

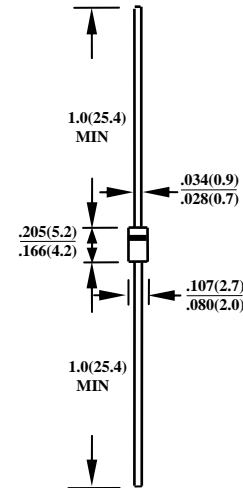
400W TRANSIENT VOLTAGE SUPPRESSOR

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- 400W SURGE CAPABILITY AT 1ms
- EXCELLENT CLAMPING CAPABILITY
- LOW ZENER IMPEDANCE
- FAST RESPONSE TIME: TYPICALLY LESS THAN 1.0 PS FROM 0 VOLTS TO BV MIN
- TYPICAL IR LESS THAN 1μA ABOVE 10V
- HIGH TEMPERATURE SOLDERING GUARANTEED: 260°C/10S / .375" (9.5mm) LEAD LENGTH/5LBS., (2.3KG) TENSION
- LEAD FREE

MECHANICAL DATA

- CASE : MOLDED PLASTIC
- TERMINALS : AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY : COLOR BAND DENOTED CATHODE EXCEPT BIPOLAR
- WEIGHT : 0.34 GRAMS



CASE : DO41
DIMENSIONS IN INCHES AND (MILLIMETERS)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED**

| RATINGS | SYMBOL | VALUE | UNITS |
|--|-----------------------------------|----------------|-------|
| PEAK POWER DISSIPATION AT TA=25°C, TP=1ms(NOTE1) | P _{PK} | MINIMUM 400 | WATTS |
| PEAK PULSE CURRENT WITH A 10/1000us WAVEFORM(NOTE 1) | I _{PPM} | SEE NEXT TABLE | A |
| STEADY STATE POWER DISSIPATION AT T _L =75°C, LEAD LENGTHS 0.375" (9.5mm) (NOTE2) | P _{M(AV)} | 1.0 | WATTS |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD (JEDEC METHOD) (NOTE 3) | I _{FSM} | 40.0 | Amps |
| TYPICAL THERMAL RESISTANCE JUNCTUION-TO-AMBIENT | R _{θJA} | 100 | °C/W |
| OPERATING AND STORAGE TEMPERATURE RANGE | T _J , T _{STG} | - 55 TO + 175 | °C |

- NOTE :
1. NON-REPETITIVE CURRENT PULSE, PER FIG.3 AND DERATED ABOVE TA=25°C PER FIG 2.
 2. MOUNTED ON COPPER PAD AREA OF 1.6x1.6" (40x40mm) PER FIG. 5
 3. 8.3ms SINGLE HALF SINE-WAVE, DUTY CYCLE=4 PULSES PER MINUTES MAXIMUM
 4. FOR BIDIRECTIONAL USE C SUFFIX FOR 10% TOLERANCE, CA SUFFIX FOR 5% TOLERANCE

