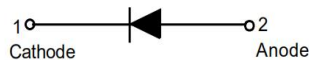


## Features and benefits

- Extremely small surface mounting type.
- High Speed.

## Application information

- High speed switching



DFN1006-2L

## Marking: T8

### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                                                   | Symbol       | Value | Unit |
|-------------------------------------------------------------|--------------|-------|------|
| Non-Repetitive Peak Reverse Voltage                         | $V_{RM}$     | 100   | V    |
| Peak Repetitive Peak Reverse Voltage                        | $V_{RRM}$    | 80    | V    |
| Working Peak Reverse Voltage                                | $V_{RWM}$    | 80    | V    |
| DC Blocking Voltage                                         | $V_R$        | 80    | V    |
| RMS Reverse Voltage                                         | $V_{R(RMS)}$ | 57    | V    |
| Average Rectified Output Current                            | $I_o$        | 150   | mA   |
| Forward Current                                             | $I_{FM}$     | 250   | mA   |
| Peak Forward Surge Current, 1 $\mu$ s Single Half-sine-wave | $I_{FSM}$    | 2     | A    |
| Peak Forward Surge Current, 1s Single Half-sine-wave        | $I_{FSM}$    | 1     | A    |

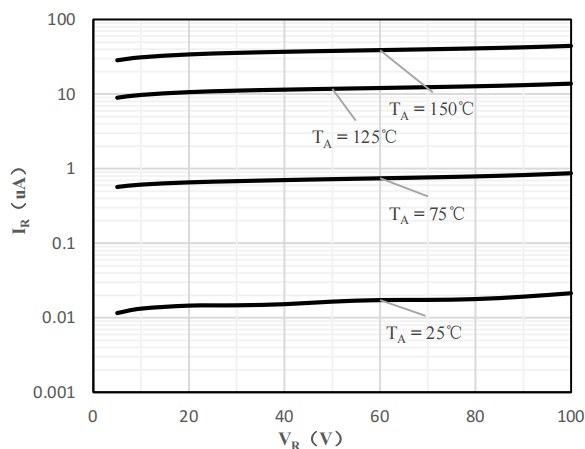
### Thermal Characteristics

| Parameter                              | Symbol          | Value      | Unit               |
|----------------------------------------|-----------------|------------|--------------------|
| Power Dissipation                      | $P_D$           | 200        | mW                 |
| Thermal Resistance Junction-to-Air *1  | $R_{\theta JA}$ | 162        | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-to-Case *1 | $R_{\theta JC}$ | 85         | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-to-Lead *1 | $R_{\theta JL}$ | 160        | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range   | $T_J$           | -65 ~ +150 | $^\circ\text{C}$   |
| Storage Temperature Range              | $T_{STG}$       | -65 ~ +150 | $^\circ\text{C}$   |

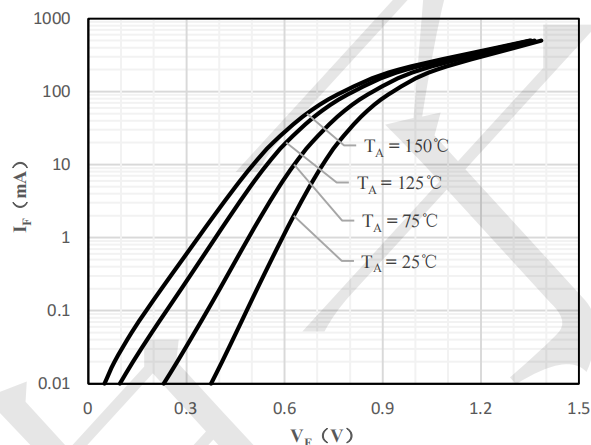
**Electrical Characteristics** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

| Parameter                    | Symbol      | Test Condition                                                          | Min. | Typ. | Max.  | Unit          |
|------------------------------|-------------|-------------------------------------------------------------------------|------|------|-------|---------------|
| Reverse Breakdown Voltage    | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$                                                  | 80   | -    | -     | V             |
| Forward Voltage              | $V_F$       | $I_F = 5\text{mA}$                                                      | -    | -    | 0.720 | V             |
|                              |             | $I_F = 10\text{mA}$                                                     | -    | -    | 0.855 | V             |
|                              |             | $I_F = 100\text{mA}$                                                    | -    | -    | 1.000 | V             |
|                              |             | $I_F = 150\text{mA}$                                                    | -    | -    | 1.250 | V             |
| Maximum Peak Reverse Current | $I_R$       | $V_R = 20\text{V}$                                                      | -    | -    | 25    | nA            |
|                              |             | $V_R = 80\text{V}$                                                      | -    | -    | 100   | nA            |
|                              |             | $V_R = 25\text{V}, T_J = 125^\circ\text{C}$                             | -    | -    | 30    | $\mu\text{A}$ |
|                              |             | $V_R = 75\text{V}, T_J = 150^\circ\text{C}$                             | -    | -    | 50    | $\mu\text{A}$ |
| Total Capacitance            | $C_J$       | $V_R = 0.5\text{V}, f = 1.0\text{MHz}$                                  | -    | -    | 3     | pF            |
| Reverse Recovery Time        | $t_{rr}$    | $I_F = I_R = 10\text{mA}$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | -    | -    | 4     | ns            |

