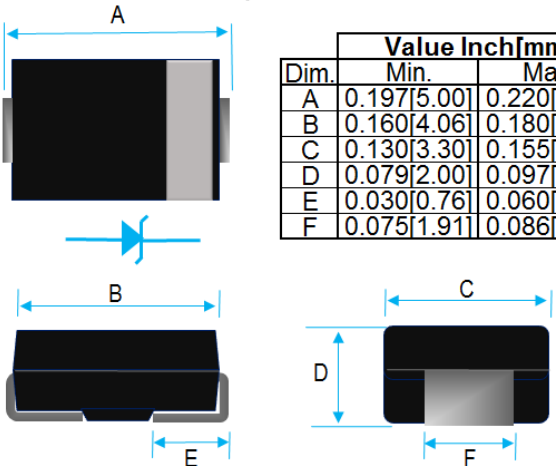


3W SURFACE MOUNT ZENER DIODES, 6.8V – 200V



| Dim. | Value Inch[mm] | |
|------|----------------|-------------|
| | Min. | Max. |
| A | 0.197[5.00] | 0.220[5.59] |
| B | 0.160[4.06] | 0.180[4.57] |
| C | 0.130[3.30] | 0.155[3.94] |
| D | 0.079[2.00] | 0.097[2.47] |
| E | 0.030[0.76] | 0.060[1.52] |
| F | 0.075[1.91] | 0.086[2.18] |

PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. GLASS PASSIVATED CHIP CONSTRUCTION
3. WIDE ZENER VOLTAGE RANGE FROM 6.8V TO 200V
4. LOW INDUCTANCE AND ZENER IMPEDANCE
5. POLARITY: INDICATED BY CATHODE BAND
6. MOLDED PLASTIC CASE DO-214AA (SMB)
7. DIMENSIONS IN INCHES AND (MILLIMETERS)
8. LEADS: SOLDERABILITY PER MIL-STD-750 METHOD 2026
9. WEIGHT: 0.09 GRAMS
10. RoHS COMPLIANT. ADD SUFFIX "-H" FOR HALOGEN FREE PART. i.e. ZGFM306V8B-H.

ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

| PARAMETER | CONDITIONS | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|-----------------------|--------------------------|-----------|------|------|------|------------------|
| FORWARD VOLTAGE | $I_F = 200 \text{ mA}$ | V_F | | | 1.20 | V |
| POWER DISSIPATION | $T_L = 50^\circ\text{C}$ | P_D | | | 3.0 | W |
| OPERATING TEMPERATURE | | T_J | -55 | | +150 | $^\circ\text{C}$ |
| STORAGE TEMPERATURE | | T_{STG} | -65 | | +175 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|-----------------|-------|--------------------|
| TYPICAL THERMAL RESISTANCE JUNCTION TO AMBIENT | $R_{\theta JA}$ | 85 | $^\circ\text{C/W}$ |

