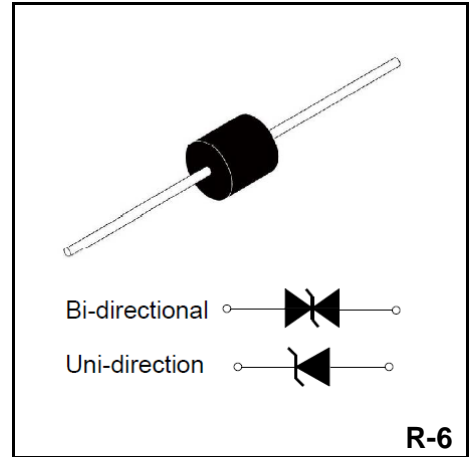


Transient voltage suppressor power 5000 watts

FEATURES

- ◆ P_{PP} 5000W
- ◆ V_{RWM} 5.0V~220V
- ◆ Glass passivated chip



MECHANICAL DATA

- ◆ Case: R-6
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 2.05g / 0.072oz

Limiting Values(Absolute Maximum Rating)

| Parameter | Symbol | Conditions | Value | Unit |
|--|----------------|--|----------------|-------------|
| Peak power dissipation | P_{PPM} | with a 10/1000us waveform | 5000 | W |
| Peak forward surge current | I_{FSM} | 8.3 ms single half sine-wave unidirectional only | 600 | A |
| Peak pulse current | I_{PPM} | with a 10/1000us waveform | See Next Table | A |
| Power dissipation | P_D | on infinite heat sink at $T_L=75^{\circ}C$ | 8.0 | W |
| Operating junction and storage temperature range | T_J, T_{STG} | | -55 to +175 | $^{\circ}C$ |

Electrical Characteristics($T_a=25^{\circ}C$ Unless otherwise specified)

| Parameter | Symbol | Conditions | Value | Unit |
|---|-----------|--------------------------------|-------|------|
| Maximum instantaneous forward Voltage (1) | P_{PPM} | at 25A for unidirectional only | 3.5 | V |

NOTES:

