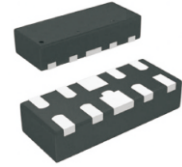


## CPDVR103V3U-HF

RoHS Device

Halogen Free



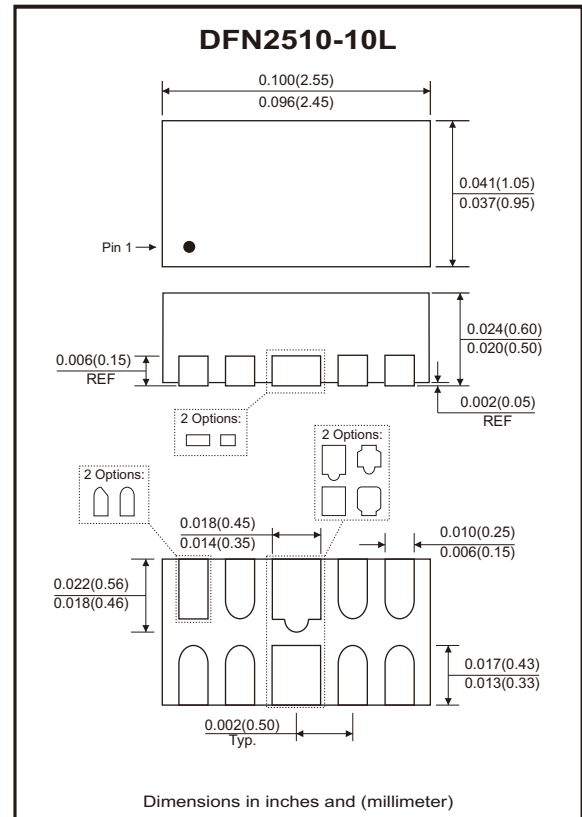
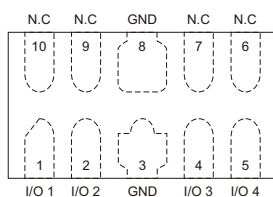
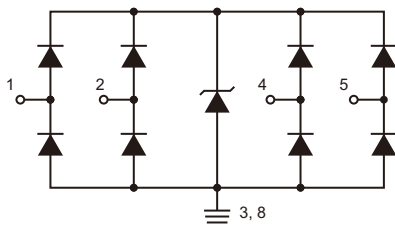
### Features

- Ultra-low capacitance.
- IEC 61000-4-2 (Air):  $\pm 15\text{kV}$   
IEC 61000-4-2 (Contact):  $\pm 15\text{kV}$   
IEC 61000-4-5 (Surge): 6A (8/20 $\mu\text{s}$ )

### Mechanical data

- Case: DFN2510-10L package, molded plastic.
- Mounting position: Any.

### Circuit Diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

| Parameter                            | Conditions                             | Symbol           | Value       | Unit |
|--------------------------------------|----------------------------------------|------------------|-------------|------|
| Electrostatic discharge voltage      | IEC 61000-4-2; contact discharge       | V <sub>ESD</sub> | ±15         | kV   |
|                                      | IEC 61000-4-2; air discharge           |                  | ±15         | kV   |
| Peak pulse current                   | IEC 61000-4-5; tp = 8/20 $\mu\text{s}$ | I <sub>PP</sub>  | 6           | A    |
| Operating junction temperature range |                                        | T <sub>J</sub>   | -40 to +125 | °C   |
| Storage temperature range            |                                        | T <sub>STG</sub> | -55 to +150 | °C   |