| DEVICE | BREAKDOWN VOLTAGE | | | WORKING PEAK REVERSE VOLTAGE V_{RWM} (VOLTS) | MAXIMUM REVERSE LEAKAGE AT V_{RWM} $I_R(\mu A)$ | MAXIMUM REVERSE CURRENT I_{RSM} (AMPS) | MAX CLAMPING VOLTAGE V_{RWM} (VOLTS) | MAXIMUM TEMPERATURE COEFFICIENT OF V_{BR} (%C) |
|----------------|-------------------|-------|-------------|--|---|--|--|--|
| | B_{BR} (VOLTS) | | @IT (mA) | | | | | |
| | MIN | MAX | | | | | | |
| P4KE6.8(C)-LF | 6.12 | 7.48 | 10 | 5.50 | 1000 | 38 | 10.8 | 0.057 |
| P4KE6.8(C)A-LF | 6.45 | 7.14 | 10 | 5.80 | 1000 | 40 | 10.5 | 0.057 |
| P4KE7.5(C)-LF | 6.75 | 8.25 | 10 | 6.05 | 500 | 36 | 11.7 | 0.061 |
| P4KE7.5(C)A-LF | 7.13 | 7.88 | 10 | 6.40 | 500 | 37 | 11.3 | 0.061 |
| P4KE8.2(C)-LF | 7.38 | 9.02 | 10 | 6.63 | 200 | 33 | 12.5 | 0.065 |
| P4KE8.2(C)A-LF | 7.79 | 8.61 | 10 | 7.02 | 200 | 35 | 12.1 | 0.065 |
| P4KE9.1(C)-LF | 8.19 | 10.0 | 1.0 | 7.37 | 50 | 30 | 13.8 | 0.068 |
| P4KE9.1(C)A-LF | 8.65 | 9.55 | 1.0 | 7.78 | 50 | 31 | 13.4 | 0.068 |
| P4KE10(C)-LF | 9.00 | 11.0 | 1.0 | 8.10 | 10 | 28 | 15.0 | 0.073 |
| P4KE10(C)A-LF | 9.50 | 10.5 | 1.0 | 8.55 | 10 | 29 | 14.5 | 0.073 |
| P4KE11(C)-LF | 9.90 | 12.1 | 1.0 | 8.92 | 5.0 | 26 | 16.2 | 0.075 |
| P4KE11(C)A-LF | 10.5 | 11.6 | 1.0 | 9.40 | 5.0 | 27 | 15.6 | 0.076 |
| P4KE12(C)-LF | 10.8 | 13.2 | 1.0 | 9.72 | 5.0 | 24 | 17.3 | 0.078 |
| P4KE12(C)A-LF | 11.4 | 12.6 | 1.0 | 10.2 | 5.0 | 25 | 16.7 | 0.078 |
| P4KE13(C)-LF | 11.7 | 14.3 | 1.0 | 10.5 | 5.0 | 22 | 19.0 | 0.081 |
| P4KE13(C)A-LF | 12.4 | 13.7 | 1.0 | 11.1 | 5.0 | 23 | 18.2 | 0.081 |
| P4KE15(C)-LF | 13.5 | 16.5 | 1.0 | 12.1 | 5.0 | 19 | 22.0 | 0.084 |
| P4KE15(C)A-LF | 14.3 | 15.8 | 1.0 | 12.8 | 5.0 | 20 | 21.2 | 0.084 |
| P4KE16(C)-LF | 14.4 | 17.6 | 1.0 | 12.9 | 5.0 | 18 | 23.5 | 0.086 |
| P4KE16(C)A-LF | 15.2 | 16.8 | 1.0 | 13.6 | 5.0 | 19 | 22.5 | 0.086 |
| P4KE18(C)-LF | 16.2 | 19.8 | 1.0 | 14.5 | 5.0 | 16 | 26.5 | 0.088 |
| P4KE18(C)A-LF | 17.1 | 18.9 | 1.0 | 15.3 | 5.0 | 17 | 25.5 | 0.088 |
| P4KE20(C)-LF | 18.0 | 22.0 | 1.0 | 16.2 | 5.0 | 14 | 29.1 | 0.090 |
| P4KE20(C)A-LF | 19.0 | 21.0 | 1.0 | 17.1 | 5.0 | 15 | 27.7 | 0.090 |
| P4KE22(C)-LF | 19.8 | 24.2 | 1.0 | 17.8 | 5.0 | 13 | 31.9 | 0.092 |
| P4KE22(C)A-LF | 20.9 | 23.1 | 1.0 | 18.8 | 5.0 | 14 | 30.6 | 0.092 |
