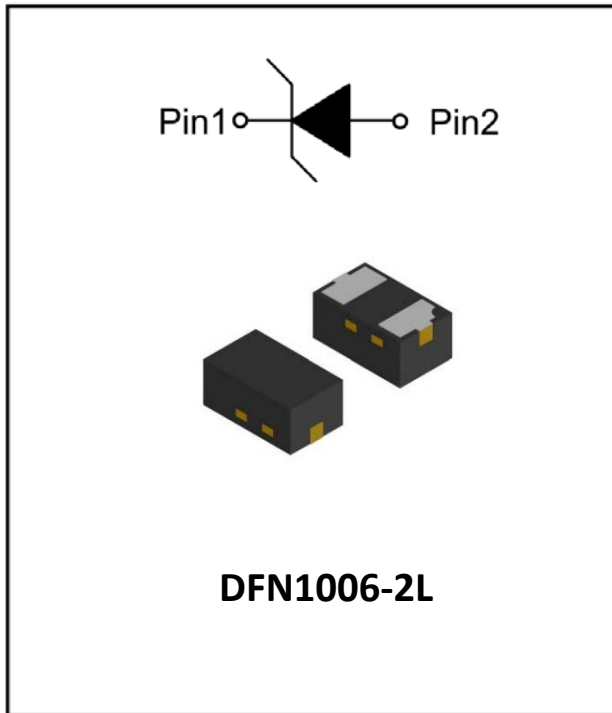


1- Line, Uni-directional, ESD protection diode



Features

- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ contact, $\pm 30\text{kV}$ air IEC61000-4-5:3.5A($t_p=8/20\mu\text{s}$)
- Low leakage current
- Ultra low clamping voltage
- RoHS Compliant
- Part no. with suffix "Q" means AEC-Q101 qualified

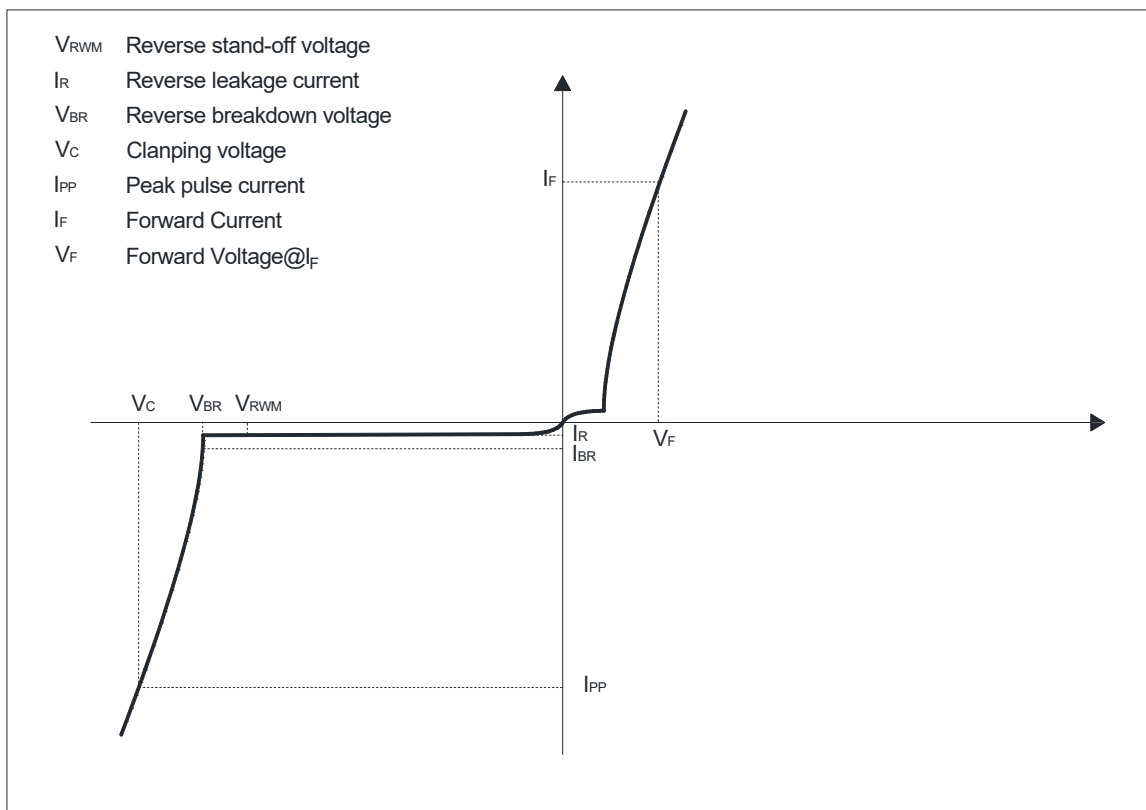
Applications

- Automotive applications

Mechanical Data

- Package: DFN1006-2L
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020

■ Definitions of electrical characteristics





ESD24VLQ

■Maximum Ratings

| PARAMETER | SYMBOL | LIMITS | UNIT |
|-------------------------------------------------|-----------|----------|-------------|
| Peak pulse power ($t_p = 8/20\mu s$) | P_{pk} | 150 | W |
| ESD according to IEC61000-4-2 air discharge | V_{ESD} | ± 30 | KV |
| ESD according to IEC61000-4-2 contact discharge | | ± 30 | |
| Junction temperature | T_J | -55~150 | $^{\circ}C$ |
| Storage temperature | T_{STG} | -55~150 | $^{\circ}C$ |

