

# MDE Semiconductor, Inc.

20KP Series, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414  
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## 20KP SERIES

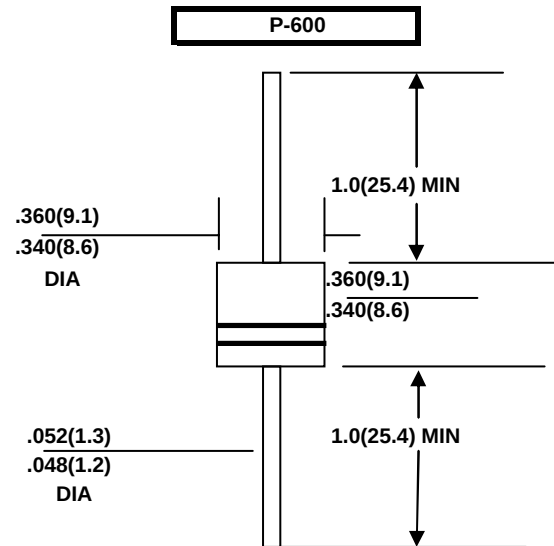
### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE-20.0 TO 300 Volts 20000 Watt Peak Pulse Power

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 20000W Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV
- Typical Id less than 1 $\mu$ A above 10V
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension

#### MECHANICAL DATA

Case:Molded plastic over glass passivated junction  
Terminals: Plated Axial leads, solderable per MIL-STD-750, Method 2026  
Polarity: Color band denoted positive end (cathode) except Bipolar  
Mounting Position: Any  
Weight: 0.07 ounce, 2.1 gram



Dimensions in inches (millimeters)

#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 20KP20 thru types 20KP300  
Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| RATING                                                                                          | SYMBOL   | VALUE         | UNITS |
|-------------------------------------------------------------------------------------------------|----------|---------------|-------|
| Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (NOTE 1)                               | Pppm     | Minimum 20000 | Watts |
| Peak Pulse Current of on 10-1000 $\mu$ s waveform (NOTE 1)                                      | Ippm     | SEE TABLE 1   | Amps  |
| Steady State Power Dissipation at Tl=75 °C Lead Lengths.375", (9.5mm)(NOTE 2)                   | Pm(AV)   | 8.0           | Watts |
| Peak Forward Surge Current, 8.3ms Sine-Wave Superimposed on Rated Load, (JEDEC Method) (NOTE 3) | IFSM     | 400.0         | Amps  |
| Operating and Storage Temperature Range                                                         | Tj, Tstg | -55 to +175   | °C    |

NOTES:

- 1.Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
- 2.Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
- 3.8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum

Certified RoHS Compliant

UL File # E223026

# MDE Semiconductor, Inc.

查询"20KP48CA"供应商

150 Calle Ramon, Unit 210, La Quinta, CA., USA 92253 Tel: 760-564-8656 • Fax: 760-564-2414  
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## 20KP Series Rating and Characteristics