| P4KE24(C)-LF | 21.6 | 26.4 | 1.0 | 19.4 | 5.0 | 12 | 34.7 | 0.094 |
| P4KE24(C)A-LF | 22.8 | 25.2 | 1.0 | 20.5 | 5.0 | 13 | 33.2 | 0.094 |
| P4KE27(C)-LF | 24.3 | 29.7 | 1.0 | 21.8 | 5.0 | 11 | 39.1 | 0.096 |
| P4KE27(C)A-LF | 25.7 | 28.4 | 1.0 | 23.1 | 5.0 | 11.2 | 37.5 | 0.096 |
| P4KE30(C)-LF | 27.0 | 33.0 | 1.0 | 24.3 | 5.0 | 10 | 43.5 | 0.097 |
| P4KE30(C)A-LF | 28.5 | 31.5 | 1.0 | 25.6 | 5.0 | 10 | 41.4 | 0.097 |
| P4KE33(C)-LF | 29.7 | 36.3 | 1.0 | 26.8 | 5.0 | 9 | 47.7 | 0.098 |
| P4KE33(C)A-LF | 31.4 | 34.7 | 1.0 | 28.2 | 5.0 | 9 | 45.7 | 0.098 |
| P4KE36(C)-LF | 32.4 | 39.6 | 1.0 | 29.1 | 5.0 | 8 | 52.0 | 0.099 |
| P4KE36(C)A-LF | 34.2 | 37.8 | 1.0 | 30.8 | 5.0 | 8.4 | 49.9 | 0.099 |
| P4KE39(C)-LF | 35.1 | 42.9 | 1.0 | 31.6 | 5.0 | 7.4 | 56.4 | 0.100 |
| P4KE39(C)A-LF | 37.1 | 41.0 | 1.0 | 33.3 | 5.0 | 7.8 | 53.9 | 0.100 |
| P4KE43(C)-LF | 38.7 | 47.3 | 1.0 | 34.8 | 5.0 | 6.8 | 61.9 | 0.101 |
| P4KE43(C)A-LF | 40.9 | 45.2 | 1.0 | 36.8 | 5.0 | 7.1 | 59.3 | 0.101 |
| P4KE47(C)-LF | 42.3 | 51.7 | 1.0 | 38.1 | 5.0 | 6.2 | 67.8 | 0.101 |
| P4KE47(C)A-LF | 44.7 | 49.4 | 1.0 | 40.2 | 5.0 | 6.5 | 64.8 | 0.101 |
| P4KE51(C)-LF | 45.9 | 56.1 | 1.0 | 41.3 | 5.0 | 5.7 | 73.5 | 0.102 |
| P4KE51(C)A-LF | 48.5 | 53.6 | 1.0 | 43.6 | 5.0 | 6.0 | 70.1 | 0.102 |
| P4KE56(C)-LF | 50.4 | 61.6 | 1.0 | 45.4 | 5.0 | 5.2 | 80.5 | 0.103 |
| P4KE56(C)A-LF | 53.2 | 58.8 | 1.0 | 47.8 | 5.0 | 5.5 | 77.0 | 0.103 |
| P4KE62(C)-LF | 55.8 | 68.2 | 1.0 | 50.2 | 5.0 | 4.7 | 89.0 | 0.104 |
| P4KE62(C)A-LF | 58.9 | 65.1 | 1.0 | 53.0 | 5.0 | 5.0 | 85.0 | 0.104 |
| P4KE68(C)-LF | 61.2 | 74.8 | 1.0 | 55.1 | 5.0 | 4.3 | 98.0 | 0.104 |
| P4KE68(C)A-LF | 64.6 | 71.4 | 1.0 | 58.1 | 5.0 | 4.6 | 92.0 | 0.104 |
| P4KE75(C)-LF | 67.5 | 82.5 | 1.0 | 60.7 | 5.0 | 3.9 | 108.0 | 0.105 |
| P4KE75(C)A-LF | 71.3 | 78.8 | 1.0 | 64.1 | 5.0 | 4.1 | 103.0 | 0.105 |
| P4KE82(C)-LF | 73.8 | 90.2 | 1.0 | 66.4 | 5.0 | 3.6 | 118.0 | 0.105 |
| P4KE82(C)A-LF | 77.9 | 86.1 | 1.0 | 70.1 | 5.0 | 3.7 | 113.0 | 0.105 |
| P4KE91(C)-LF | 81.9 | 100.0 | 1.0 | 73.7 | 5.0 | 3.2 | 131.8 | 0.106 |
| P4KE91(C)A-LF | 86.5 | 95.50 | 1.0 | 77.8 | 5.0 | 3.4 | 125.0 | 0.106 |
| P4KE100(C)-LF | 90.0 | 110.0 | 1.0 | 81.0 | 5.0 | 2.9 | 144.0 | 0.106 |
| P4KE100(C)A-LF | 95.0 | 105.0 | 1.0 | 85.5 | 5.0 | 3.1 | 137.0 | 0.106 |