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

■Electrical Characteristics ($T_J=25^{\circ}C$)

| PARAMETER | Symbol | UNIT | Conditions | Min | Typ | Max |
|--------------------------------|-----------|---------|----------------------------------|------|-----|------|
| Reverse Standoff Voltage | V_{RWM} | V | | | | 24 |
| Reverse breakdown voltage | V_{BR} | V | $I_{BR} = 1mA$ | 25.5 | | 29.5 |
| Reverse leakage current | I_R | μA | $V_{RWM} = 24V$ | | | 0.5 |
| Forward Voltage | V_F | V | $I_F = 10mA$ | | | 1.1 |
| Clamping voltage ¹⁾ | V_{CL} | V | $I_{PP} = 1A, t_p = 8/20\mu s$ | | 31 | 35 |
| | | | $I_{PP} = 3.5A, t_p = 8/20\mu s$ | | 39 | 45 |
| Peak Pulse Current | I_{PP} | A | $t_p = 8/20\mu s$ | | | 3.5 |
| Junction capacitance | C_J | pF | $V_R = 0V, f = 1MHz$ | | 17 | |

Notes:

(1). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(mg) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| ESD24VLQ | F1 | Approximate 0.9 | 10K | 100K | 400K | Tape&Reel |



■ Characteristics (Typical)

