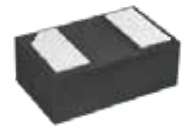


FEATURES

- | Low Forward Voltage Drop
- | Extremely Small DFN1006 Package
- | Surface Device Type Mounting
- | Green EMC
- | Band Indicates Cathode



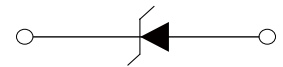
DFN1006



Marking

MECHANICAL DATA

- | Encapsulation: DFN1006 Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any



Schematic Symbol

APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

MAXIMUM RATINGS (T_A = 25°C)

| Parameter | Symbol | Value | Unit |
|---|--------------------|------------|------|
| Dc Blocking Voltage | V _R | 30 | V |
| Forward Current | I _{F(AV)} | 200 | mA |
| Peak Forward Surge Current 8.3 Ms Single Half Sine-wave | I _{FSM} | 500 | mA |
| Power Dissipation | P _D | 150 | mW |
| Operating Junction Range | T _J | 125 | °C |
| Storage Temperature Range | T _{STG} | -55 to 150 | °C |

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|--------|----------------------|------|------|------|---------------|
| Forward Voltage | V_F | $I_F=10\text{mA}$ | | | 0.35 | V |
| | | $I_F=200\text{mA}$ | | | 0.50 | V |
| Reverse Leakage Current | I_R | $V_R=30\text{V}$ | | | 3 | μA |
| Breakdown Voltage | B_V | $I_R=100\mu\text{A}$ | 30 | | | V |

CHARACTERISTIC CURVES

Fig.1 Typical Forward Current Derating Curve

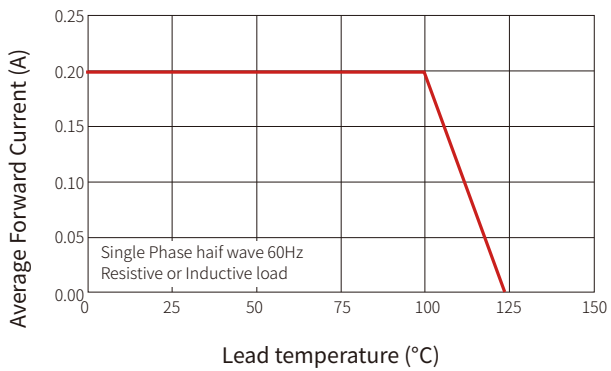


Fig.2 Total Capacitance vs. Reverse Voltage

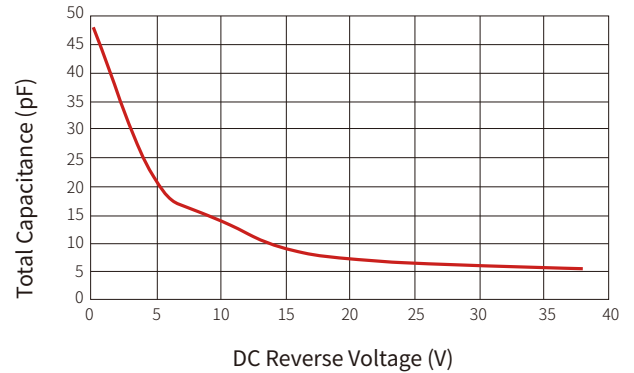
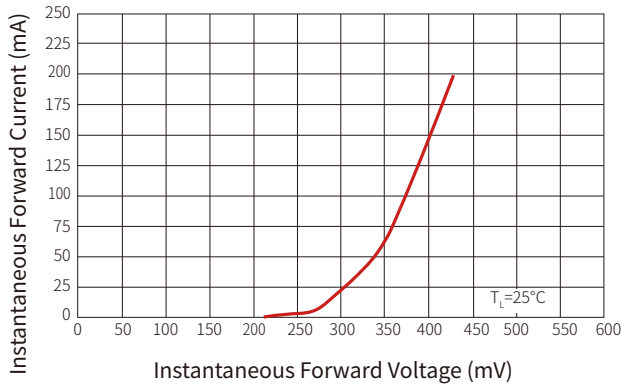
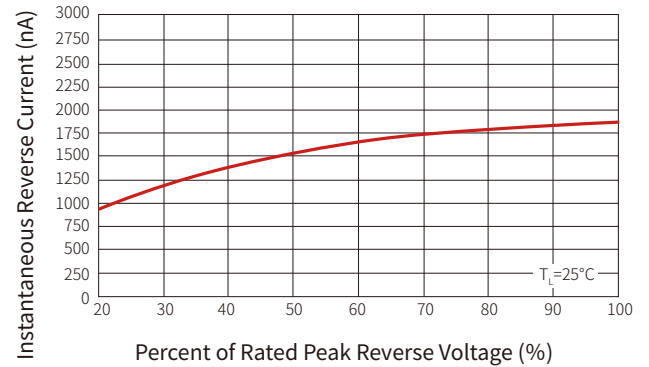
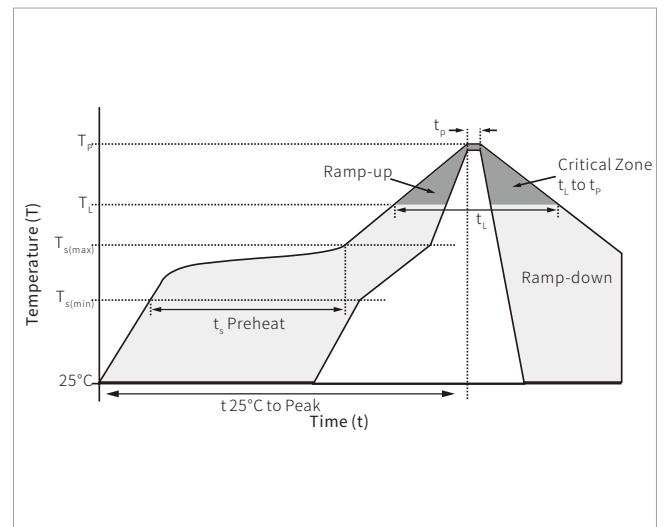