1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

| Part Number(U ni) | Part Number(Bi) | Breakdown Voltage $V_{BR}@I_T$ | | | Maximum Reverse Leakage $I_R @ V_{WM} (\mu A)$ | Working Peak Reverse Voltage $V_{RWM}(V)$ | Maximum Reverse Surge Current IPP (A) | Maximum Clamping Voltage $V_c @ I_{PP} (V)$ | Maximum Temperature Coefficient of $V_{BR} (\%/^{\circ}C)$ |
|-------------------|-----------------|--------------------------------|---------|--------|--|---|---------------------------------------|---|--|
| | | Min(V) | Max (V) | IT(mA) | | | | | |
| 5KP5.0 | 5KP5.0C | 6.40 | 7.30 | 50 | 2000 | 5.0 | 521 | 9.6 | 0.057 |
| 5KP5.0A | 5KP5.0CA | 6.40 | 7.00 | 50 | 2000 | 5.0 | 543 | 9.2 | 0.057 |
| 5KP6.0 | 5KP6.0C | 6.67 | 8.15 | 50 | 5000 | 6.0 | 439 | 11.4 | 0.061 |
| 5KP6.0A | 5KP6.0CA | 6.67 | 7.37 | 50 | 5000 | 6.0 | 485 | 10.3 | 0.061 |
| 5KP6.5 | 5KP6.5C | 7.22 | 8.82 | 50 | 2000 | 6.5 | 407 | 12.3 | 0.065 |
| 5KP6.5A | 5KP6.5CA | 7.22 | 7.98 | 50 | 2000 | 6.5 | 446 | 11.2 | 0.065 |
| 5KP7.0 | 5KP7.0C | 7.78 | 9.51 | 50 | 1000 | 7.0 | 376 | 13.3 | 0.068 |
| 5KP7.0A | 5KP7.0CA | 7.78 | 8.60 | 50 | 1000 | 7.0 | 417 | 12.0 | 0.068 |
| 5KP7.5 | 5KP7.5C | 8.33 | 10.2 | 5.0 | 250 | 7.5 | 350 | 14.3 | 0.073 |
| 5KP7.5A | 5KP7.5CA | 8.33 | 9.21 | 5.0 | 250 | 7.5 | 388 | 12.9 | 0.073 |
| 5KP8.0 | 5KP8.0C | 8.89 | 10.9 | 5.0 | 150 | 8.0 | 333 | 15.0 | 0.075 |
| 5KP8.0A | 5KP8.0CA | 8.89 | 9.83 | 5.0 | 150 | 8.0 | 368 | 13.6 | 0.075 |
| 5KP8.5 | 5KP8.5C | 9.44 | 11.5 | 5.0 | 50 | 8.5 | 314 | 15.9 | 0.078 |
| 5KP8.5A | 5KP8.5CA | 9.44 | 10.4 | 5.0 | 50 | 8.5 | 347 | 14.4 | 0.078 |
| 5KP9.0 | 5KP9.0C | 10.0 | 12.2 | 5.0 | 20 | 9.0 | 296 | 16.9 | 0.081 |
| 5KP9.0A | 5KP9.0CA | 10.0 | 11.1 | 5.0 | 20 | 9.0 | 325 | 15.4 | 0.081 |
| 5KP10 | 5KP10C | 11.1 | 13.6 | 5.0 | 15 | 10.0 | 266 | 18.8 | 0.084 |
| 5KP10A | 5KP10CA | 11.1 | 12.3 | 5.0 | 15 | 10.0 | 294 | 17.0 | 0.084 |
| 5KP11 | 5KP11C | 12.2 | 14.9 | 5.0 | 10 | 11.0 | 249 | 20.1 | 0.086 |
| 5KP11A | 5KP11CA | 12.2 | 13.5 | 5.0 | 10 | 11.0 | 275 | 18.2 | 0.086 |
| 5KP12 | 5KP12C | 13.3 | 16.3 | 5.0 | 5.0 | 12.0 | 227 | 22.0 | 0.088 |
| 5KP12A | 5KP12CA | 13.3 | 14.7 | 5.0 | 5.0 | 12.0 | 251 | 19.9 | 0.088 |
| 5KP13 | 5KP13C | 14.4 | 17.6 | 5.0 | 2.0 | 13.0 | 210 | 23.8 | 0.090 |
| 5KP13A | 5KP13CA | 14.4 | 15.9 | 5.0 | 2.0 | 13.0 | 233 | 21.5 | 0.090 |
| 5KP14 | 5KP14C | 15.6 | 19.1 | 5.0 | 2.0 | 14.0 | 194 | 25.8 | 0.092 |
| 5KP14A | 5KP14CA | 15.6 | 17.2 | 5.0 | 2.0 | 14.0 | 216 | 23.2 | 0.092 |
| 5KP15 | 5KP15C | 16.7 | 20.4 | 5.0 | 2.0 | 15.0 | 186 | 26.9 | 0.094 |
| 5KP15A | 5KP15CA | 16.7 | 18.5 | 5.0 | 2.0 | 15.0 | 205 | 24.4 | 0.094 |
| 5KP16 | 5KP16C | 17.8 | 21.8 | 5.0 | 2.0 | 16.0 | 174 | 28.8 | 0.096 |
| 5KP16A | 5KP16CA | 17.8 | 19.7 | 5.0 | 2.0 | 16.0 | 192 | 26.0 | 0.096 |
| 5KP17 | 5KP17C | 18.9 | 23.1 | 5.0 | 2.0 | 17.0 | 164 | 30.5 | 0.097 |
| 5KP17A | 5KP17CA | 18.9 | 20.9 | 5.0 | 2.0 | 17.0 | 181 | 27.6 | 0.097 |
| 5KP18 | 5KP18C | 20.0 | 24.4 | 5.0 | 2.0 | 18.0 | 155 | 32.2 | 0.098 |
| 5KP18A | 5KP18CA | 20.0 | 22.1 | 5.0 | 2.0 | 18.0 | 171 | 29.2 | 0.098 |
| 5KP20 | 5KP20C | 22.2 | 27.1 | 5.0 | 2.0 | 20.0 | 140 | 35.8 | 0.099 |
| 5KP20A | 5KP20CA | 22.2 | 24.5 | 5.0 | 2.0 | 20.0 | 154 | 32.4 | 0.099 |

