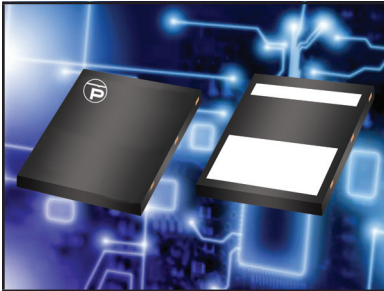


3000 WATT TVS COMPONENT



DFN-2-3KW PACKAGE

DESCRIPTION

The SM3KW24A is high-powered surface mount transient voltage suppression component designed to protect equipment and systems from the damaging effects of high voltage spikes. The DFN-2-3KW surface mount package configuration provides a lower profile at a reduce cost.

These devices provide 3,000 Watts of peak pulse power dissipation for an 10/1000 μ s waveform. Applications include relay drive protection module and secondary lightning protection.

FEATURES

- IEC Compatibility 61000-4-5 (Surge): 48A, 8/20 μ s - L3(Line-Ground), L4(Line-Line) & L1 (Power)
- 3,000 Watts Peak Pulse Power per Line (tp = 10/1000 μ s)
- Unidirectional Configuration
- Easy Mounting to Printed Circuit Board
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- Relay Drives
- Motor (Start/Stop) Back EMF Protection
- Module Lightning Protection
- Secondary Lightning Protection

MECHANICAL CHARACTERISTICS

- Molded DFN2-3KW
- Approximate Weight: 2.5 grams
- Lead-Free Silver Plating
- Solder Reflow Temperature: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

CIRCUIT DIAGRAM



TYPICAL DEVICE CHARACTERISTICS
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

| PARAMETER | SYMBOL | VALUE | UNITS |
|--|-----------|------------|-------|
| Peak Pulse Power (tp = 10/1000μs) - See Figure 1 | P_{PP} | 3,000 | Watts |
| Storage Temperature | T_{STG} | -55 to 150 | °C |
| Operating Temperature | T_L | -55 to 150 | °C |

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

| PART NUMBER | MARKING CODE | RATED STAND-OFF VOLTAGE V_{WM} VOLTS | MINIMUM BREAKDOWN VOLTAGE | | MAXIMUM LEAKAGE CURRENT $@V_{WM}$ I_D μA | MAXIMUM CLAMPING VOLTAGE (Fig. 2) $@ 10/1000\mu s$ $V_C @ I_{PP}$ |
|-------------|--------------|--|----------------------------|--------------|---|---|
| | | | MIN $V_{(BR)}$ VOLTS | $@I_T$ mA | | |
| SM3KW24A | 3U24 | 24 | 26.7 | 1 | 3 | 43.0V @ 69.8A |

TYPICAL DEVICE CHARACTERISTICS

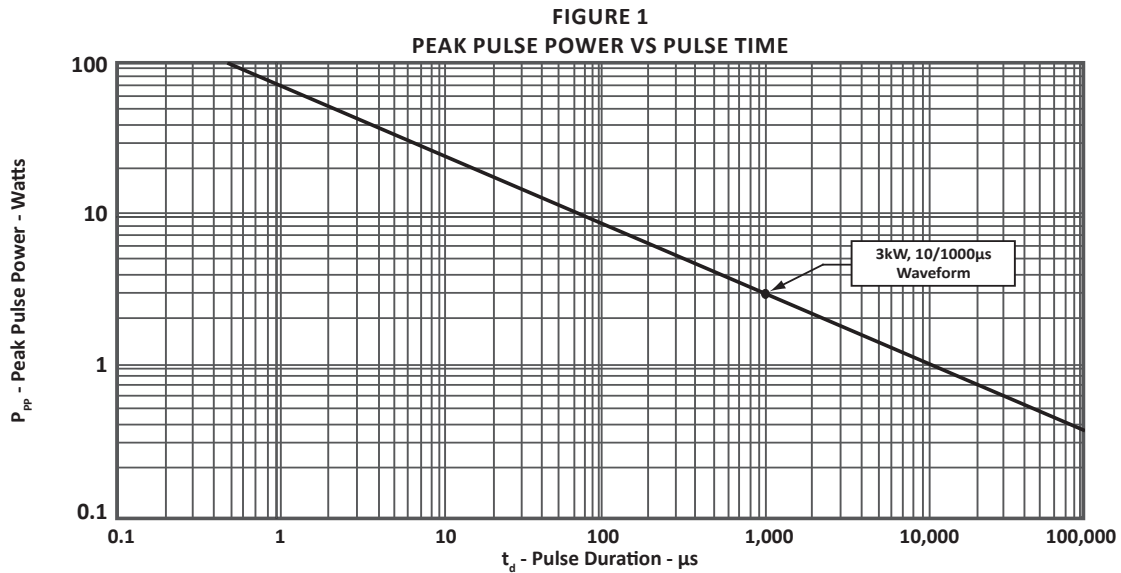
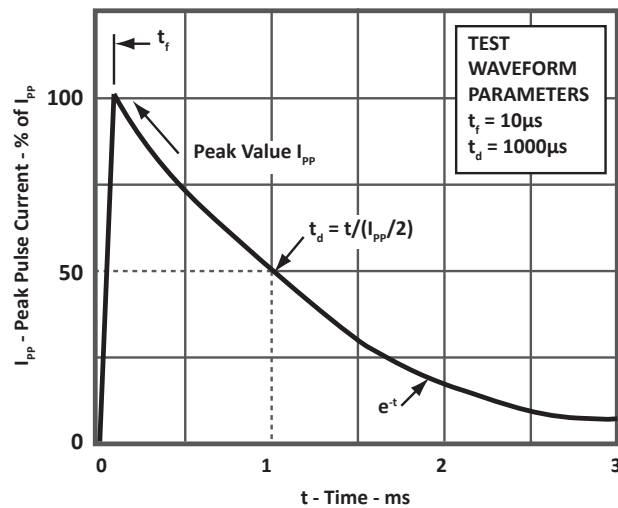


