

# CPDQT12VHT-HF

RoHS Device

Halogen Free



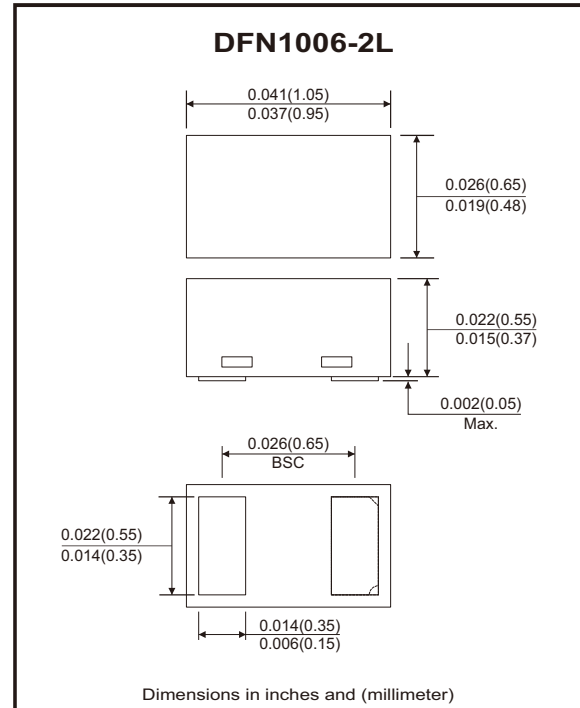
## Features

- Protects I/O Port.
- Low clamping voltage.
- Low leakage.
- Low capacitance.

## Mechanical data

- Case: DFN1006-2L package.
- Mounting position: Any.

## Circuit Diagram



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

| Parameter                   | Conditions                                   | Symbol    | Value                | Unit |
|-----------------------------|----------------------------------------------|-----------|----------------------|------|
| Peak pulse power            | $T_P = 8/20\mu s$                            | $P_{PP}$  | 100                  | W    |
| Peak pulse current          | $T_P = 8/20\mu s$                            | $I_{PP}$  | 4                    | A    |
| ESD capability              | IEC 61000-4-2(air)<br>IEC 61000-4-2(contact) | ESD       | $\pm 18$<br>$\pm 12$ | kV   |
| Lead soldering temperature  |                                              | $T_L$     | 260 (10 sec)         | °C   |
| Operating temperature range |                                              | $T_J$     | -55 to +125          | °C   |
| Storage temperature range   |                                              | $T_{STG}$ | -55 to +150          | °C   |

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

| Parameter                 | Conditions                     | Symbol    | Min  | Typ  | Max | Unit    |
|---------------------------|--------------------------------|-----------|------|------|-----|---------|
| Reverse working voltage   |                                | $V_{RWM}$ |      |      | 12  | V       |
| Reverse breakdown voltage | $I_T = 1mA$                    | $V_{BR}$  | 13.3 |      |     | V       |
| Reverse leakage current   | $V_{RWM} = 12V$                | $I_R$     |      | 0.01 | 0.2 | $\mu A$ |
| Clamping voltage          | $I_{PP} = 1A, t_p = 8/20\mu s$ | $V_C$     |      | 15   | 19  | V       |
|                           | $I_{PP} = 4A, t_p = 8/20\mu s$ | $V_C$     |      | 21   | 25  | V       |
| Junction capacitance      | $V_R = 0V, f = 1MHz$           | $C_J$     |      | 10   | 18  | pF      |

Typical Rating and Characteristic Curves (CPDQT12VHT-HF)