| Part Number(U ni) | Part Number(Bi) | Breakdown Voltage $V_{BR}@I_T$ | | | Maximum Reverse Leakage $I_R@V_{WM} (\mu A)$ | Working Peak Reverse Voltage $V_{RWM} (V)$ | Maximum Reverse Surge Current IPP (A) | Maximum Clamping Voltage $V_c @ I_{PP} (V)$ | Maximum Temperature Coefficient of V (%/°C) |
|-------------------|-----------------|--------------------------------|---------|--------|--|--|---------------------------------------|---|---|
| | | Min(V) | Max (V) | IT(mA) | | | | | |
| 5KP22 | 5KP22C | 24.4 | 29.8 | 5.0 | 2.0 | 22.0 | 127 | 39.4 | 0.100 |
| 5KP22A | 5KP22CA | 24.4 | 26.9 | 5.0 | 2.0 | 22.0 | 141 | 35.5 | 0.100 |
| 5KP24 | 5KP24C | 26.7 | 32.6 | 5.0 | 2.0 | 24.0 | 116 | 43.0 | 0.101 |
| 5KP24A | 5KP24CA | 26.7 | 29.5 | 5.0 | 2.0 | 24.0 | 129 | 38.9 | 0.101 |
| 5KP26 | 5KP26C | 28.9 | 35.3 | 5.0 | 2.0 | 26.0 | 107 | 46.6 | 0.101 |
| 5KP26A | 5KP26CA | 28.9 | 31.9 | 5.0 | 2.0 | 26.0 | 119 | 42.1 | 0.101 |
| 5KP26A | 5KP26CA | 28.9 | 31.9 | 5.0 | 2.0 | 26.0 | 119 | 42.1 | 0.101 |
| 5KP28 | 5KP28C | 31.1 | 38.0 | 5.0 | 2.0 | 28.0 | 100 | 50.1 | 0.102 |
| 5KP28A | 5KP28CA | 31.1 | 34.4 | 5.0 | 2.0 | 28.0 | 110 | 45.4 | 0.102 |
| 5KP30 | 5KP30C | 33.3 | 40.7 | 5.0 | 2.0 | 30.0 | 93.5 | 53.5 | 0.103 |
| 5KP30A | 5KP30CA | 33.3 | 36.8 | 5.0 | 2.0 | 30.0 | 103 | 48.4 | 0.103 |
| 5KP33 | 5KP33C | 36.7 | 44.9 | 5.0 | 2.0 | 33.0 | 84.7 | 59.0 | 0.104 |
| 5KP33A | 5KP33CA | 36.7 | 40.6 | 5.0 | 2.0 | 33.0 | 93.8 | 53.3 | 0.104 |
| 5KP36 | 5KP36C | 40.0 | 48.9 | 5.0 | 2.0 | 36.0 | 77.8 | 64.3 | 0.104 |
| 5KP36A | 5KP36CA | 40.0 | 44.2 | 5.0 | 2.0 | 36.0 | 86.1 | 58.1 | 0.104 |