Note : 1. Mounted on FR-4 PCB



ZGFM306V8B THRU ZGFM30200B SPECIFICATION

Rev. A

| Part No. | Marking code | Zener | | | Test Current | Zener Impedance | | | Leakage Current | |
|------------|--------------|--|------|-------|-----------------|-----------------------------------|-----------------------------------|-----------------|-----------------|----------------|
| | | V _Z @ I _{ZT} (Volts) | | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _{ZK} | I _R | V _R |
| | | Min. | Nom. | Max. | mA | (Ω)Max | (Ω)Max | mA | (uA)Max | Volts |
| ZGFM306V8B | 3Z6V8 | 6.46 | 6.8 | 7.14 | 110 | 2.0 | 700 | 1.00 | 5.0 | 4.0 |
| ZGFM307V5B | 3Z7V5 | 7.13 | 7.5 | 7.88 | 100 | 2.0 | 700 | 0.50 | 5.0 | 5.0 |
| ZGFM308V2B | 3Z8V2 | 7.79 | 8.2 | 8.61 | 91 | 2.0 | 700 | 0.50 | 5.0 | 6.0 |
| ZGFM308V7B | 3Z8V7 | 8.27 | 8.7 | 9.14 | 85 | 2.0 | 700 | 0.50 | 4.0 | 6.6 |
| ZGFM309V1B | 3Z9V1 | 8.65 | 9.1 | 9.56 | 82 | 3.0 | 700 | 0.50 | 3.0 | 7.0 |
| ZGFM3010B | 3Z10 | 9.50 | 10 | 10.50 | 75 | 4.0 | 700 | 0.50 | 3.0 | 7.6 |
| ZGFM3011B | 3Z11 | 10.45 | 11 | 11.55 | 68 | 4.0 | 700 | 0.25 | 1.0 | 8.4 |
| ZGFM3012B | 3Z12 | 11.40 | 12 | 12.60 | 63 | 4.5 | 700 | 0.25 | 1.0 | 9.1 |
| ZGFM3013B | 3Z13 | 12.35 | 13 | 13.65 | 58 | 5.0 | 700 | 0.25 | 0.5 | 9.9 |
| ZGFM3015B | 3Z15 | 14.25 | 15 | 15.75 | 50 | 7.0 | 700 | 0.25 | 0.5 | 11.4 |
| ZGFM3016B | 3Z16 | 15.20 | 16 | 16.80 | 47 | 8.0 | 700 | 0.25 | 0.5 | 12.2 |
| ZGFM3018B | 3Z18 | 17.10 | 18 | 18.90 | 42 | 10.0 | 750 | 0.25 | 0.5 | 13.7 |
| ZGFM3020B | 3Z20 | 19.00 | 20 | 21.00 | 37 | 11.0 | 750 | 0.25 | 0.5 | 15.2 |
| ZGFM3022B | 3Z22 | 20.90 | 22 | 23.10 | 34 | 12.0 | 750 | 0.25 | 0.5 | 16.7 |
| ZGFM3024B | 3Z24 | 22.80 | 24 | 25.20 | 31 | 13.0 | 750 | 0.25 | 0.5 | 18.2 |