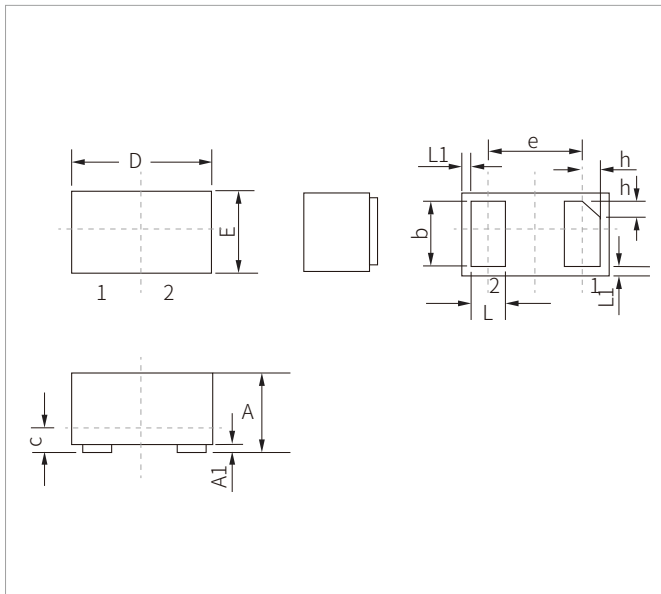
Fig.3 Typical Instantaneous Forward Characteristics

Fig.4 Typical Reverse Characteristics


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

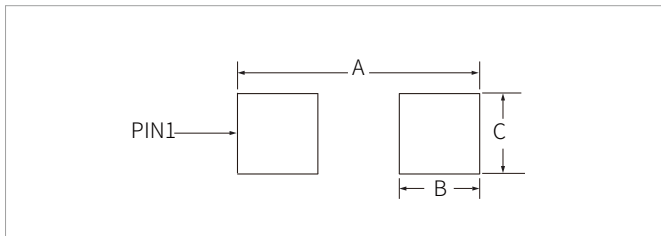


DFN1006 PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.40 | 0.60 | 0.016 | 0.024 |
| A1 | 0 | 0.05 | 0 | 0.002 |
| b | 0.40 | 0.55 | 0.016 | 0.022 |
| c | 0.12 | 0.18 | 0.005 | 0.007 |
| D | 0.95 | 1.05 | 0.037 | 0.041 |
| e | 0.65BSC | | 0.026BSC | |
| E | 0.55 | 0.70 | 0.022 | 0.027 |
| L | 0.20 | 0.35 | 0.008 | 0.014 |
| L1 | 0.05REF | | 0.002REF | |
| h | 0.07 | 0.17 | 0.003 | 0.007 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches |
|------|-------------|--------|
| A | 1.20 | 0.047 |
| B | 0.47 | 0.019 |
| C | 0.60 | 0.024 |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| SRB521D1-30 | DFN1006 | 10000PCS | 7" |

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