



P4KE SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

Breakdown Voltage - 6.8 to 600 Volts

Peak Pulse Power - 400 Watts

DO-204AL (DO-41)

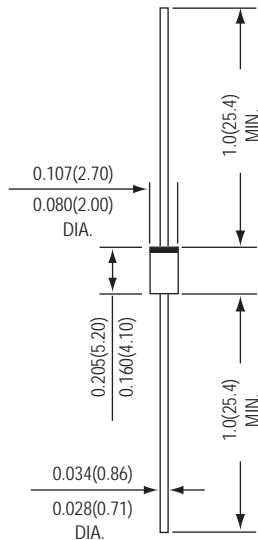


FEATURES

- * Glass passivated chip
- * 600 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle) : 0.01%
- * Low leakage
- * Excellent clamping capability
- * Very fast response time

MECHANICAL DATA

Case : JEDEC DO-41 molded plastic
Terminals : Plated axial leads , solderable per MIL-STD-750, Method 2026
Polarity : Color band denotes positive end (cathode) except for bidirectional types
Weight : 0.012 ounces , 0.3 gram



*Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

*Ratings at 25 °C ambient temperature unless otherwise specified.
 single phase, half wave, 60Hz resistive or inductive load.
 for capacitive load, derate current by 20%*

| RATING | SYMBOL | VALUE | UNITS |
|--|-----------------------------------|----------------|-------|
| Peak power dissipation with a 10/1000 μ s waveform (note 1) | P _{PPM} | 400 | Watts |
| Peak pulse current with a 10/1000 μ s waveform (note 1) | I _{PPM} | See next table | Amps |
| Power dissipation on infinite heatsink at T _L = 75 | P _D | 1 | Watts |
| Peak forward surge current, 8.3ms single half sine-wave unidirectional only (note 2) | I _{FSM} | 40 | Amps |
| Maximum instantaneous forward voltage at 25A for unidirectional only (note 3) | V _F | 3.5 / 5.0 | Volts |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | |

NOTES : (1) Non-repetitive current pulse per Fig. 5 and derated above T_A = 25 °C per Fig. 1
 (2) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
 (3) V_F < 3.5V for devices of V_{BR} < 200V and V_F < 5.0V for devices of V_{BR} > 201V