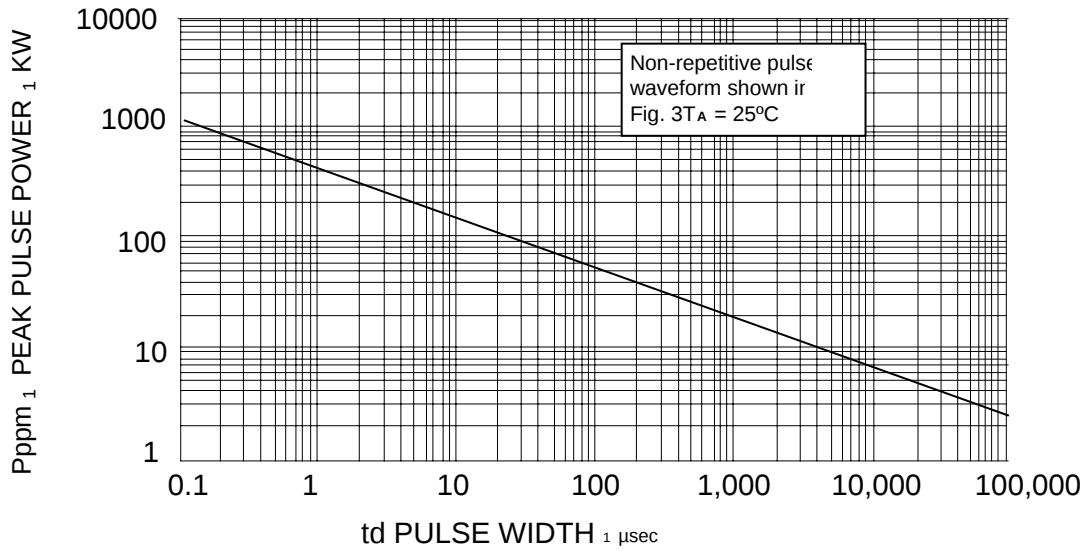


FIG. 1 PEAK PULSE POWER RATING

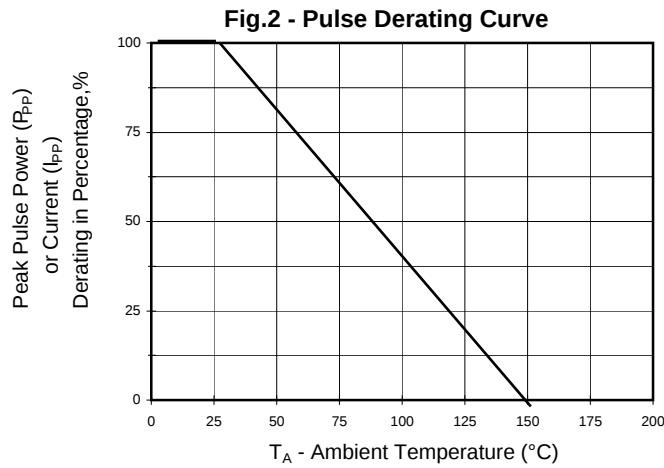
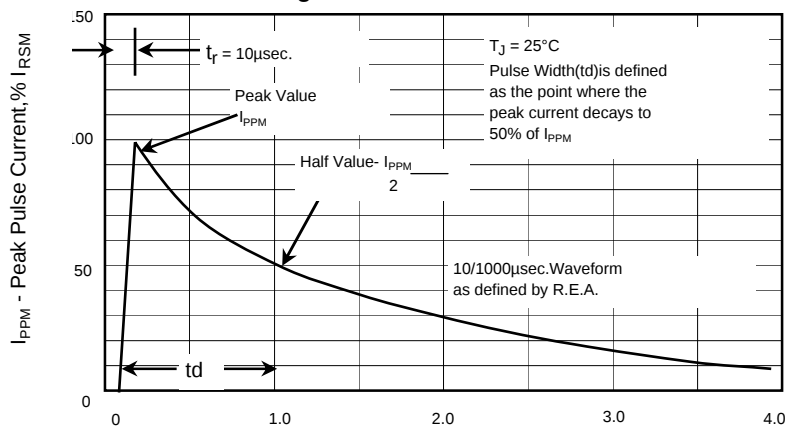