## Electrical Characteristics (at Ta=25°C unless otherwise noted)

| Parameter                                  | Conditions                                 | Symbol    | Min | Typ  | Max | Unit |
|--------------------------------------------|--------------------------------------------|-----------|-----|------|-----|------|
| Reverse working voltage                    |                                            | $V_{RWM}$ |     |      | 3.3 | V    |
| Triggering voltage                         | $I_{t1} = 1\text{mA}$ ; Any I/O to GND     | $V_{t1}$  | 3.6 |      |     | V    |
| Holding voltage                            | $I_h = 100\text{mA}$ ; Any I/O to GND      | $V_h$     | 0.8 |      |     | V    |
| Reverse leakage current                    | $V_{RWM} = 3.3\text{V}$ ; Any I/O to GND   | $I_R$     |     | 10   | 50  | nA   |
| Surge clamping voltage (tp = 8/20μs)       | $I_{PP} = 6\text{A}$ ; Any I/O Pin to GND  | $V_C$     |     |      | 7.5 | V    |
| TLP clamping voltage (tp = 10/100ns)       | $I_{PP} = 16\text{A}$ ; Any I/O Pin to GND | $V_C$     |     | 7.0  |     | V    |
| Dynamic resistance tp = 10/100ns, tr = 1ns | I/O Pin to GND                             | $R_{DYN}$ |     | 0.35 |     | Ω    |
| Junction capacitance                       | $V_R = 0\text{V}$ , f = 1MHz, I/O to GND   | $C_J$     |     | 0.3  | 0.6 | pF   |

Rating and Characteristic Curves (CPDVR103V3U-HF)

Fig.1 - Positive Clamping Voltage (TLP)

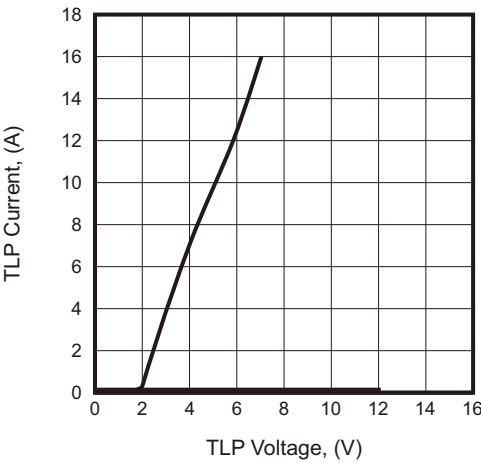


Fig.2 - Junction Capacitance

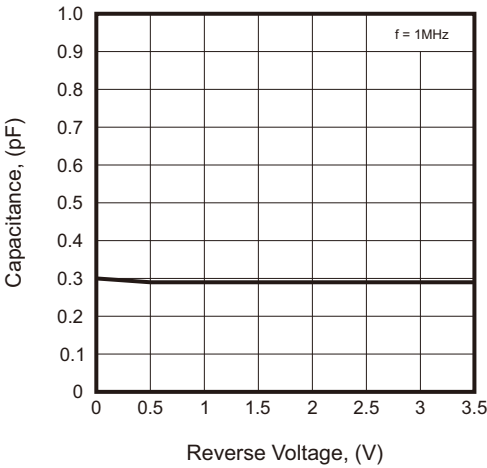


Fig.3 - IEC 61000-4-5 Test Waveform

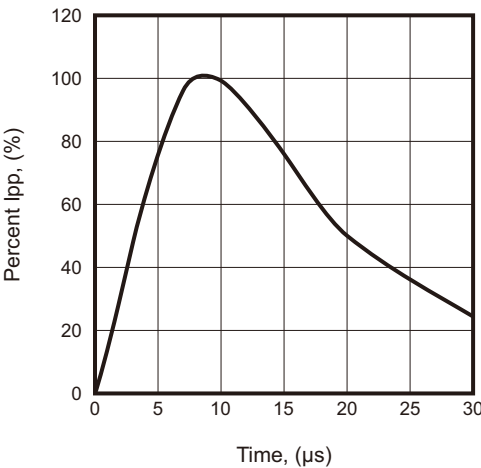


Fig.4 - Surge Clamping Voltage (IEC 61000-4-5)