Fig.1 - Pulse Waveform

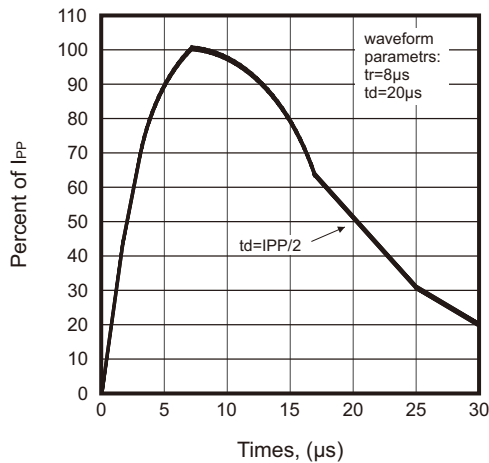


Fig.2 - Non-Repetitive Peak Power  
vs. Pulse Time

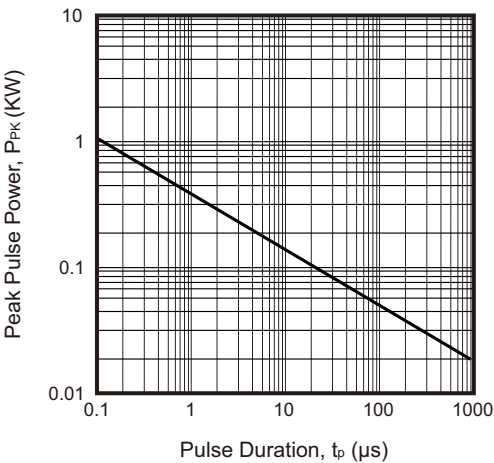
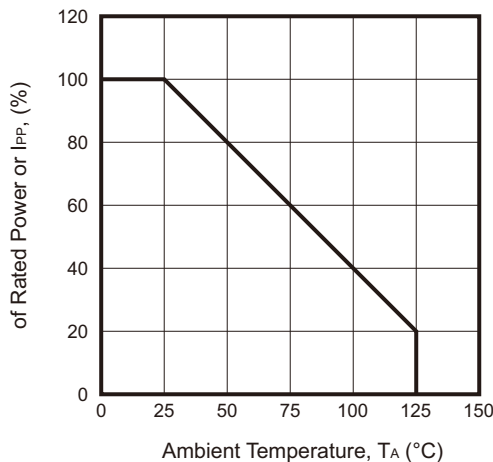
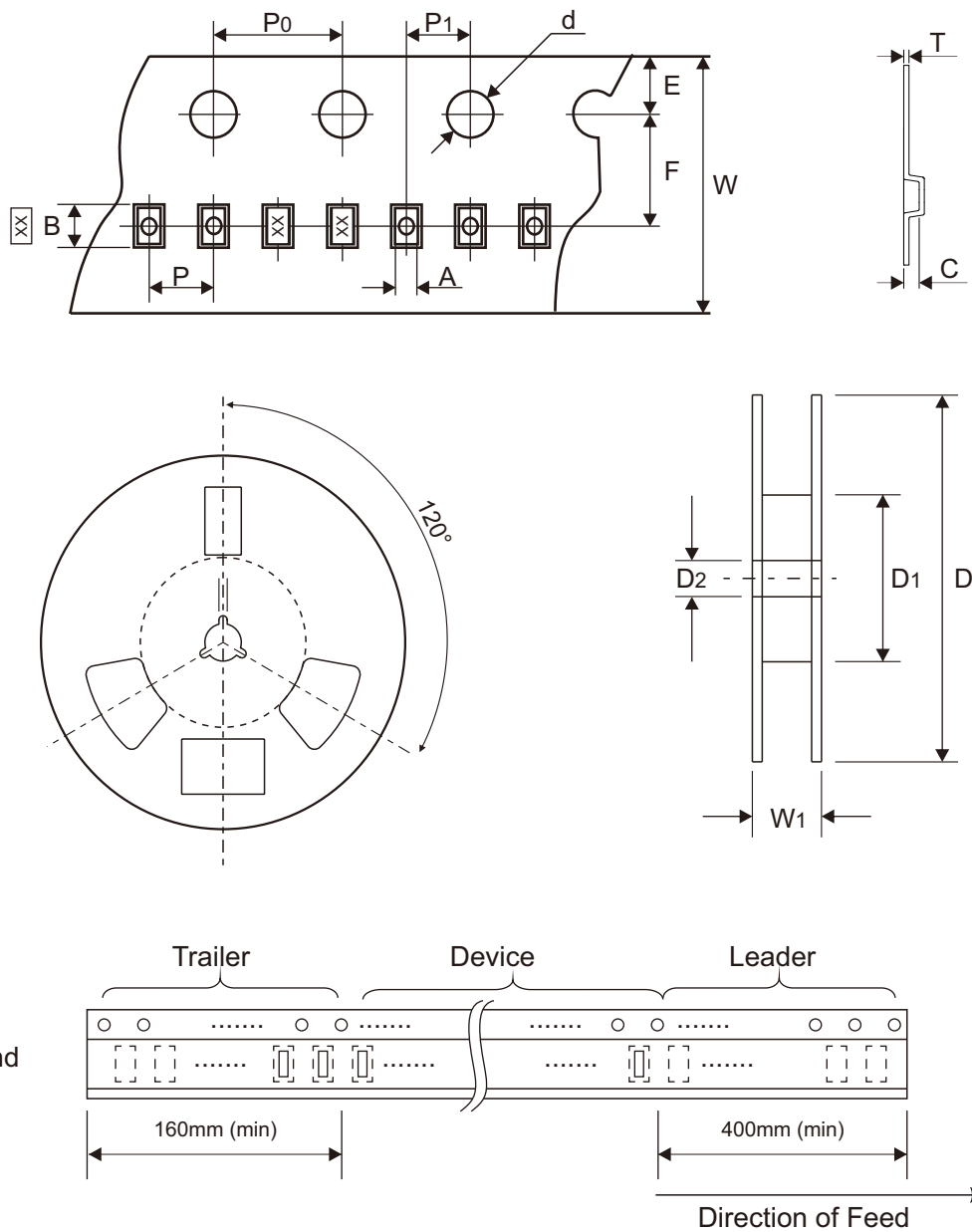