| DEVICE | BREAKDOWN VOLTAGE | | | WORKING PEAK REVERSE VOLTAGE V_{RWM} (VOLTS) | MAXIMUM REVERSE LEAKAGE AT V_{RWM} $I_R(\mu A)$ | MAXIMUM REVERSE CURRENT I_{RSM} (AMPS) | MAX CLAMPING VOLTAGE V_{RWM} (VOLTS) | MAXIMUM TEMPERATURE COEFFICIENT OF V_{RR} (%C) |
|----------------|-------------------|-------|-------------|--|---|--|--|--|
| | B_{BR} (VOLTS) | | @IT (mA) | | | | | |
| | MIN | MAX | | | | | | |
| P4KE110(C)-LF | 99.0 | 121.0 | 1.0 | 89.2 | 5.0 | 2.7 | 158.0 | 0.107 |
| P4KE110(C)A-LF | 105.0 | 116.0 | 1.0 | 94.0 | 5.0 | 2.8 | 152.0 | 0.107 |
| P4KE120(C)-LF | 108.0 | 132.0 | 1.0 | 97.2 | 5.0 | 2.4 | 173.0 | 0.107 |
| P4KE120(C)A-LF | 114.0 | 126.0 | 1.0 | 102.0 | 5.0 | 2.5 | 165.0 | 0.107 |
| P4KE130(C)-LF | 117.0 | 143.0 | 1.0 | 105.0 | 5.0 | 2.2 | 187.0 | 0.107 |
| P4KE130(C)A-LF | 124.0 | 137.0 | 1.0 | 111.0 | 5.0 | 2.3 | 179.0 | 0.107 |
| P4KE150(C)-LF | 135.0 | 165.0 | 1.0 | 121.0 | 5.0 | 2.0 | 215.0 | 0.108 |
| P4KE150(C)A-LF | 143.0 | 158.0 | 1.0 | 128.0 | 5.0 | 2.0 | 207.0 | 0.108 |
| P4KE160(C)-LF | 144.0 | 176.0 | 1.0 | 130.0 | 5.0 | 1.8 | 230.0 | 0.108 |
| P4KE160(C)A-LF | 152.0 | 168.0 | 1.0 | 136.0 | 5.0 | 1.9 | 219.0 | 0.108 |
| P4KE170(C)-LF | 153.0 | 187.0 | 1.0 | 138.0 | 5.0 | 1.7 | 244.0 | 0.108 |
| P4KE170(C)A-LF | 162.0 | 179.0 | 1.0 | 145.0 | 5.0 | 1.8 | 234.0 | 0.108 |
| P4KE180(C)-LF | 162.0 | 198.0 | 1.0 | 146.0 | 5.0 | 1.6 | 258.0 | 0.108 |
| P4KE180(C)A-LF | 171.0 | 189.0 | 1.0 | 154.0 | 5.0 | 1.7 | 246.0 | 0.108 |
| P4KE200(C)-LF | 180.0 | 220.0 | 1.0 | 162.0 | 5.0 | 1.5 | 287.0 | 0.108 |
| P4KE200(C)A-LF | 190.0 | 210.0 | 1.0 | 171.0 | 5.0 | 1.53 | 274.0 | 0.108 |
| P4KE220(C)-LF | 198.0 | 242.0 | 1.0 | 175.0 | 5.0 | 1.16 | 344.0 | 0.108 |
| P4KE220(C)A-LF | 209.0 | 231.0 | 1.0 | 185.0 | 5.0 | 1.22 | 328.0 | 0.108 |
| P4KE250(C)-LF | 225.0 | 275.0 | 1.0 | 202.0 | 5.0 | 1.11 | 360.0 | 0.110 |
| P4KE250(C)A-LF | 237.0 | 263.0 | 1.0 | 214.0 | 5.0 | 1.16 | 344.0 | 0.110 |
| P4KE300(C)-LF | 270.0 | 330.0 | 1.0 | 243.0 | 5.0 | 0.93 | 430.0 | 0.110 |
| P4KE300(C)A-LF | 285.0 | 315.0 | 1.0 | 256.0 | 5.0 | 0.97 | 414.0 | 0.110 |
| P4KE350(C)-LF | 315.0 | 385.0 | 1.0 | 284.0 | 5.0 | 0.79 | 504.0 | 0.110 |
| P4KE350(C)A-LF | 332.0 | 368.0 | 1.0 | 300.0 | 5.0 | 0.83 | 482.0 | 0.110 |
| P4KE400(C)-LF | 360.0 | 440.0 | 1.0 | 324.0 | 5.0 | 0.70 | 574.0 | 0.110 |
| P4KE400(C)A-LF | 380.0 | 420.0 | 1.0 | 342.0 | 5.0 | 0.73 | 548.0 | 0.110 |
| P4KE440(C)-LF | 396.0 | 484.0 | 1.0 | 356.0 | 5.0 | 0.64 | 630.0 | 0.110 |
| P4KE440(C)A-LF | 418.0 | 462.0 | 1.0 | 376.0 | 5.0 | 0.67 | 600.0 | 0.110 |
| P4KE480(C)-LF | 432.0 | 528.0 | 1.0 | 389.0 | 5.0 | 0.58 | 686.0 | 0.110 |
| P4KE480(C)A-LF | 456.0 | 504.0 | 1.0 | 408.0 | 5.0 | 0.61 | 658.0 | 0.110 |
| P4KE510(C)-LF | 459.0 | 561.0 | 1.0 | 413.0 | 5.0 | 0.55 | 729.0 | 0.110 |
| P4KE510(C)A-LF | 485.0 | 535.0 | 1.0 | 434.0 | 5.0 | 0.57 | 698.0 | 0.110 |
| P4KE540(C)-LF | 486.0 | 594.0 | 1.0 | 437.0 | 5.0 | 0.52 | 772.0 | 0.110 |
| P4KE540(C)A-LF | 513.0 | 567.0 | 1.0 | 459.0 | 5.0 | 0.54 | 740.0 | 0.110 |

