



## ESDLC3304P8

### Features

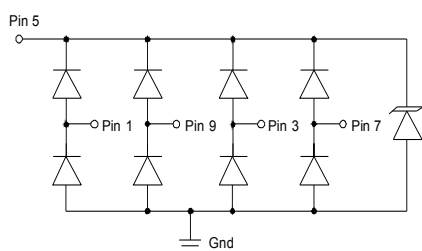
- Low operating voltage: 3.3V
- Low clamping voltage
- Ultra low leakage: nA level
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 25A (8/20us)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"
- Marking: 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 | $V_{ESD}$ | $\pm 15$<br>$\pm 25$ | KV   |
| Peak Pulse Power (8/20us)     | $P_{pk}$  | 450                  | W    |
| Peak Pulse Current (8/20us)   | $I_{pp}$  | 25                   | A    |

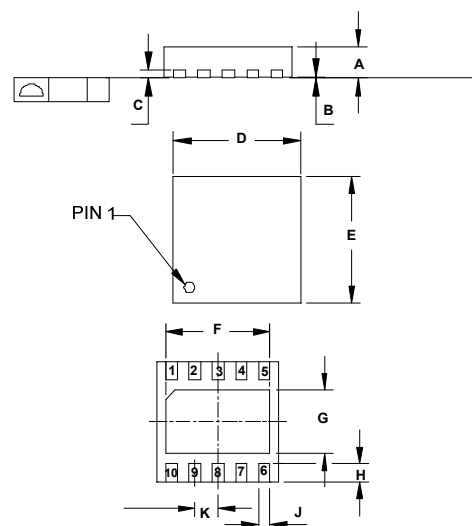
### Dimensions and Pin Configuration



Circuit and Pin Schematic

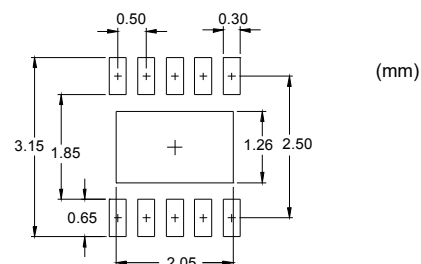
## ESD Protection Device

### DFN2626-10



| 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 |      |      |

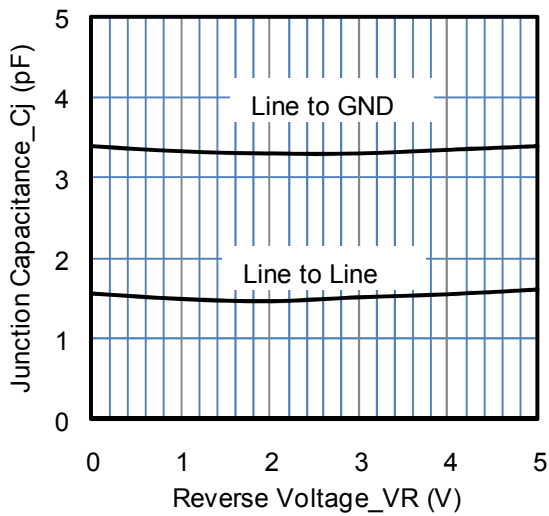
### Suggested Solder Pad Layout



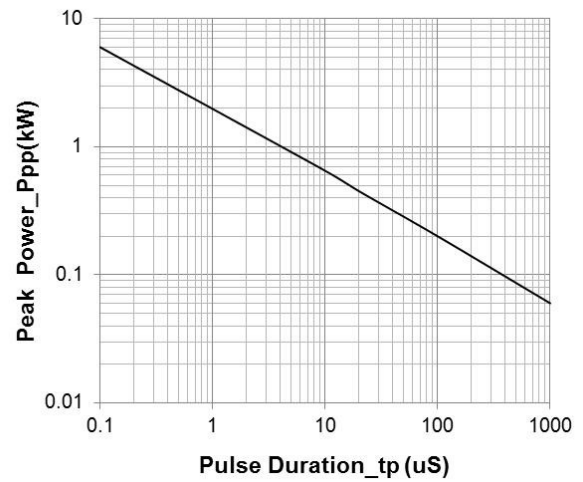
**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

