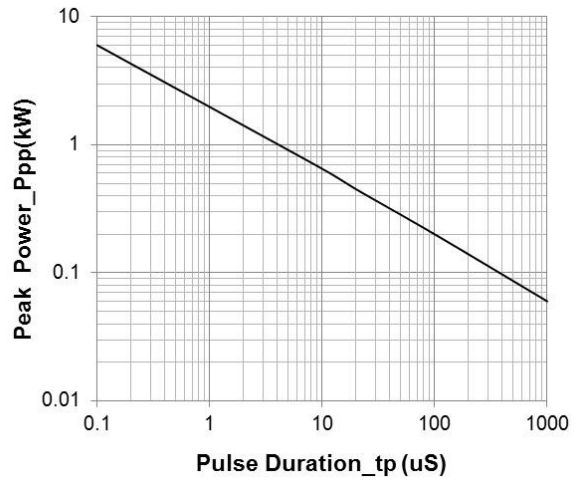
**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			3.3	V	
Punch-Through Voltage	VPT	3.5			V	I <sub>PT</sub> = 5μA
Snap-Back Voltage	VSB	2.8			V	I <sub>SB</sub> = 50mA
Reverse Leakage Current	I <sub>R</sub>			0.5	μA	VRWM = 3.3V,
Clamping Voltage	VC			5.5	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	VC			10.5	V	I <sub>PP</sub> = 10A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	VC			18	V	I <sub>PP</sub> = 25A (8 x 20μs pulse), any I/O to GND
Junction Capacitance	C <sub>J</sub>		2.0		pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C <sub>J</sub>		3.8	5.0	pF	VR = 0V, f = 1MHz, any I/O to GND

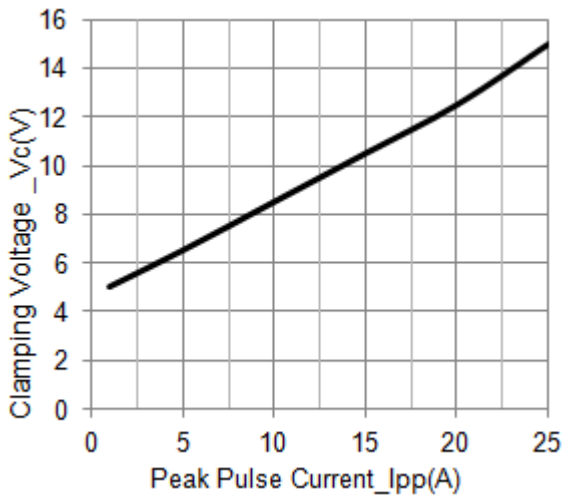
**Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)**



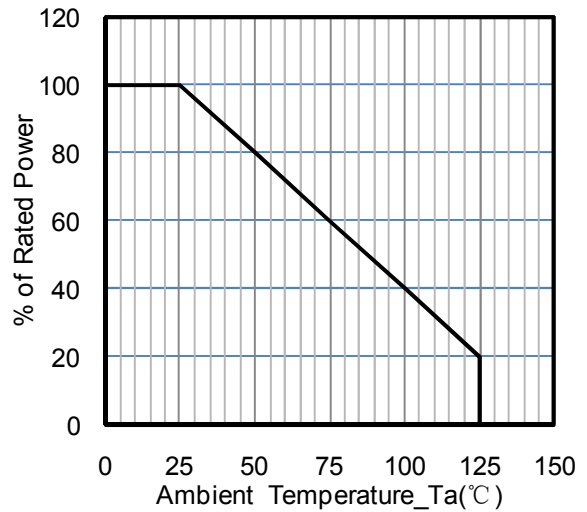
**Junction Capacitance vs. Reverse Voltage**



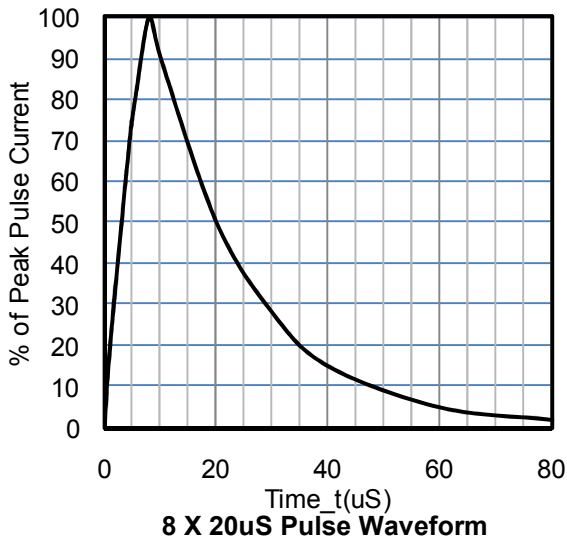
**Peak Pulse Power vs. Pulse Time**



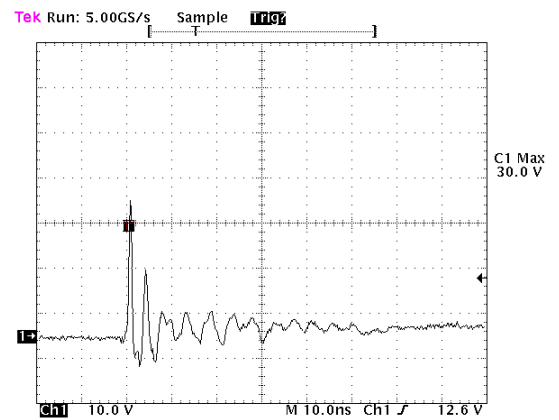
**Clamping Voltage vs. Peak Pulse Current**



**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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