- NOTES : 1. V_{BR} MEASURED AFTER I_T APPLIED FOR 300 μS , I_T =SQUARE WAVE PULSE OR EQUIVALENT
2. SURGE CURRENT WAVEFORM PER FIGURE 3 AND DERATED PER FIGUE 2.
3. V_F = 3.5V AT I_F =25A (P4KE6.8(C) THRU P4KE200(C)A)
 V_F = 6.5V AT I_F =25A (P4KE220(C) THRU P4KE540(C)A) ON 1/2 SQUARE OR EQUIVALENT SINE WAVE.
PW = 8.3ms, DUTY CYCLE=4 PULSES PER MINUTE MXIMUM
4. FOR BIPOLAR TYPES HAVING V_{RWM} OF 10 VOLTS AND UNDER, THE I_R LIMIT IS DOUBLED

RATINGS AND CHARACTERISTIC CURVES P4KE6.8(C)-LF THRU P4KE540(C)A-LF

FIG. 1 - PEAK PULSE POWER RATING CURVE

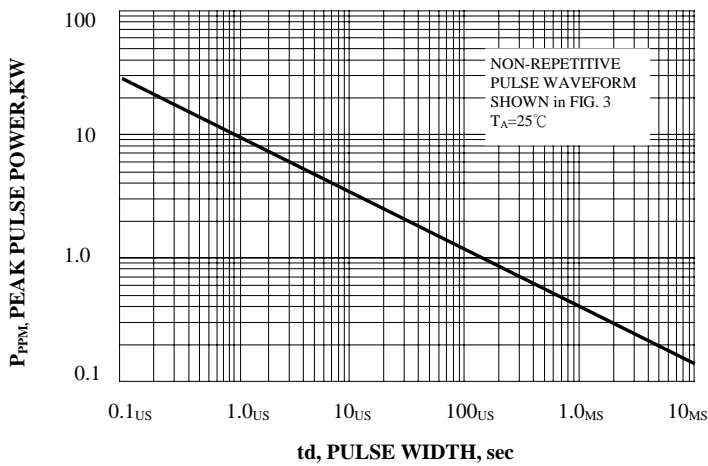


FIG. 2 - PULSE DERATING CURVE

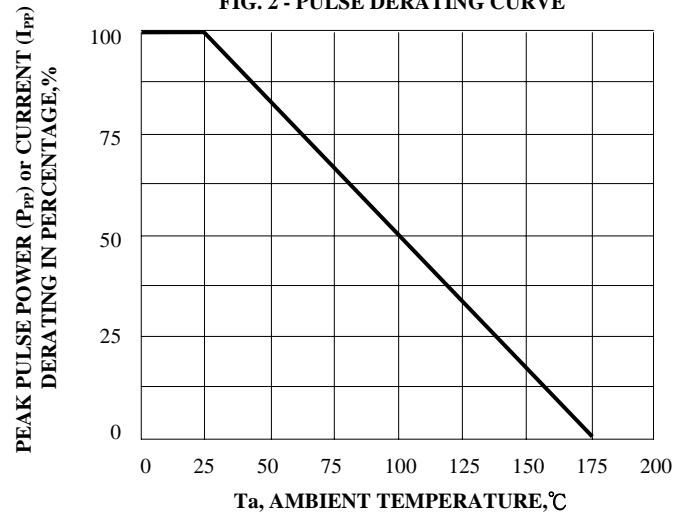


FIG. 3 - PULSE WAVEFORM

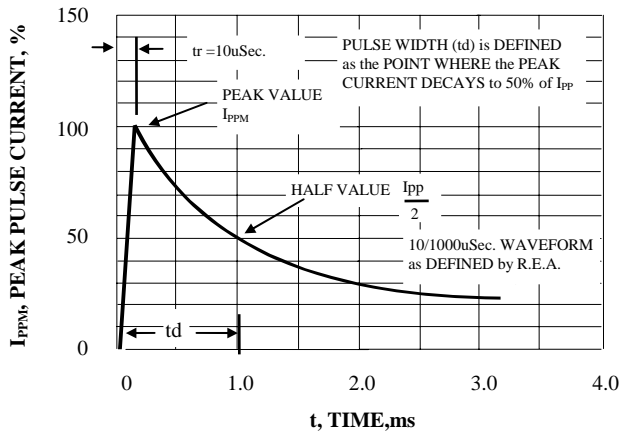


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

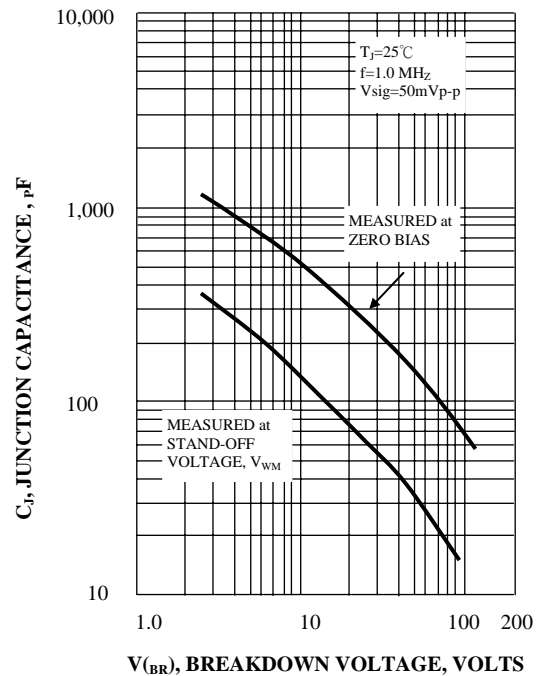


FIG. 5 - STEADY STATE POWER DERATING CURVE

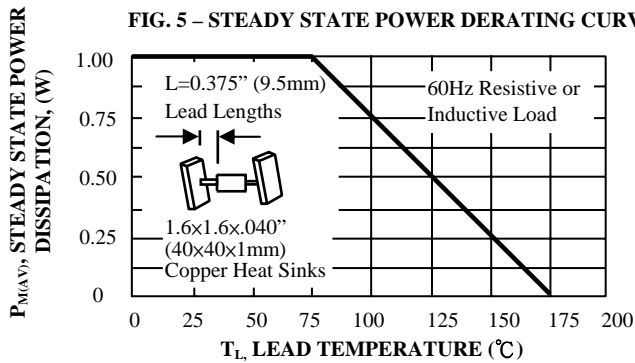


FIG. 6 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

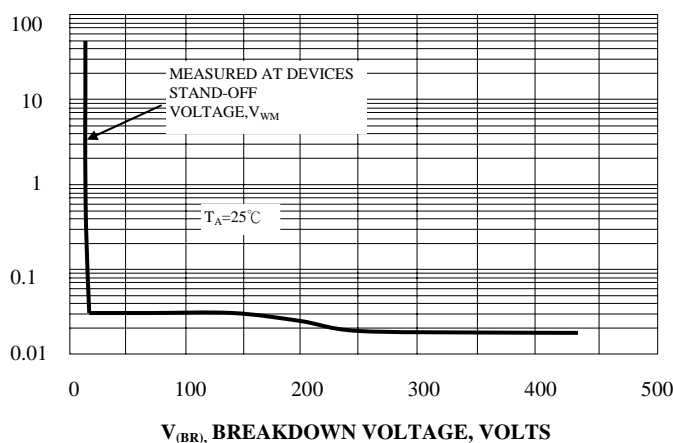


FIG. 7 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