Fig.3 - Pulse Waveform



# ***MDE Semiconductor, Inc.***

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## **20000 Watt TVS**

| UNI-POLAR | BI-POLAR  | REVERSE<br>STANDOFF<br>VOLTAGE<br>$V_{RWM}$ (V) | BREAKDOWN<br>VOLTAGE<br>$V_{BR}$ (V)<br>MIN. @ $I_T$ | TEST<br>CURRENT<br>( $I_T$ ) mA | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@ $I_{PP}$ $V_C$ (V) | PEAK<br>PULSE<br>CURRENT<br>$I_{PP}$ (A) | REVERSE<br>LEAKAGE<br>@ $V_{RWM}$<br>$I_R$ ( $\mu A$ ) |
|-----------|-----------|-------------------------------------------------|------------------------------------------------------|---------------------------------|--------------------------------------------------------|------------------------------------------|--------------------------------------------------------|
| 20KP20A   | 20KP20CA  | 20.00                                           | 22.34                                                | 50                              | 36.8                                                   | 548.9                                    | 5000                                                   |
| 20KP24A   | 20KP24CA  | 24.00                                           | 26.81                                                | 50                              | 41.2                                                   | 490.3                                    | 5000                                                   |
| 20KP26A   | 20KP26CA  | 26.00                                           | 29.04                                                | 50                              | 44.7                                                   | 451.9                                    | 2000                                                   |
| 20KP28A   | 20KP28CA  | 28.00                                           | 31.28                                                | 50                              | 48.0                                                   | 420.8                                    | 1000                                                   |
| 20KP30A   | 20KP30CA  | 30.00                                           | 33.51                                                | 5                               | 51.5                                                   | 392.2                                    | 250                                                    |
| 20KP32A   | 20KP32CA  | 32.00                                           | 35.74                                                | 5                               | 54.3                                                   | 372.0                                    | 150                                                    |
| 20KP34A   | 20KP34CA  | 34.00                                           | 38.00                                                | 5                               | 57.5                                                   | 351.3                                    | 50                                                     |
| 20KP36A   | 20KP36CA  | 36.00                                           | 40.20                                                | 5                               | 61.5                                                   | 328.5                                    | 20                                                     |
| 20KP40A   | 20KP40CA  | 40.00                                           | 44.70                                                | 5                               | 67.8                                                   | 297.9                                    | 15                                                     |
| 20KP44A   | 20KP44CA  | 44.00                                           | 49.10                                                | 5                               | 72.7                                                   | 277.9                                    | 10                                                     |
| 20KP48A   | 20KP48CA  | 48.00                                           | 53.60                                                | 5                               | 79.4                                                   | 254.4                                    | 10                                                     |
| 20KP52A   | 20KP52CA  | 52.00                                           | 58.10                                                | 5                               | 85.8                                                   | 235.4                                    | 10                                                     |
| 20KP56A   | 20KP56CA  | 56.00                                           | 62.60                                                | 5                               | 92.6                                                   | 218.1                                    | 10                                                     |
| 20KP60A   | 20KP60CA  | 60.00                                           | 67.00                                                | 5                               | 97.6                                                   | 207.0                                    | 10                                                     |
| 20KP64A   | 20KP64CA  | 64.00                                           | 71.50                                                | 5                               | 104.0                                                  | 194.2                                    | 10                                                     |
| 20KP68A   | 20KP68CA  | 68.00                                           | 76.00                                                | 5                               | 110.0                                                  | 183.6                                    | 10                                                     |
| 20KP72A   | 20KP72CA  | 72.00                                           | 80.40                                                | 5                               | 116.0                                                  | 174.1                                    | 10                                                     |
| 20KP80A   | 20KP80CA  | 80.00                                           | 89.40                                                | 5                               | 130.0                                                  | 155.4                                    | 10                                                     |
| 20KP88A   | 20KP88CA  | 88.00                                           | 98.30                                                | 5                               | 142.0                                                  | 142.3                                    | 10                                                     |
| 20KP96A   | 20KP96CA  | 96.00                                           | 107.20                                               | 5                               | 155.0                                                  | 130.3                                    | 10                                                     |
| 20KP104A  | 20KP104CA | 104.00                                          | 116.20                                               | 5                               | 168.0                                                  | 120.2                                    | 10                                                     |
| 20KP112A  | 20KP112CA | 112.00                                          | 125.10                                               | 5                               | 182.0                                                  | 111.0                                    | 10                                                     |
| 20KP120A  | 20KP120CA | 120.00                                          | 134.00                                               | 5                               | 194.0                                                  | 104.1                                    | 10                                                     |
| 20KP132A  | 20KP132CA | 132.00                                          | 147.40                                               | 5                               | 213.0                                                  | 94.8                                     | 10                                                     |
| 20KP144A  | 20KP144CA | 144.00                                          | 160.80                                               | 5                               | 232.0                                                  | 87.1                                     | 10                                                     |
| 20KP160A  | 20KP160CA | 160.00                                          | 178.70                                               | 5                               | 258.0                                                  | 78.3                                     | 10                                                     |
| 20KP172A  | 20KP172CA | 172.00                                          | 192.10                                               | 5                               | 277.0                                                  | 72.9                                     | 10                                                     |
| 20KP180A  | 20KP180CA | 180.00                                          | 201.10                                               | 5                               | 291.0                                                  | 69.4                                     | 10                                                     |
| 20KP192A  | 20KP192CA | 192.00                                          | 214.50                                               | 5                               | 309.0                                                  | 65.4                                     | 10                                                     |
| 20KP204A  | 20KP204CA | 204.00                                          | 227.90                                               | 5                               | 329.0                                                  | 61.4                                     | 10                                                     |
| 20KP216A  | 20KP216CA | 216.00                                          | 241.30                                               | 5                               | 348.0                                                  | 58.0                                     | 10                                                     |
| 20KP232A  | 20KP232CA | 232.00                                          | 259.10                                               | 5                               | 374.0                                                  | 54.0                                     | 10                                                     |
| 20KP240A  | 20KP240CA | 240.00                                          | 268.10                                               | 5                               | 387.0                                                  | 52.2                                     | 10                                                     |
| 20KP256A  | 20KP256CA | 256.00                                          | 286.00                                               | 5                               | 412.0                                                  | 49.0                                     | 10                                                     |
| 20KP280A  | 20KP280CA | 280.00                                          | 312.80                                               | 5                               | 451.0                                                  | 44.6                                     | 10                                                     |
| 20KP300A  | 20KP300CA | 300.00                                          | 335.10                                               | 5                               | 483.0                                                  | 41.8                                     | 10                                                     |

For bidirectional type having  $V_{RWM}$  of 40 volts and less, the IR limit is double.

For parts without A , the  $V_{BR}$  is  $\pm 10\%$

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 UL File # E223026