| PART NUMBER | | Working Peak Reverse Voltage V_{RWM} (V) | Breakdown Voltage V_{BR} @ I_T | | | Maximum Clamping Voltage V_C (V) @ I_{PP} | Maximum Reverse Surge Current I_{PP} (A) | Maximum Reverse Leakage I_R (μ A) @ V_{RWM} |
|-------------|-----------|---|------------------------------------|----------|------------|--|---|---|
| UNI-POLAR | BI-POLAR | | Min. (V) | Max. (V) | I_T (mA) | | | |
| P4KE6.8A | P4KE6.8CA | 5.8 | 6.46 | 7.14 | 10 | 10.5 | 38.1 | 1000 |
| P4KE7.5A | P4KE7.5CA | 6.4 | 7.13 | 7.88 | 10 | 11.3 | 35.4 | 500 |
| P4KE8.2A | P4KE8.2CA | 7.0 | 7.79 | 8.61 | 10 | 12.1 | 33.1 | 200 |
| P4KE9.1A | P4KE9.1CA | 7.8 | 8.65 | 9.56 | 1 | 13.4 | 29.9 | 50 |
| P4KE10A | P4KE10CA | 8.6 | 9.50 | 10.50 | 1 | 14.5 | 27.6 | 10 |
| P4KE11A | P4KE11CA | 9.4 | 10.45 | 11.55 | 1 | 15.6 | 25.6 | 1 |
| P4KE12A | P4KE12CA | 10.2 | 11.40 | 12.60 | 1 | 16.7 | 24.0 | 1 |
| P4KE13A | P4KE13CA | 11.1 | 12.35 | 13.65 | 1 | 18.2 | 22.0 | 1 |
| P4KE15A | P4KE15CA | 12.8 | 14.25 | 15.75 | 1 | 21.2 | 18.9 | 1 |
| P4KE16A | P4KE16CA | 13.6 | 15.20 | 16.80 | 1 | 22.5 | 17.8 | 1 |
| P4KE18A | P4KE18CA | 15.3 | 17.10 | 18.90 | 1 | 25.2 | 15.9 | 1 |
| P4KE20A | P4KE20CA | 17.1 | 19.00 | 21.00 | 1 | 27.7 | 14.4 | 1 |
| P4KE22A | P4KE22CA | 18.8 | 20.90 | 23.10 | 1 | 30.6 | 13.1 | 1 |
| P4KE24A | P4KE24CA | 20.5 | 22.80 | 25.20 | 1 | 33.2 | 12.0 | 1 |
| P4KE27A | P4KE27CA | 23.1 | 25.65 | 28.35 | 1 | 37.5 | 10.7 | 1 |
| P4KE30A | P4KE30CA | 25.6 | 28.50 | 31.50 | 1 | 41.4 | 9.66 | 1 |
| P4KE33A | P4KE33CA | 28.2 | 31.35 | 34.65 | 1 | 45.7 | 8.75 | 1 |
| P4KE36A | P4KE36CA | 30.8 | 34.20 | 37.80 | 1 | 49.9 | 8.02 | 1 |
| P4KE39A | P4KE39CA | 33.3 | 37.05 | 40.95 | 1 | 53.9 | 7.42 | 1 |
| P4KE43A | P4KE43CA | 36.8 | 40.85 | 45.15 | 1 | 59.3 | 6.75 | 1 |
| P4KE47A | P4KE47CA | 40.2 | 44.65 | 49.35 | 1 | 64.8 | 6.17 | 1 |
| P4KE51A | P4KE51CA | 43.6 | 48.45 | 53.55 | 1 | 70.1 | 5.71 | 1 |
| P4KE56A | P4KE56CA | 47.8 | 53.20 | 58.80 | 1 | 77.0 | 5.19 | 1 |
| P4KE62A | P4KE62CA | 53.0 | 58.90 | 65.10 | 1 | 85.0 | 4.71 | 1 |
| P4KE68A | P4KE68CA | 58.1 | 64.60 | 71.40 | 1 | 92.0 | 4.35 | 1 |
| P4KE75A | P4KE75CA | 64.1 | 71.25 | 78.75 | 1 | 103.0 | 3.88 | 1 |
| P4KE82A | P4KE82CA | 70.1 | 77.90 | 86.10 | 1 | 113.0 | 3.54 | 1 |
| P4KE91A | P4KE91CA | 77.8 | 86.45 | 95.55 | 1 | 125.0 | 3.20 | 1 |
| P4KE100A | P4KE100CA | 85.5 | 95.0 | 105.0 | 1 | 137.0 | 2.92 | 1 |
| P4KE110A | P4KE110CA | 94.0 | 104.5 | 115.5 | 1 | 152.0 | 2.63 | 1 |
| P4KE120A | P4KE120CA | 102.0 | 114.0 | 126.0 | 1 | 165.0 | 2.42 | 1 |
| P4KE130A | P4KE130CA | 111.0 | 123.5 | 136.5 | 1 | 179.0 | 2.23 | 1 |
| P4KE150A | P4KE150CA | 128.0 | 142.5 | 157.5 | 1 | 207.0 | 1.93 | 1 |
| P4KE160A | P4KE160CA | 136.0 | 152.0 | 168.0 | 1 | 219.0 | 1.83 | 1 |
| P4KE170A | P4KE170CA | 145.0 | 161.5 | 178.5 | 1 | 234.0 | 1.71 | 1 |
| P4KE180A | P4KE180CA | 154.0 | 171.0 | 189.0 | 1 | 246.0 | 1.63 | 1 |
| P4KE200A | P4KE200CA | 171.0 | 190.0 | 210.0 | 1 | 274.0 | 1.46 | 1 |
| P4KE220A | P4KE220CA | 185.0 | 209.0 | 231.0 | 1 | 328.0 | 1.22 | 1 |
| P4KE250A | P4KE250CA | 214.0 | 237.5 | 262.5 | 1 | 344.0 | 1.16 | 1 |
| P4KE300A | P4KE300CA | 256.0 | 285.0 | 315.0 | 1 | 414.0 | 0.97 | 1 |
| P4KE350A | P4KE350CA | 299.0 | 332.5 | 367.5 | 1 | 482.0 | 0.83 | 1 |
| P4KE380A | P4KE380CA | 325.0 | 361.0 | 399.0 | 1 | 524.0 | 0.76 | 1 |
| P4KE400A | P4KE400CA | 342.0 | 380.0 | 420.0 | 1 | 548.0 | 0.73 | 1 |
| P4KE440A | P4KE440CA | 376.0 | 418.0 | 462.0 | 1 | 602.0 | 0.66 | 1 |
| P4KE500A | P4KE500CA | 427.5 | 475.0 | 525.0 | 1 | 690.0 | 0.58 | 1 |
| P4KE520A | P4KE520CA | 444.6 | 494.0 | 546.0 | 1 | 717.6 | 0.56 | 1 |
| P4KE550A | P4KE550CA | 470.3 | 522.5 | 577.5 | 1 | 759.0 | 0.53 | 1 |
| P4KE600A | P4KE600CA | 513.0 | 570.0 | 630.0 | 1 | 828.0 | 0.48 | 1 |

