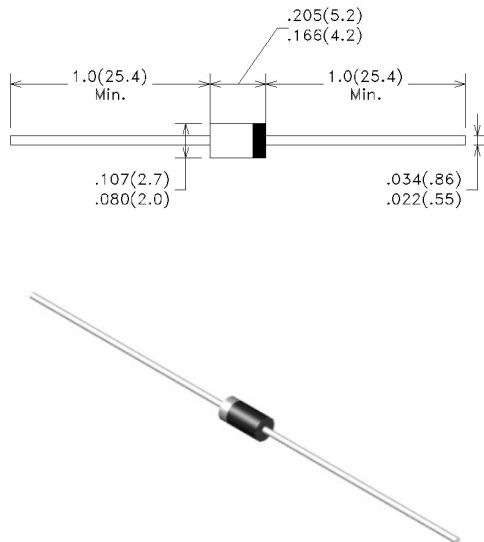


### Package Outline Dimensions in mm (inches) DO-41



400 Watt Peak Pulse Power  
Reverse Voltage 5.8 ~ 509 V

### Features

- Glass passivated chip
- 400 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

### Mechanical Data

- Case:DO-41 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                            | Symbols        | Value          | Unit |
|--------------------------------------------------------------------------------------|----------------|----------------|------|
| Peak power dissipation with a 10/1000 us waveform <sup>(1)</sup>                     | $P_{PP}$       | 400            | W    |
| Peak pulse current with a 10/1000 us waveform <sup>(1)</sup>                         | $I_{PP}$       | See Next Table | A    |
| Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$                   | $P_D$          | 3.0            | W    |
| Peak forward surge current, 8.3 ms single half sinewave                              | $I_{FSM}$      | 40             | A    |
| Maximum instantaneous forward voltage at 15 A for unidirectional only <sup>(3)</sup> | $V_F$          | 3.5/6.5        | V    |
| Operating junction and storage temperature range                                     | $T_J, T_{STG}$ | -55 to +150    | °C   |

Note:

- 1)Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25^\circ\text{C}$  per Fig.1 ;
- 2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;
- 3) $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 6.5\text{V}$  for devices of  $V_{BR} > 201\text{V}$ .