Fig.1: 8/20 μ s Pulse Waveform

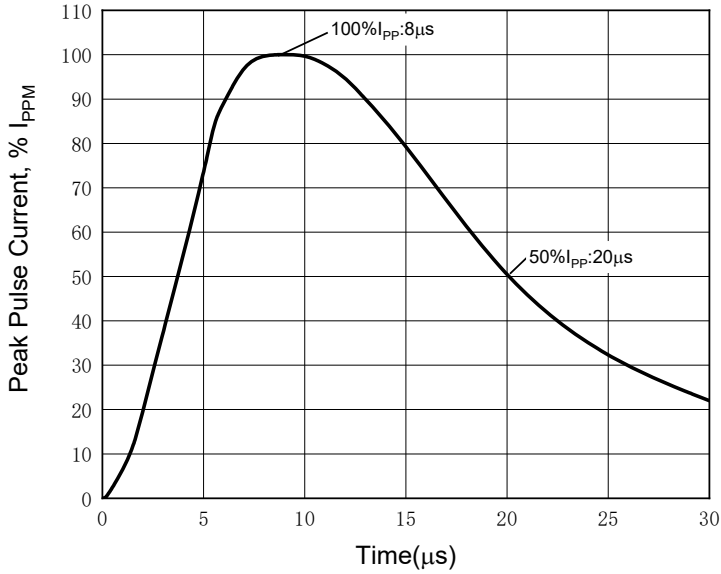


Fig.2: Peak Pulse Current vs Clamping Voltage

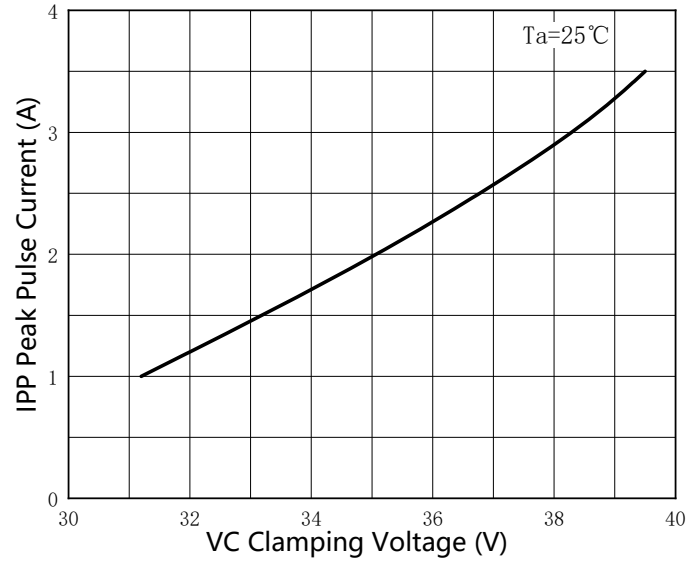


Fig.3: Power Derating Curve

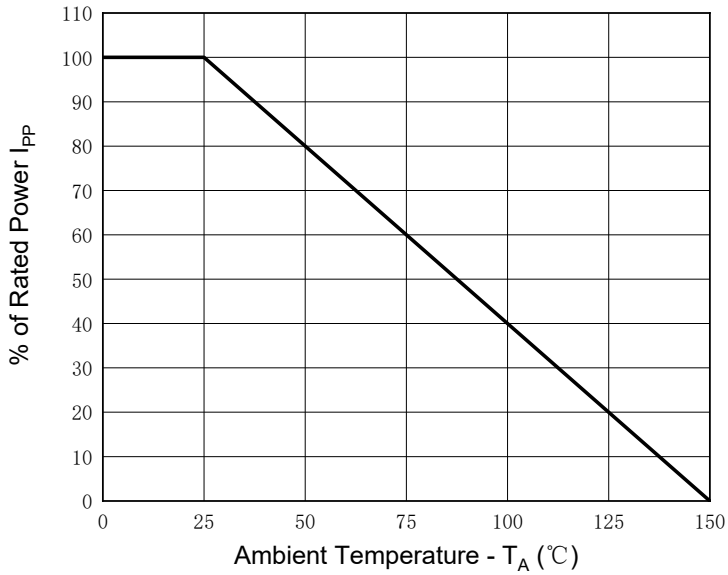
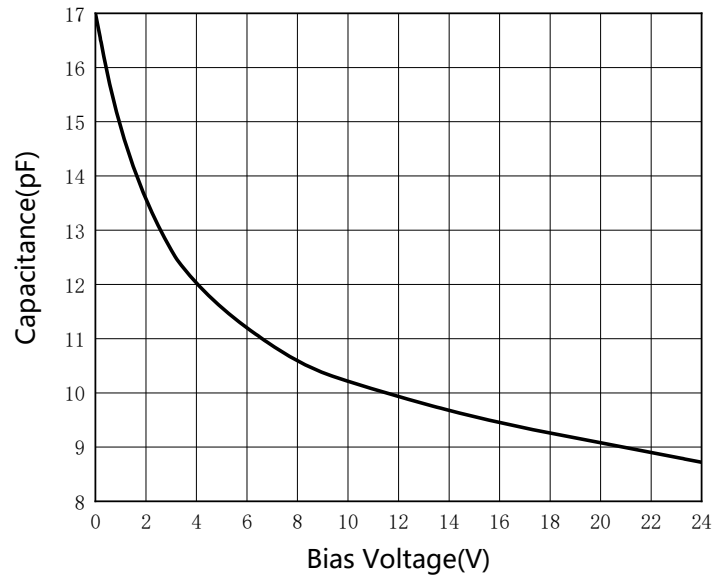
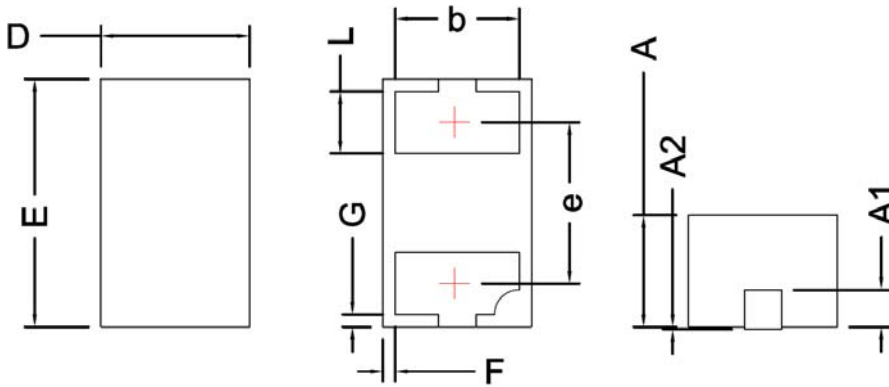


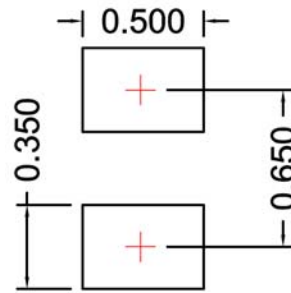
Fig.4: Capacitance vs. Bias



■ Outline Dimensions



| SYMBOL | MILLIMETER | | |
|--------|------------|------|------|
| | MIN | NOM | MAX |
| D | 0.50 | 0.60 | 0.70 |
| E | 0.90 | 1.00 | 1.10 |
| A | 0.35 | 0.45 | 0.55 |
| A1 | 0.15 BSC | | |
| A2 | | | 0.10 |
| F | 0.005 | | |
| G | 0.005 | | |
| L | 0.15 | 0.25 | 0.35 |
| b | 0.41 | 0.50 | 0.59 |
| e | 0.65 BSC | | |



Unit: mm

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black



Disclaimer

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