| 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                      |

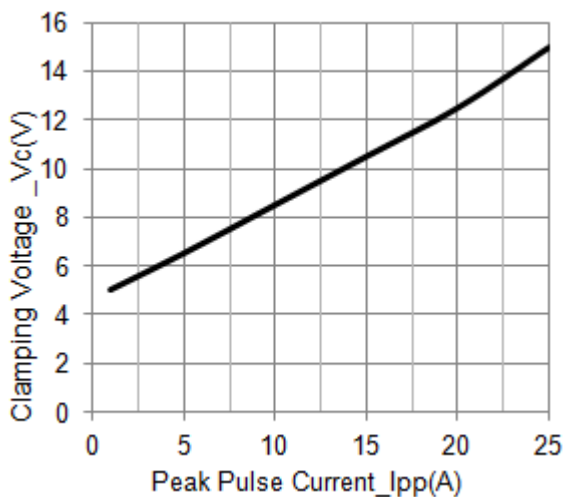
**Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)**



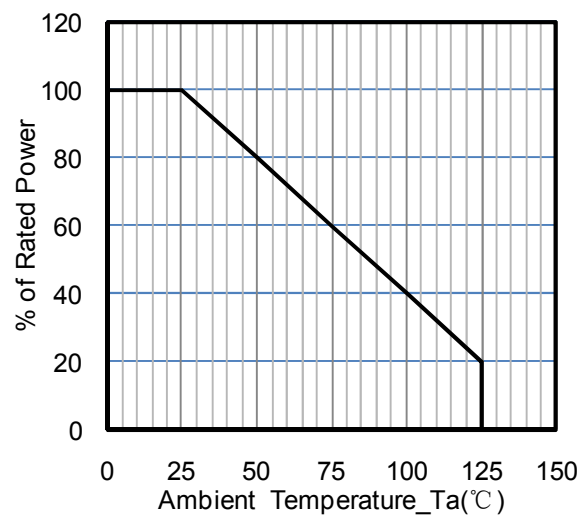
**Junction Capacitance vs. Reverse Voltage**



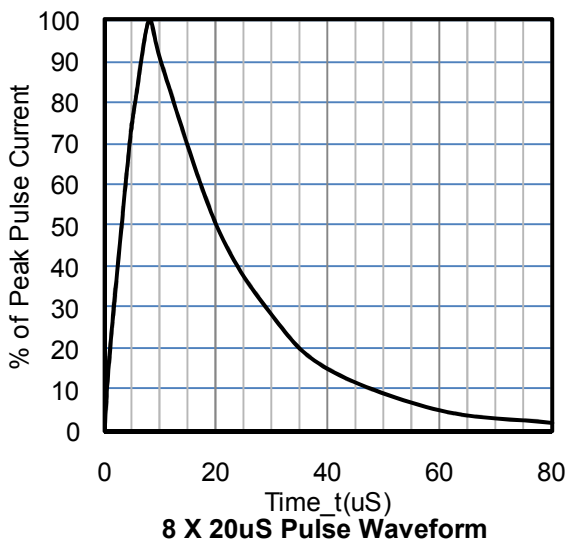
**Peak Pulse Power vs. Pulse Time**



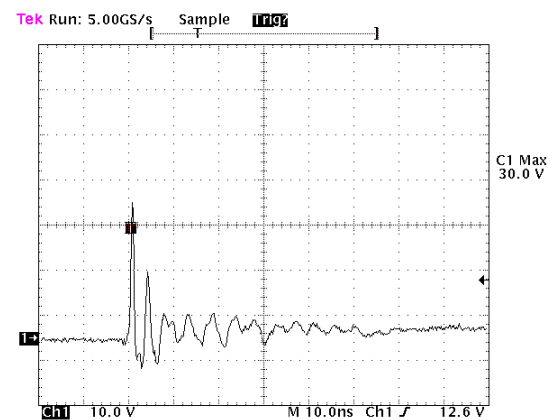
**Clamping Voltage vs. Peak Pulse Current**



**Power Derating Curve**



**8 X 20uS Pulse Waveform**



**ESD Clamping Voltage**

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

## 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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