| Part Number |           | Reverse Stand-off Voltage | Breakdown Voltage<br>$V_{BR} @ I_T$ |         | Test Current | Max. Clamping Voltage @ $I_{PP}$ | Max. Peak Pulse Current | Max. Reverse Leakage @ $V_{RWM}$ |
|-------------|-----------|---------------------------|-------------------------------------|---------|--------------|----------------------------------|-------------------------|----------------------------------|
| UNI-POLAR   | BI-POLAR  | $V_{RWM}(V)$              | Min.(V)                             | Max.(V) | $I_T(mA)$    | $V_{C MAX.}(V)$                  | $I_{PP}(A)$             | $I_R(\mu A)$                     |
| P4KE6.8A    | P4KE6.8CA | 5.8                       | 6.45                                | 7.14    | 10           | 10.5                             | 39.0                    | 1000                             |
| P4KE7.5A    | P4KE7.5CA | 6.4                       | 7.13                                | 7.88    | 10           | 11.3                             | 36.3                    | 500                              |
| P4KE8.2A    | P4KE8.2CA | 7.0                       | 7.79                                | 8.61    | 10           | 12.1                             | 33.9                    | 200                              |
| P4KE9.1A    | P4KE9.1CA | 7.8                       | 8.65                                | 9.55    | 1            | 13.4                             | 30.6                    | 50                               |
| P4KE10A     | P4KE10CA  | 8.6                       | 9.50                                | 10.50   | 1            | 14.5                             | 28.3                    | 10                               |
| P4KE11A     | P4KE11CA  | 9.4                       | 10.50                               | 11.60   | 1            | 15.6                             | 26.3                    | 5                                |
| P4KE12A     | P4KE12CA  | 10.2                      | 11.40                               | 12.60   | 1            | 16.7                             | 24.6                    | 5                                |
| P4KE13A     | P4KE13CA  | 11.1                      | 12.40                               | 13.70   | 1            | 18.2                             | 22.5                    | 1                                |
| P4KE15A     | P4KE15CA  | 12.8                      | 14.30                               | 15.80   | 1            | 21.2                             | 19.3                    | 1                                |
| P4KE16A     | P4KE16CA  | 13.6                      | 15.20                               | 16.80   | 1            | 22.5                             | 18.2                    | 1                                |
| P4KE18A     | P4KE18CA  | 15.3                      | 17.10                               | 18.90   | 1            | 25.5                             | 16.1                    | 1                                |
| P4KE20A     | P4KE20CA  | 17.1                      | 19.00                               | 21.00   | 1            | 27.7                             | 14.8                    | 1                                |
| P4KE22A     | P4KE22CA  | 18.8                      | 20.90                               | 23.10   | 1            | 30.6                             | 13.4                    | 1                                |
| P4KE24A     | P4KE24CA  | 20.5                      | 22.80                               | 25.20   | 1            | 33.2                             | 12.3                    | 1                                |
| P4KE27A     | P4KE27CA  | 23.1                      | 25.70                               | 28.40   | 1            | 37.5                             | 10.9                    | 1                                |
| P4KE30A     | P4KE30CA  | 25.6                      | 28.50                               | 31.50   | 1            | 41.4                             | 9.9                     | 1                                |
| P4KE33A     | P4KE33CA  | 28.2                      | 31.40                               | 34.70   | 1            | 45.7                             | 9.0                     | 1                                |
| P4KE36A     | P4KE36CA  | 30.8                      | 34.20                               | 37.80   | 1            | 49.9                             | 8.2                     | 1                                |
| P4KE39A     | P4KE39CA  | 33.3                      | 37.10                               | 41.00   | 1            | 53.9                             | 7.6                     | 1                                |
| P4KE43A     | P4KE43CA  | 36.8                      | 40.90                               | 45.20   | 1            | 59.3                             | 6.9                     | 1                                |
| P4KE47A     | P4KE47CA  | 40.2                      | 44.70                               | 49.40   | 1            | 64.8                             | 6.3                     | 1                                |
| P4KE51A     | P4KE51CA  | 43.6                      | 48.50                               | 53.60   | 1            | 70.1                             | 5.8                     | 1                                |
| P4KE56A     | P4KE56CA  | 47.8                      | 53.20                               | 58.80   | 1            | 77.0                             | 5.3                     | 1                                |