Fig.3 - Power Derating Curve



Reel Taping Specification



| DFN1006-2L | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1                | D2                |
|------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|            | (mm)   | $0.80 \pm 0.05$   | $1.30 \pm 0.05$   | $0.70 \pm 0.05$   | $1.50 \pm 0.10$   | $178.00 \pm 1.00$ | $55.00 \pm 1.00$  | $13.00 \pm 1.00$  |
|            | (inch) | $0.031 \pm 0.002$ | $0.051 \pm 0.002$ | $0.028 \pm 0.002$ | $0.059 \pm 0.004$ | $7.008 \pm 0.039$ | $2.165 \pm 0.039$ | $0.512 \pm 0.039$ |

| DFN1006-2L | SYMBOL | E                 | F                 | P                 | P0                | P1                | T                 | W                 | W1                |
|------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|            | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $2.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $0.23 \pm 0.02$   | $8.00 \pm 0.20$   | $15.80 \pm 1.00$  |
|            | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.079 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.009 \pm 0.009$ | $0.315 \pm 0.008$ | $0.622 \pm 0.039$ |

Marking Code

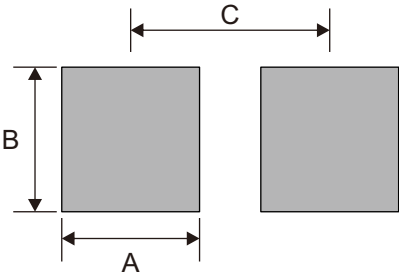
| Part Number   | Marking Code |    |
|---------------|--------------|----|
| CPDQT12VHT-HF | .22          | T2 |



.XX/ XX = Product type marking code

Suggested P.C.B. PAD Layout

| SIZE | DFN1006-2L |        |
|------|------------|--------|
|      | (mm)       | (inch) |
| A    | 0.40       | 0.016  |
| B    | 0.60       | 0.024  |
| C    | 0.65       | 0.026  |



Standard Packaging

| Case Type  | REEL PACK       |                     |
|------------|-----------------|---------------------|
|            | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DFN1006-2L | 10,000          | 7                   |