| ZGFM3027B | 3Z27 | 25.65 | 27 | 28.35 | 28 | 18.0 | 750 | 0.25 | 0.5 | 20.6 |
| ZGFM3030B | 3Z30 | 28.50 | 30 | 31.50 | 25 | 20.0 | 1000 | 0.25 | 0.5 | 22.8 |
| ZGFM3033B | 3Z33 | 31.35 | 33 | 34.65 | 23 | 23.0 | 1000 | 0.25 | 0.5 | 25.4 |
| ZGFM3036B | 3Z36 | 34.20 | 36 | 37.80 | 21 | 25.0 | 1000 | 0.25 | 0.5 | 27.4 |
| ZGFM3039B | 3Z39 | 37.05 | 39 | 40.95 | 19 | 30.0 | 1500 | 0.25 | 0.5 | 29.7 |
| ZGFM3043B | 3Z43 | 40.85 | 43 | 45.15 | 17 | 35.0 | 1500 | 0.25 | 0.5 | 32.7 |
| ZGFM3047B | 3Z47 | 44.65 | 47 | 49.35 | 16 | 40.0 | 1500 | 0.25 | 0.5 | 35.8 |
| ZGFM3051B | 3Z51 | 48.45 | 51 | 53.55 | 15 | 48.0 | 1500 | 0.25 | 0.5 | 38.8 |
| ZGFM3056B | 3Z56 | 53.20 | 56 | 58.80 | 13 | 55.0 | 2000 | 0.25 | 0.5 | 42.6 |
| ZGFM3062B | 3Z62 | 58.90 | 62 | 65.10 | 12 | 60.0 | 2000 | 0.25 | 0.5 | 47.1 |
| ZGFM3068B | 3Z68 | 64.60 | 68 | 71.40 | 11 | 75.0 | 2000 | 0.25 | 0.5 | 51.7 |
| ZGFM3075B | 3Z75 | 71.25 | 75 | 78.75 | 10 | 90.0 | 2000 | 0.25 | 0.5 | 56.0 |
| ZGFM3082B | 3Z82 | 77.90 | 82 | 86.10 | 9.1 | 100 | 3000 | 0.25 | 0.5 | 62.2 |
| ZGFM3091B | 3Z91 | 86.45 | 91 | 95.55 | 8.2 | 125 | 3000 | 0.25 | 0.5 | 69.2 |
| ZGFM30100B | 3Z100 | 95.00 | 100 | 105.0 | 7.5 | 175 | 3000 | 0.25 | 0.5 | 76.0 |
| ZGFM30110B | 3Z110 | 104.50 | 110 | 115.5 | 6.8 | 250 | 4000 | 0.25 | 0.5 | 83.6 |
| ZGFM30120B | 3Z120 | 114.00 | 120 | 126.0 | 6.3 | 325 | 4500 | 0.25 | 0.5 | 91.2 |
| ZGFM30130B | 3Z130 | 123.50 | 130 | 136.5 | 5.8 | 400 | 5000 | 0.25 | 0.5 | 98.8 |
| ZGFM30150B | 3Z150 | 142.50 | 150 | 157.5 | 5.0 | 575 | 6000 | 0.25 | 0.5 | 114.0 |
| ZGFM30160B | 3Z160 | 152.00 | 160 | 168.0 | 4.7 | 650 | 6500 | 0.25 | 0.5 | 121.6 |
| ZGFM30180B | 3Z180 | 171.00 | 180 | 189.0 | 4.2 | 725 | 7000 | 0.25 | 0.5 | 136.8 |
| ZGFM30200B | 3Z200 | 190.00 | 200 | 210.0 | 3.7 | 900 | 8000 | 0.25 | 0.5 | 152.0 |