| P4KE62A     | P4KE62CA  | 53.0                      | 58.90                               | 65.10   | 1            | 85.0                             | 4.8                     | 1                                |
| P4KE68A     | P4KE68CA  | 58.1                      | 64.60                               | 71.40   | 1            | 92.0                             | 4.5                     | 1                                |
| P4KE75A     | P4KE75CA  | 64.1                      | 71.30                               | 78.80   | 1            | 103.0                            | 4.0                     | 1                                |
| P4KE82A     | P4KE82CA  | 70.1                      | 77.90                               | 86.10   | 1            | 113.0                            | 3.6                     | 1                                |
| P4KE91A     | P4KE91CA  | 77.8                      | 86.50                               | 95.50   | 1            | 125.0                            | 3.3                     | 1                                |
| P4KE100A    | P4KE100CA | 85.5                      | 95.0                                | 105.0   | 1            | 137.0                            | 3.0                     | 1                                |
| P4KE110A    | P4KE110CA | 94.0                      | 105.0                               | 116.0   | 1            | 152.0                            | 2.7                     | 1                                |
| P4KE120A    | P4KE120CA | 102.0                     | 114.0                               | 126.0   | 1            | 165.0                            | 2.5                     | 1                                |
| P4KE130A    | P4KE130CA | 111.0                     | 124.0                               | 137.0   | 1            | 179.0                            | 2.3                     | 1                                |
| P4KE150A    | P4KE150CA | 128.0                     | 143.0                               | 158.0   | 1            | 207.0                            | 2.0                     | 1                                |
| P4KE160A    | P4KE160CA | 136.0                     | 152.0                               | 168.0   | 1            | 219.0                            | 1.9                     | 1                                |
| P4KE170A    | P4KE170CA | 145.0                     | 162.0                               | 179.0   | 1            | 234.0                            | 1.8                     | 1                                |
| P4KE180A    | P4KE180CA | 154.0                     | 171.0                               | 189.0   | 1            | 246.0                            | 1.7                     | 1                                |
| P4KE200A    | P4KE200CA | 171.0                     | 190.0                               | 210.0   | 1            | 274.0                            | 1.5                     | 1                                |
| P4KE220A    | P4KE220CA | 185.0                     | 209.0                               | 231.0   | 1            | 328.0                            | 1.3                     | 1                                |
| P4KE250A    | P4KE250CA | 214.0                     | 237.0                               | 263.0   | 1            | 344.0                            | 1.2                     | 1                                |
| P4KE300A    | P4KE300CA | 256.0                     | 285.0                               | 315.0   | 1            | 414.0                            | 1.0                     | 1                                |
| P4KE350A    | P4KE350CA | 300.0                     | 332.0                               | 368.0   | 1            | 482.0                            | 0.9                     | 1                                |
| P4KE400A    | P4KE400CA | 342.0                     | 380.0                               | 420.0   | 1            | 548.0                            | 0.8                     | 1                                |
| P4KE440A    | P4KE440CA | 376.0                     | 418.0                               | 462.0   | 1            | 602.0                            | 0.7                     | 1                                |
| P4KE480A    | P4KE480CA | 408.0                     | 456.0                               | 504.0   | 1            | 658.0                            | 0.6                     | 1                                |
| P4KE510A    | P4KE510CA | 434.0                     | 485.0                               | 535.0   | 1            | 698.0                            | 0.6                     | 1                                |
| P4KE530A    | P4KE530CA | 450.0                     | 503.0                               | 556.0   | 1            | 725.0                            | 0.6                     | 1                                |
| P4KE540A    | P4KE540CA | 459.0                     | 513.0                               | 567.0   | 1            | 740.0                            | 0.5                     | 1                                |
| P4KE550A    | P4KE550CA | 467.0                     | 522.5                               | 577.5   | 1            | 760.0                            | 0.5                     | 1                                |
| P4KE600A    | P4KE600CA | 509.0                     | 570.0                               | 630.0   | 1            | 780.0                            | 0.5                     | 1                                |