| 5KP40 | 5KP40C | 44.4 | 54.3 | 5.0 | 2.0 | 40.0 | 70.0 | 71.4 | 0.105 |
| 5KP40A | 5KP40CA | 44.4 | 49.1 | 5.0 | 2.0 | 40.0 | 77.5 | 64.5 | 0.105 |
| 5KP43 | 5KP43C | 47.8 | 58.4 | 5.0 | 2.0 | 43.0 | 65.2 | 76.7 | 0.105 |
| 5KP43A | 5KP43CA | 47.8 | 52.8 | 5.0 | 2.0 | 43.0 | 72.0 | 69.4 | 0.105 |
| 5KP45 | 5KP45C | 50.0 | 61.1 | 5.0 | 2.0 | 45.0 | 62.3 | 80.3 | 0.106 |
| 5KP45A | 5KP45CA | 50.0 | 55.3 | 5.0 | 2.0 | 45.0 | 68.8 | 72.7 | 0.106 |
| 5KP48 | 5KP48C | 53.3 | 65.2 | 5.0 | 2.0 | 48.0 | 58.5 | 85.5 | 0.106 |
| 5KP48A | 5KP48CA | 53.3 | 58.9 | 5.0 | 2.0 | 48.0 | 64.6 | 77.4 | 0.106 |
| 5KP51 | 5KP51C | 56.1 | 69.3 | 5.0 | 2.0 | 51.0 | 54.9 | 91.1 | 0.107 |
| 5KP51A | 5KP51CA | 56.7 | 62.7 | 5.0 | 2.0 | 51.0 | 60.7 | 82.4 | 0.107 |
| 5KP54 | 5KP54C | 60.0 | 73.3 | 5.0 | 2.0 | 54.0 | 51.9 | 96.3 | 0.107 |
| 5KP54A | 5KP54CA | 60.0 | 66.3 | 5.0 | 2.0 | 54.0 | 57.4 | 87.1 | 0.107 |
| 5KP58 | 5KP58C | 64.4 | 78.7 | 5.0 | 2.0 | 58.0 | 48.5 | 103 | 0.107 |
| 5KP58A | 5KP58CA | 64.4 | 71.2 | 5.0 | 2.0 | 58.0 | 53.4 | 94 | 0.107 |
| 5KP60 | 5KP60C | 66.7 | 81.5 | 5.0 | 2.0 | 60.0 | 46.7 | 107 | 0.108 |
| 5KP60A | 5KP60CA | 66.7 | 73.7 | 5.0 | 2.0 | 60.0 | 51.7 | 97 | 0.108 |
| 5KP64 | 5KP64C | 71.1 | 96.9 | 5.0 | 2.0 | 64.0 | 43.9 | 114 | 0.108 |
| 5KP64A | 5KP64CA | 71.1 | 78.6 | 5.0 | 2.0 | 64.0 | 48.5 | 103 | 0.108 |
| 5KP70 | 5KP70C | 77.6 | 95.1 | 5.0 | 2.0 | 70.0 | 40.0 | 125 | 0.108 |
| 5KP70A | 5KP70CA | 77.8 | 86.0 | 5.0 | 2.0 | 70.0 | 44.2 | 113 | 0.108 |
| 5KP75 | 5KP75C | 83.3 | 102 | 5.0 | 2.0 | 75.0 | 37.3 | 134 | 0.108 |
| 5KP75A | 5KP75CA | 83.3 | 92.1 | 5.0 | 2.0 | 75.0 | 41.3 | 121 | 0.108 |