Note : Suffix B denotes 5% tolerance of Zener voltage

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 Typical Thermal Response L

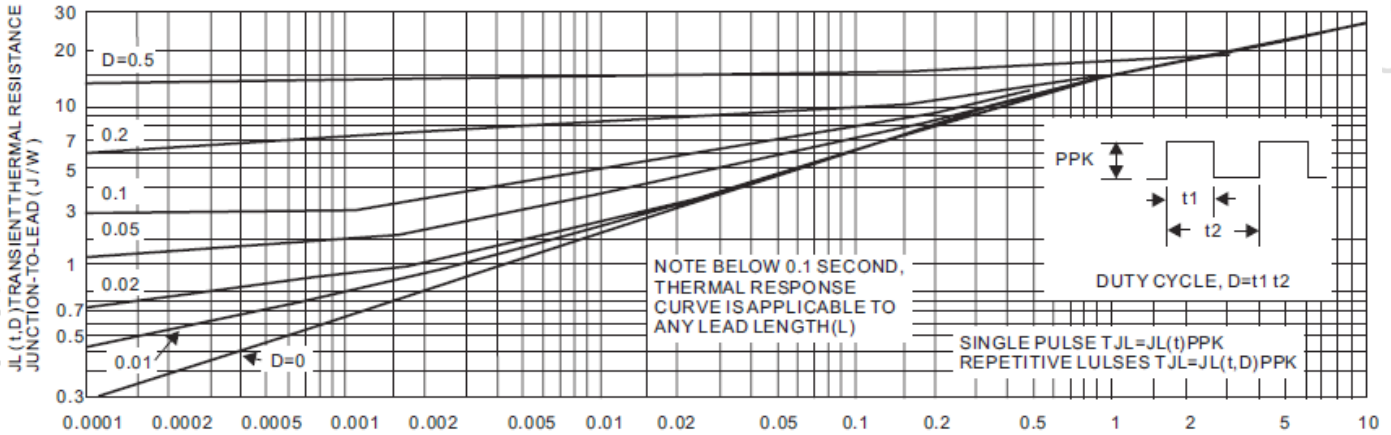


FIG. 2 Maximum Surge Power

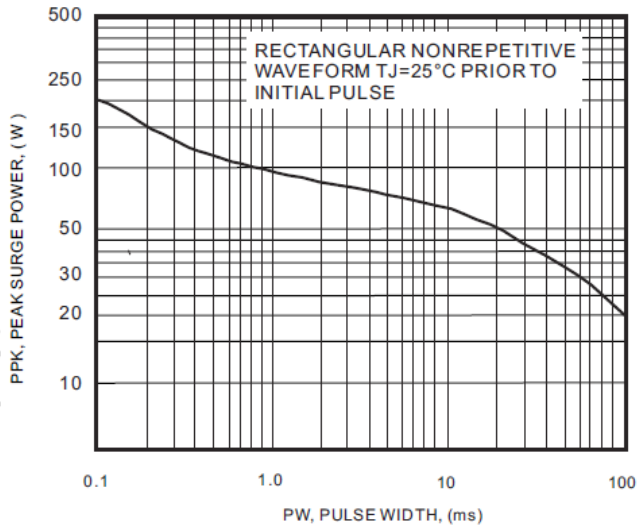


FIG. 3 Maximum Surge Power

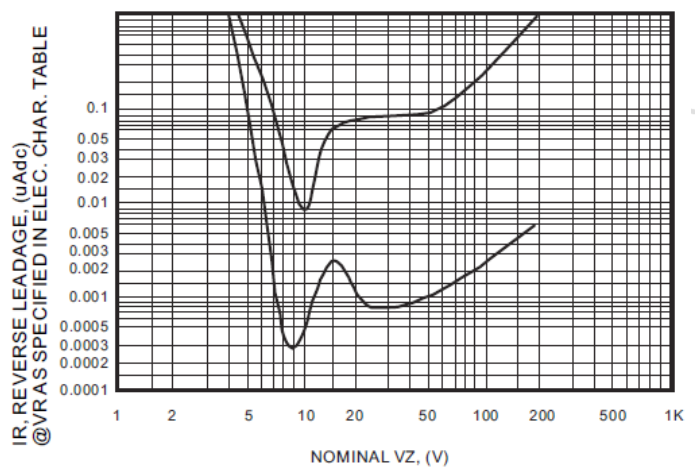


FIG. 4 Units To 12 Volts