**Ratings and Characteristics Curves (TA=25°C unless otherwise noted)**

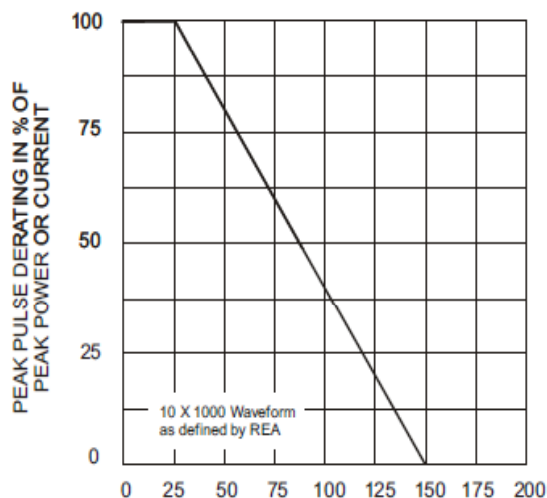


Fig. 1 - Pulse Derating Curve

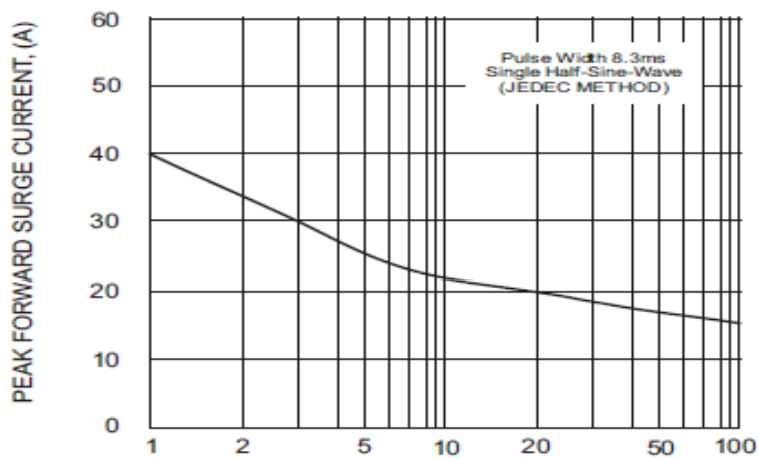


Fig. 2 - Maximum Non-Repetitive Surge Current

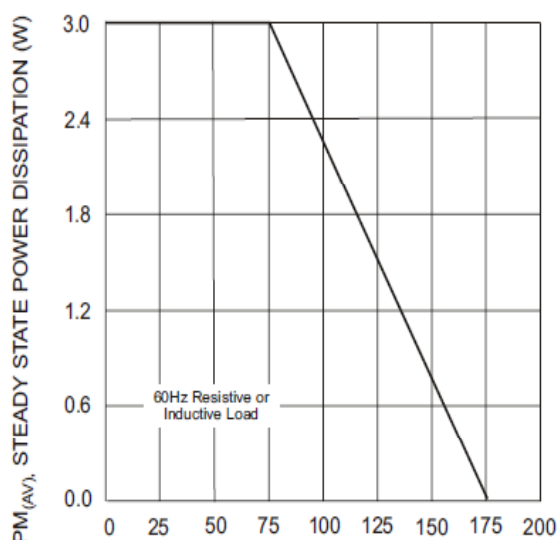


Fig. 3 - Steady State Power Derating Curve

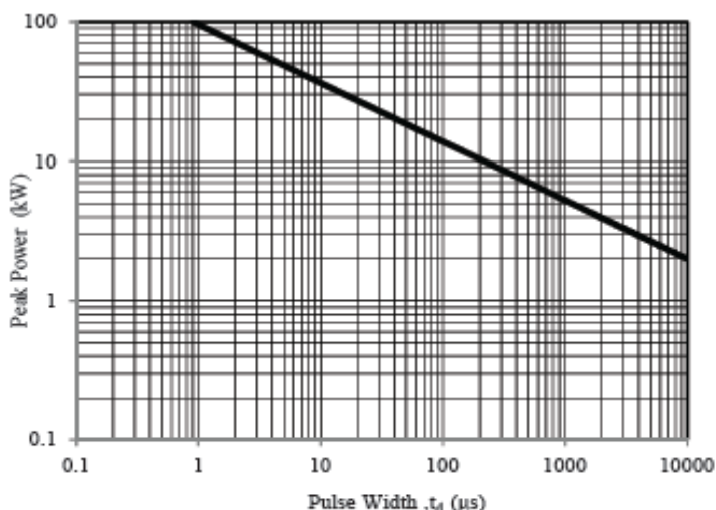


Fig. 4 - Peak Pulse Power Rating Curve

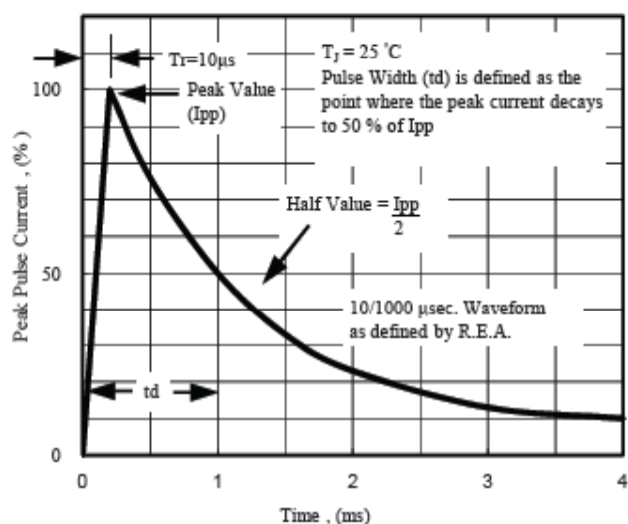


Fig. 5 - Pulse Waveform

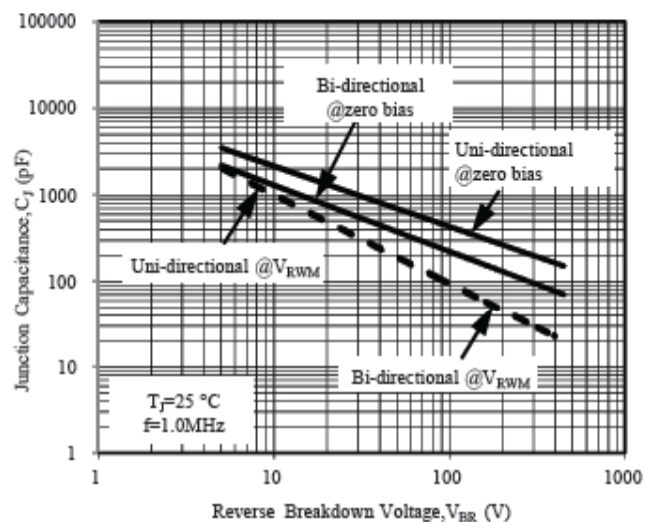


Fig. 6 - Typical Junction Capacitance