FIGURE 2
PULSE WAVEFORM

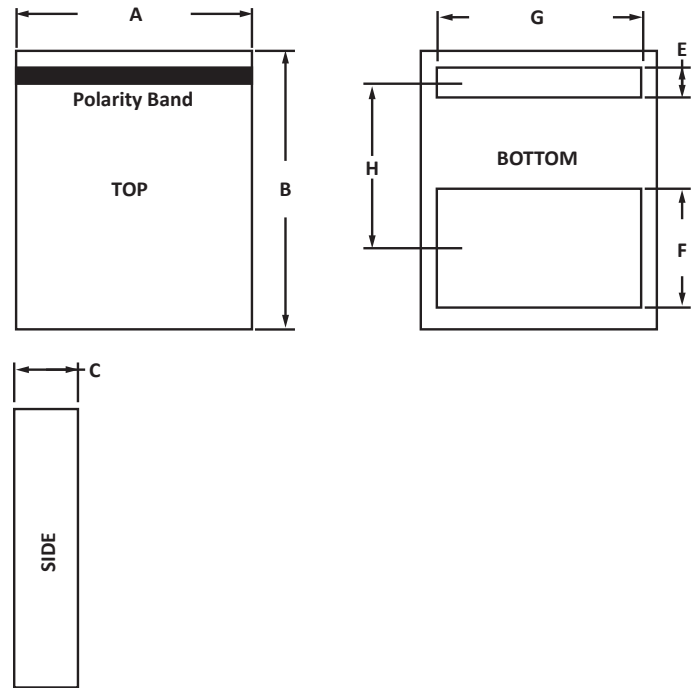


DFN-2-3KW PACKAGE INFORMATION

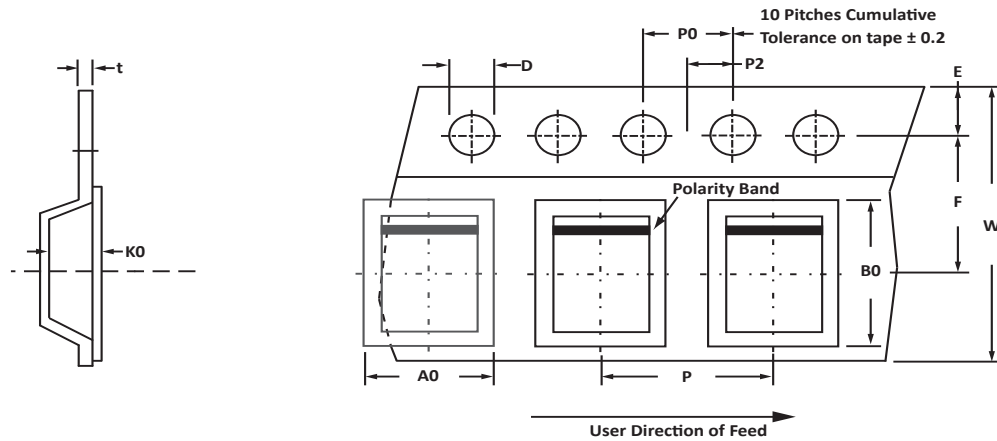
| OUTLINE DIMENSIONS | | | | |
|--------------------|-------------|------|--------|-------|
| DIM | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 5.44 | 5.64 | 0.214 | 0.222 |
| B | 6.45 | 6.65 | 0.248 | 0.262 |
| C | 1.16 | 1.32 | 0.046 | 0.052 |
| E | 0.66 | 0.86 | 0.026 | 0.034 |
| F | 1.93 | 2.13 | 0.076 | 0.084 |
| G | 3.91 | 4.11 | 0.154 | 0.162 |
| H | 4.27 | 4.37 | 0.168 | 0.172 |

NOTES

1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.



TAPE AND REEL



SPECIFICATIONS

| REEL DIA. | TAPE WIDTH | A0 | B0 | K0 | D | E | F | W | P0 | P2 | P | tmax |
|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|------|
| 330mm (13") | 12mm | 5.92 ± 0.10 | 6.93 ± 0.05 | 1.65 ± 0.05 | 1.50 ± 0.10 | 1.75 ± 0.10 | 3.50 ± 0.05 | 12.00 ± 0.30 | 4.00 ± 0.10 | 2.00 ± 0.05 | 8.00 ± 0.10 | 0.25 |

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T13 = 13" Reel - 2,500 pieces per 12mm tape.
- Marking on Part - marking code (see page 2).

Package outline per document number 06096.R0 10/11.

ORDERING INFORMATION

| BASE PART NUMBER | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------|-----------------|-------------|----------|-----------|----------|
| SM3KW24A | n/a | -T13 | 2,500 | 13" | n/a |

This device is only available in a Lead-Free configuration.

COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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