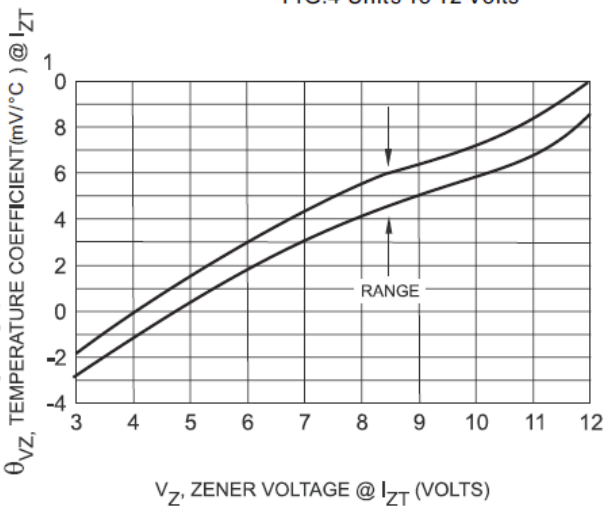


FIG 5. Units 10 To 200 Volts

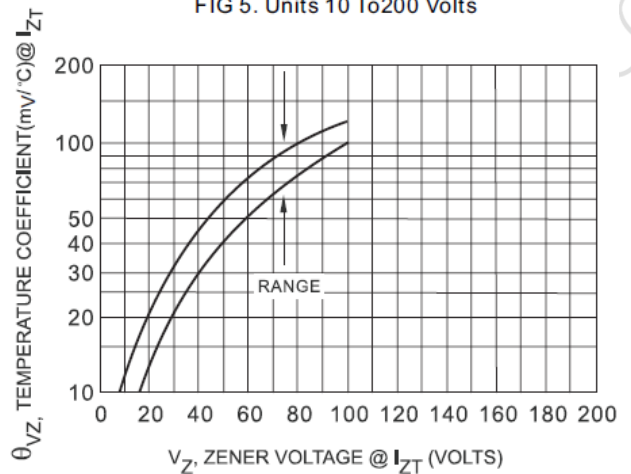




FIG.6 To 10 Volts

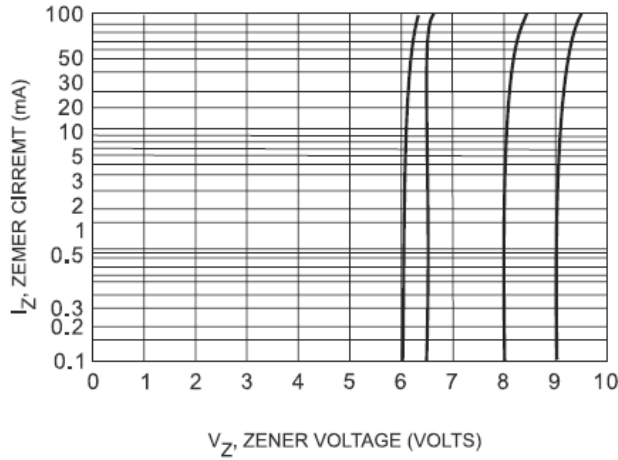


FIG.7 VZ = 12 Thru 82 Volts

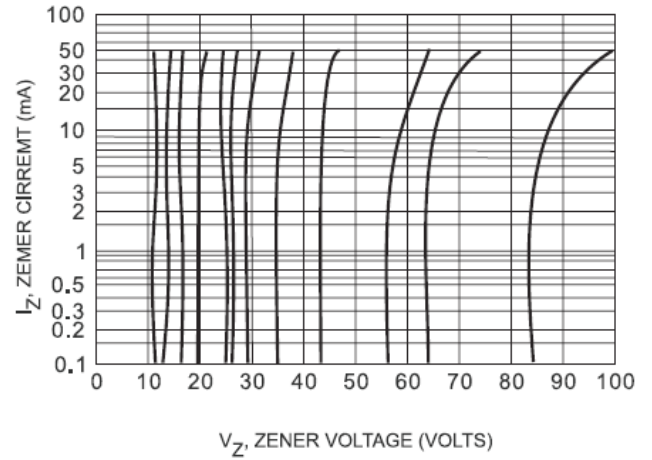


FIG. 8 Typical Thermal Resistance

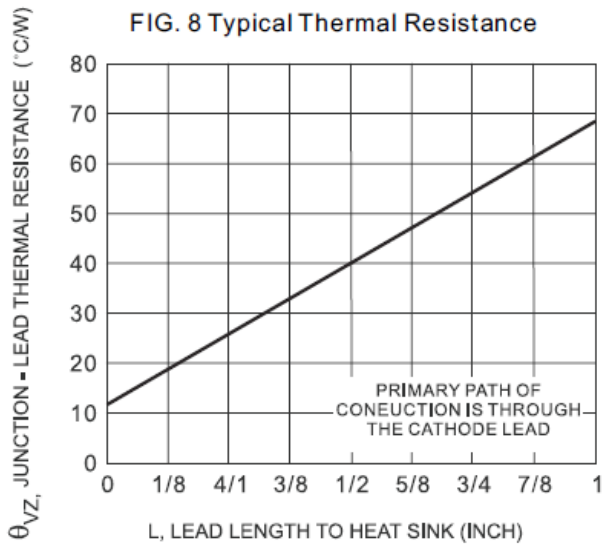


FIG.9 STEADY STATE POWER DERATING