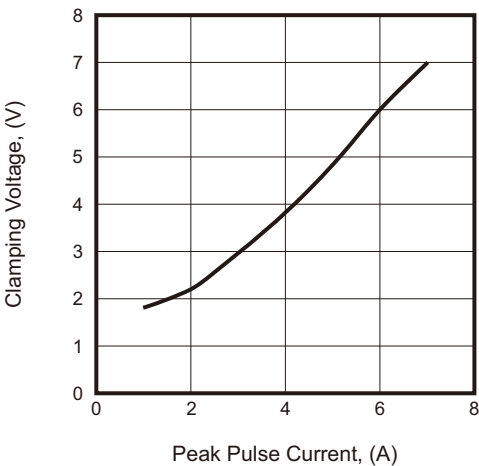


Fig.5 - Insertion Loss S21 of I/O to GND

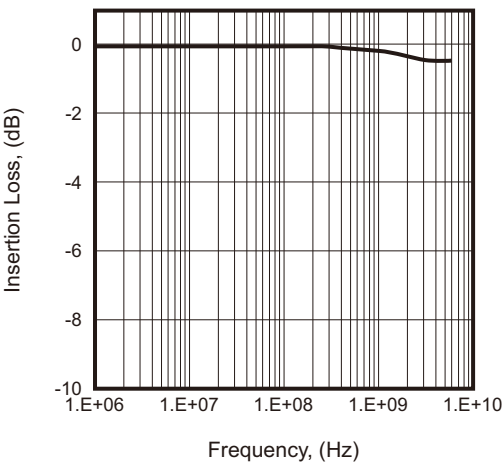
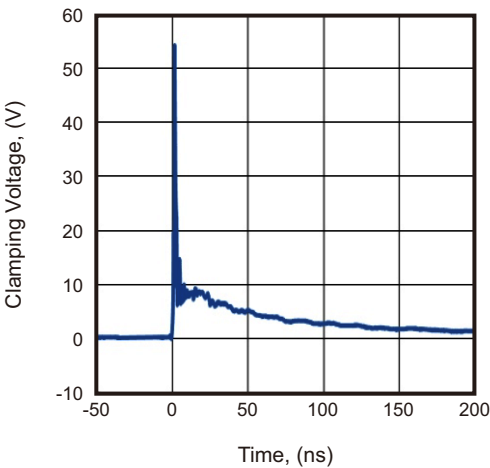
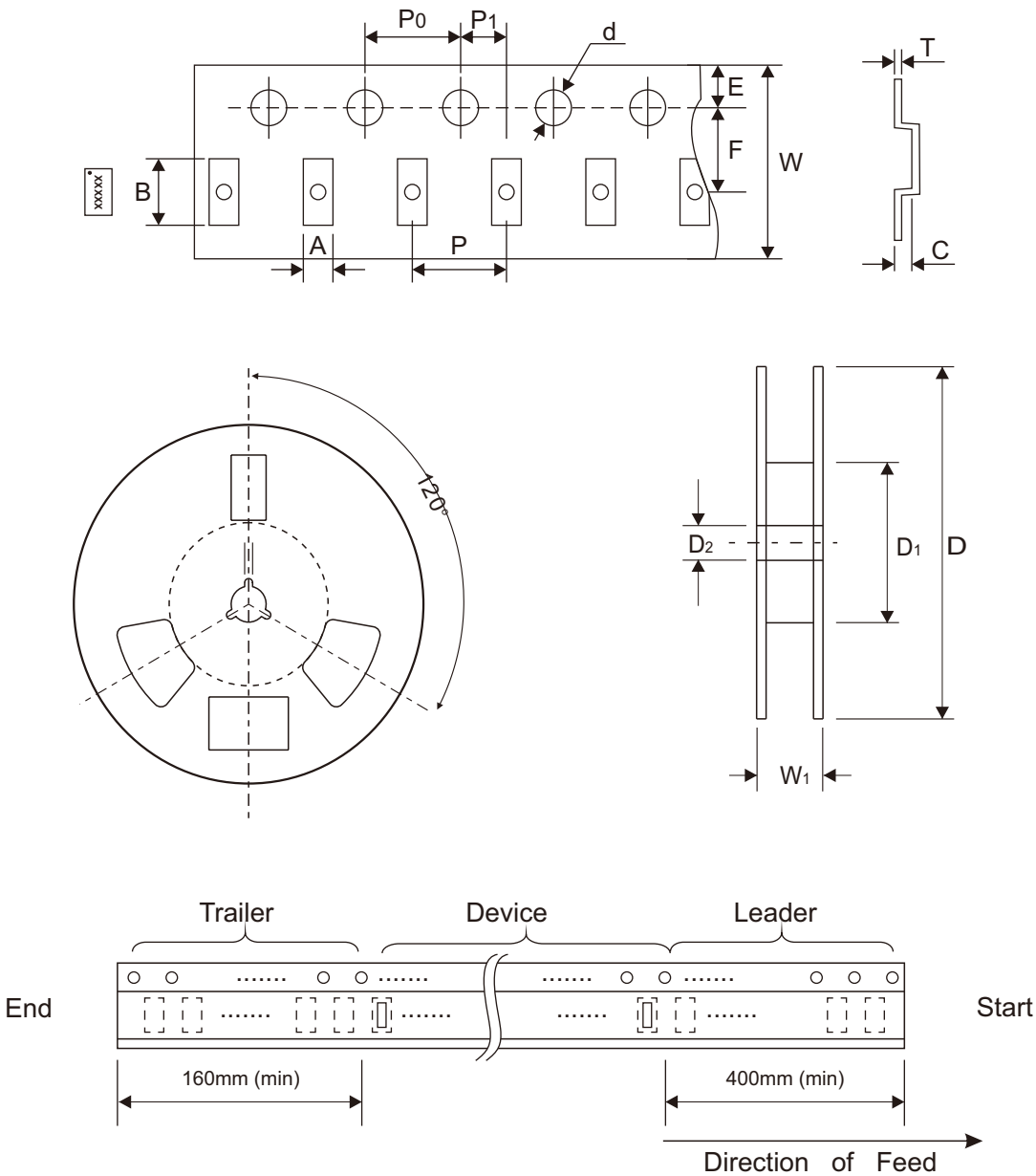


