

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

www.msksemi.com

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

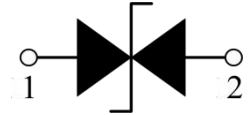
Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 150 Watts @ 8 x 20 μ s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Pin Description



Schematic Diagram



DFN1006P2X

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

| Device | V _{RWM} (V) | I _R (μ A) @ V _{RWM} | V _{BR} (V)@ I _T (Note 1) | I _T | V _C (V) @ I _{PP} =5 A* | V _C (V) @ Max I _{PP} * | I _{PP} (A)* | P _{PK} (W)* | C (pF) |
|---------------|----------------------|--|--|----------------|--|--|----------------------|----------------------|--------|
| | Max | Max | Min | mA | Typ | Max | Max | Max | Typ |
| AZ5123-01F-MS | 3.3 | 1 | 5.0 | 1.0 | 8.4 | 14.1 | 11.2 | 158 | 25 |

*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

Absolute Ratings (T_{amb}=25°C)

| Symbol | Parameter | Value | Units |
|------------------|---|-------------|-------|
| P _{PP} | Peak Pulse Power (t _p = 8/20 μ s) | 150 | W |
| T _L | Maximum lead temperature for soldering during 10s | 260 | °C |
| T _{stg} | Storage Temperature Range | -55 to +155 | °C |
| T _{op} | Operating Temperature Range | -40 to +125 | °C |
| T _j | Maximum junction temperature | 150 | °C |
| | IEC61000-4-2 (ESD) air discharge | \pm 15 | KV |
| | IEC61000-4-4 (EFT) contact discharge | \pm 8 | KV |
| | ESD Voltage Per Human Body Model | 40 | A |
| | | 16 | KV |

Electrical Parameter

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| I_T | Test Current |
| V_{BR} | Breakdown Voltage @ I_T |

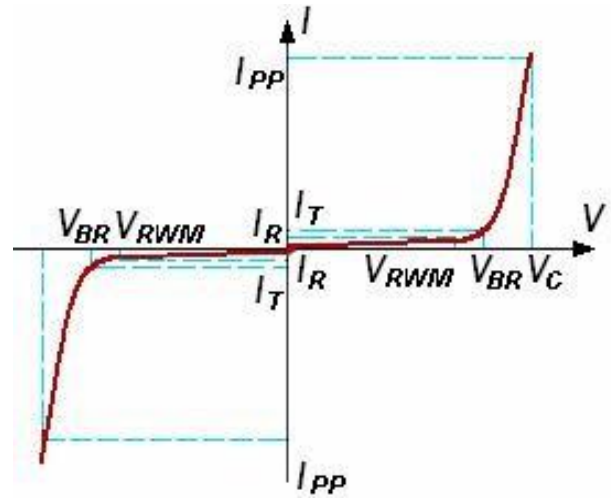


FIG1: Pulse Waveform

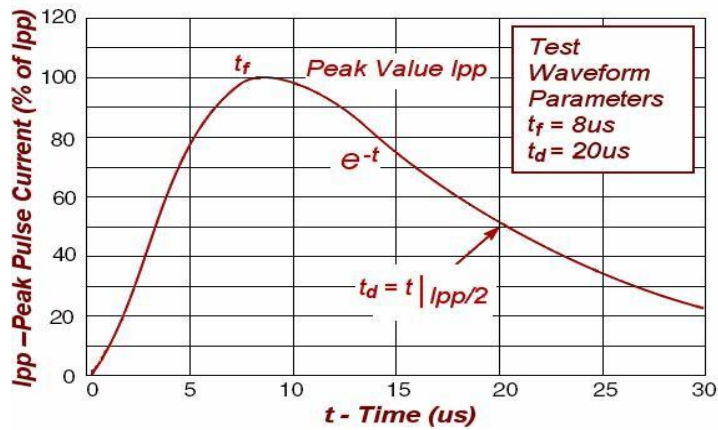
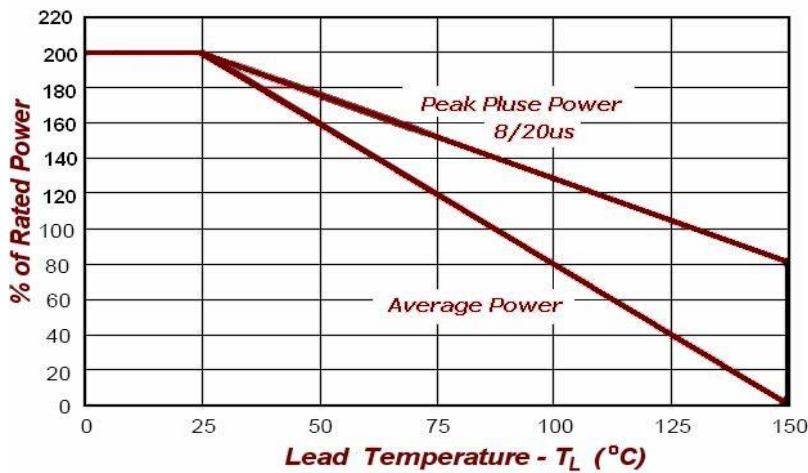
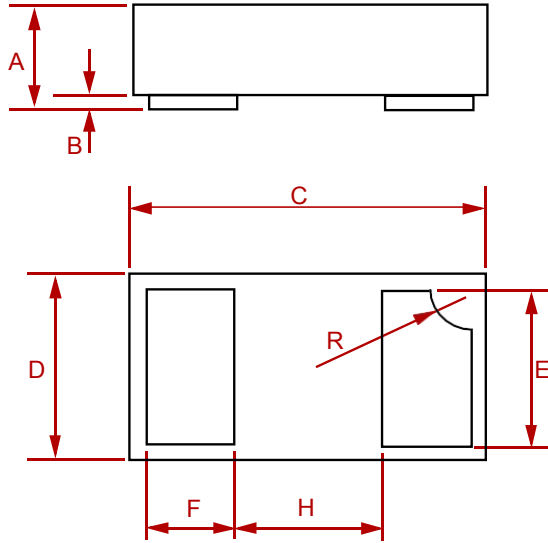


FIG2: Power Derating

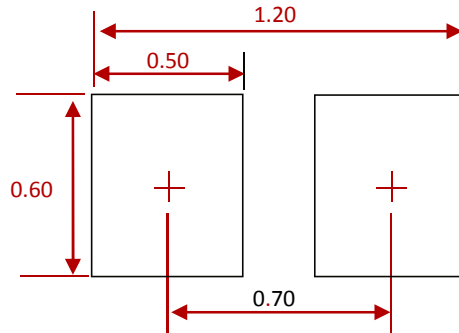


PACKAGE MECHANICAL DATA



| Dim | Inches | | Millimeters | |
|-----|-----------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.0125 | 0.02 | 0.32 | 0.52 |
| B | 0.000 | 0.002 | 0.00 | 0.05 |
| C | 0.037 | 0.043 | 0.95 | 1.080 |
| D | 0.022 | 0.027 | 0.55 | 0.680 |
| E | 0.016 | 0.024 | 0.40 | 0.60 |
| F | 0.008 | 0.012 | 0.20 | 0.30 |
| H | 0.015Typ. | | 0.40Typ. | |
| R | 0.001 | 0.005 | 0.05 | 0.15 |

Suggested Pad Layout



NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

REEL SPECIFICATION

| P/N | PKG | QTY |
|---------------|------------|-------|
| AZ5123-01F-MS | DFN1006P2X | 10000 |

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