NOTE: 1. Suffix " A " denotes 5% tolerance device.
2. Add suffix " CA " after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I

RATINGS AND CHARACTERISTIC CURVES P4KE SERIES

FIG. 1 - PULSE DERATING CURVE

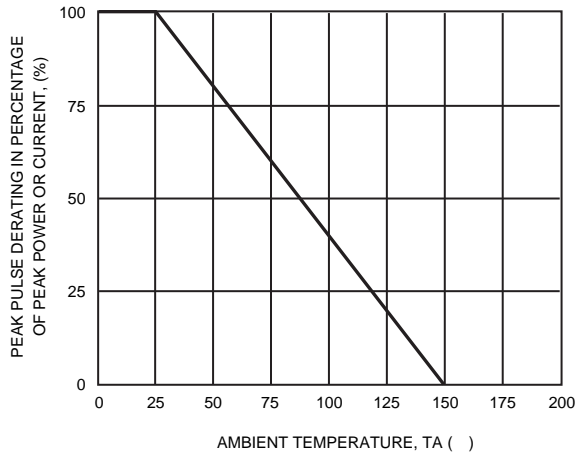


FIG. 2 - MAXIMUM NON-REPETITIVE

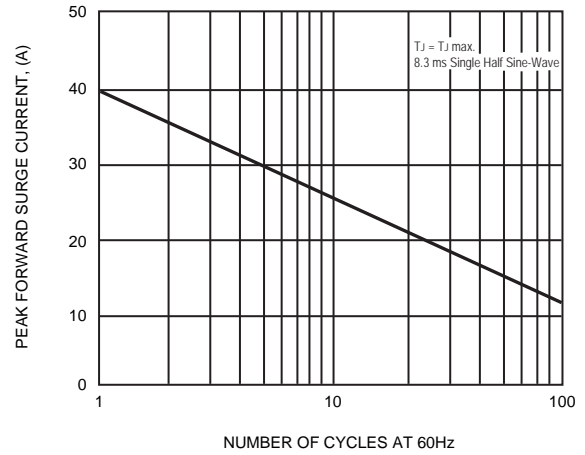


FIG. 3 - STEADY STATE POWER DERATING CURVE

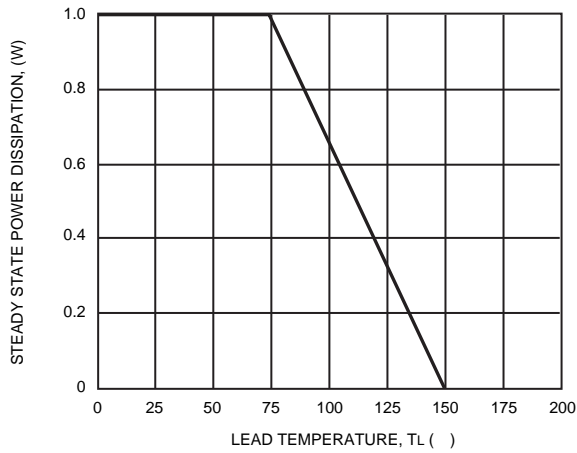


FIG. 4 - PEAK PULSE POWER RATING CURVE

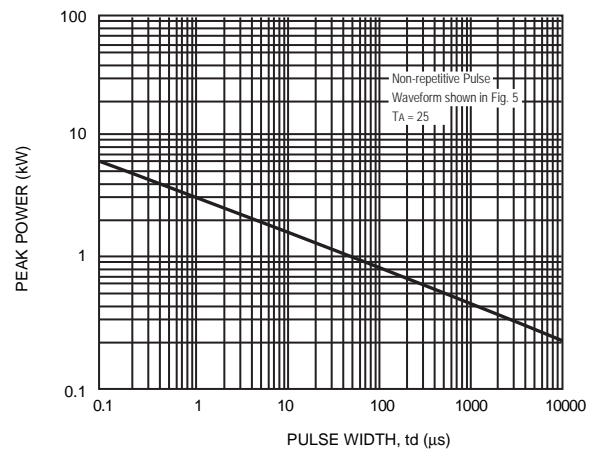


FIG. 5 - PULSE WAVEFORM