Fig.6 - ESD Clamping of I/O to GND (+8kV Contact per IEC 61000-4-2)



Reel Taping Specification

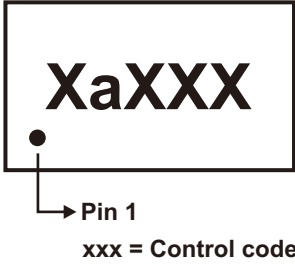


| DFN2510-10L | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|-------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|             | (mm)   | 1.20 ± 0.05   | 2.70 ± 0.05   | 0.72 ± 0.05   | 1.55 ± 0.10   | 178 ± 2.00    | 60.00 ± 1.00  | 13.20 ± 0.30  |
|             | (inch) | 0.047 ± 0.002 | 0.106 ± 0.002 | 0.028 ± 0.002 | 0.061 ± 0.004 | 7.008 ± 0.079 | 2.362 ± 0.039 | 0.520 ± 0.012 |

| DFN2510-10L | SYMBOL | E             | F             | P             | P0            | P1            | T             | W                        | W1        |
|-------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|-----------|
|             | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.05   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.20 ± 0.03   | 8.00 + 0.30<br>- 0.10    | 11.40 Max |
|             | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.002 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.008 ± 0.001 | 0.315 + 0.012<br>- 0.004 | 0.449 Max |

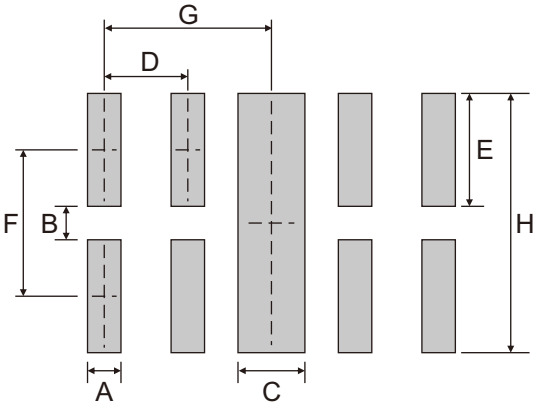
Marking Code

| Part Number    | Marking Code |
|----------------|--------------|
| CPDVR103V3U-HF | Xa           |



Suggested P.C.B. PAD Layout

| SIZE | DFN2510-10L |        |
|------|-------------|--------|
|      | (mm)        | (inch) |
| A    | 0.20        | 0.008  |
| B    | 0.20        | 0.008  |
| C    | 0.40        | 0.016  |
| D    | 0.50        | 0.020  |
| E    | 0.675       | 0.027  |
| F    | 0.875       | 0.034  |
| G    | 1.00        | 0.039  |
| H    | 1.55        | 0.061  |



Note: 1.The pad layout is for reference purposes only.

Standard Packaging

| Case Type   | REEL PACK  |                  |
|-------------|------------|------------------|
|             | REEL (pcs) | Reel Size (inch) |
| DFN2510-10L | 3,000      | 7                |