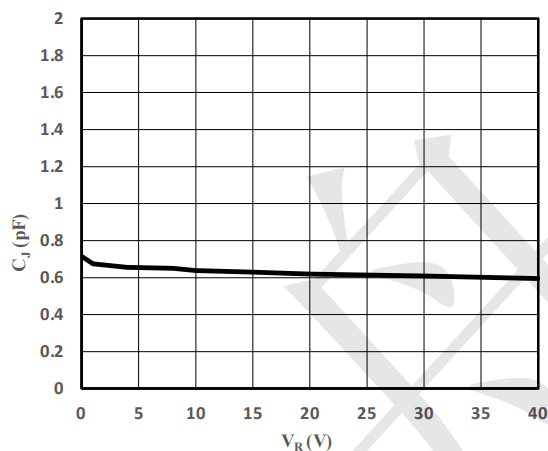
**Ratings and Characteristics Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



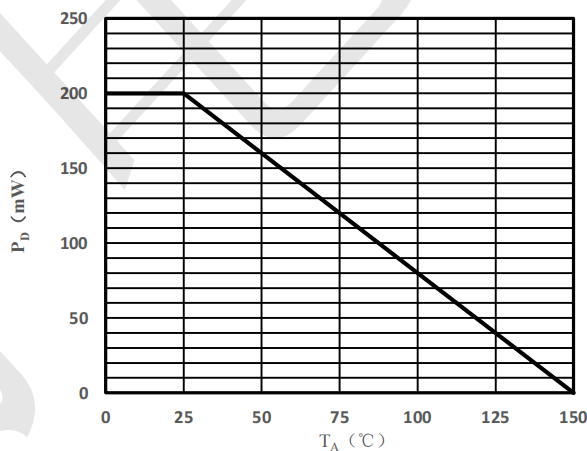
**Fig 1 Typical Reverse Characteristic**



**Fig 2 Typical Forward Characteristics**

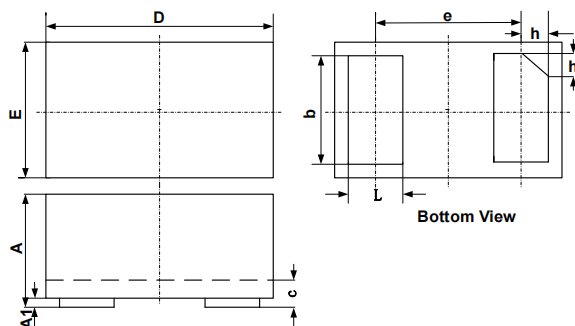


**Fig 3 Capacitance vs. Reverse Voltage**



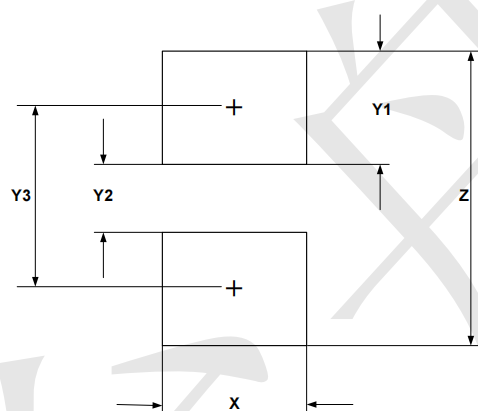
**Fig 4 Power Derating Curve**

## Outline Drawing - DFN1006-2



| SYM | DIMENSIONS  |      |      |           |       |       |
|-----|-------------|------|------|-----------|-------|-------|
|     | MILLIMETERS |      |      | INCHES    |       |       |
|     | MIN         | NOM  | MAX  | MIN       | NOM   | MAX   |
| A   | 0.45        | 0.50 | 0.55 | 0.018     | 0.020 | 0.022 |
| A1  | 0.00        | 0.02 | 0.05 | 0.000     | 0.001 | 0.002 |
| b   | 0.45        | 0.50 | 0.55 | 0.018     | 0.020 | 0.022 |
| c   | 0.12        | 0.15 | 0.18 | 0.005     | 0.006 | 0.007 |
| D   | 0.95        | 1.00 | 1.05 | 0.037     | 0.039 | 0.041 |
| e   | 0.65 BSC    |      |      | 0.026 BSC |       |       |
| E   | 0.55        | 0.60 | 0.65 | 0.022     | 0.024 | 0.026 |
| L   | 0.20        | 0.25 | 0.30 | 0.008     | 0.010 | 0.012 |
| h   | 0.07        | 0.12 | 0.17 | 0.003     | 0.005 | 0.007 |

## Land Pattern - DFN1006-2



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| X   | 0.60        | 0.024  |
| Y1  | 0.50        | 0.020  |
| Y2  | 0.30        | 0.012  |
| Y3  | 0.80        | 0.032  |
| Z   | 1.30        | 0.052  |