| Part Number(U ni) | Part Number(Bi) | Breakdown Voltage $V_{BR}@I_T$ | | | Maximum Reverse Leakage $I_R @ V_{WM} (\mu A)$ | Working Peak Reverse Voltage $V_{RWM}(V)$ | Maximum Reverse Surge Current IPP (A) | Maximum Clamping Voltage $V_c @ I_{PP} (V)$ | Maximum Temperature Coefficient of $V_{BR} (\%/^{\circ}C)$ |
|-------------------|-----------------|--------------------------------|---------|--------|--|---|---------------------------------------|---|--|
| | | Min(V) | Max (V) | IT(mA) | | | | | |
| 5KP78 | 5KP78C | 86.7 | 106.0 | 5.0 | 2.0 | 78.0 | 36.0 | 139 | 0.108 |
| 5KP78A | 5KP78CA | 86.7 | 95.8 | 5.0 | 2.0 | 78.0 | 39.7 | 126 | 0.108 |
| 5KP85 | 5KP85C | 94.4 | 115 | 5.0 | 2.0 | 85.0 | 33.1 | 151 | 0.108 |
| 5KP85A | 5KP85CA | 94.4 | 104 | 5.0 | 2.0 | 85.0 | 36.5 | 137 | 0.108 |
| 5KP90 | 5KP90C | 100 | 122 | 5.0 | 2.0 | 90.0 | 31.3 | 160 | 0.110 |
| 5KP90A | 5KP90CA | 100 | 111 | 5.0 | 2.0 | 90.0 | 34.2 | 146 | 0.110 |
| 5KP100 | 5KP100C | 111 | 136 | 5.0 | 2.0 | 100 | 27.9 | 179 | 0.110 |
| 5KP100A | 5KP100CA | 111 | 123 | 5.0 | 2.0 | 100 | 30.9 | 162 | 0.110 |
| 5KP110 | 5KP110C | 122 | 149 | 5.0 | 2.0 | 110 | 25.5 | 196 | 0.112 |
| 5KP110A | 5KP110CA | 122 | 135 | 5.0 | 2.0 | 110 | 28.2 | 177 | 0.112 |
| 5KP120 | 5KP120C | 133 | 163 | 5.0 | 2.0 | 120 | 23.4 | 214 | 0.112 |
| 5KP120A | 5KP120CA | 133 | 147 | 5.0 | 2.0 | 120 | 25.9 | 193 | 0.112 |
| 5KP130 | 5KP130C | 144 | 176 | 5.0 | 2.0 | 130 | 21.6 | 230 | 0.114 |
| 5KP130A | 5KP130CA | 144 | 159 | 5.0 | 2.0 | 130 | 23.9 | 209 | 0.114 |
| 5KP150 | 5KP150C | 167 | 204 | 5.0 | 2.0 | 150 | 18.7 | 268 | 0.114 |
| 5KP150A | 5KP150CA | 167 | 185 | 5.0 | 2.0 | 150 | 20.6 | 243 | 0.114 |
| 5KP160 | 5KP160C | 178 | 218 | 5.0 | 2.0 | 160 | 17.4 | 287 | 0.118 |
| 5KP160A | 5KP160CA | 178 | 197 | 5.0 | 2.0 | 160 | 19.3 | 259 | 0.118 |
| 5KP170 | 5KP170C | 189 | 231 | 5.0 | 2.0 | 170 | 16.4 | 304 | 0.118 |
| 5KP170A | 5KP170CA | 189 | 209 | 5.0 | 2.0 | 170 | 18.2 | 275 | 0.118 |
| 5KP180 | 5KP180C | 200 | 242 | 5.0 | 2.0 | 180 | 16.1 | 319 | 0.122 |
| 5KP180A | 5KP180CA | 200 | 221 | 5.0 | 2.0 | 180 | 17.6 | 292 | 0.122 |
| 5KP190 | 5KP190C | 211 | 255 | 5.0 | 2.0 | 190 | 8.80 | 341 | 0.126 |
| 5KP190A | 5KP190CA | 211 | 233 | 5.0 | 2.0 | 190 | 9.70 | 310 | 0.126 |
| 5KP200 | 5KP200C | 222 | 270 | 5.0 | 2.0 | 200 | 8.20 | 365.3 | 0.130 |
| 5KP200A | 5KP200CA | 222 | 246 | 5.0 | 2.0 | 200 | 9.10 | 329.2 | 0.130 |
| 5KP210 | 5KP210C | 233 | 283 | 5.0 | 2.0 | 210 | 7.70 | 390.0 | 0.134 |
| 5KP210A | 5KP210CA | 233 | 258 | 5.0 | 2.0 | 210 | 8.60 | 349.5 | 0.134 |
| 5KP220 | 5KP220C | 244 | 296 | 5.0 | 2.0 | 220 | 7.30 | 411.7 | 0.138 |
| 5KP220A | 5KP220CA | 244 | 270 | 5.0 | 2.0 | 220 | 8.10 | 371.1 | 0.138 |

FIG1: Peak Pulse Power Rating Curve

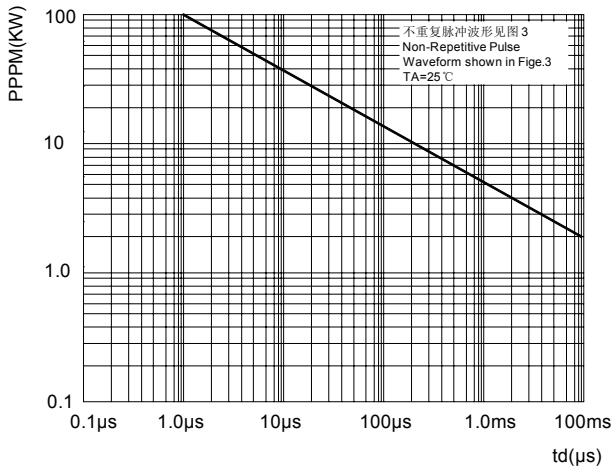


FIG2: Pulse Power or Current vs. Initial Junction Temperature

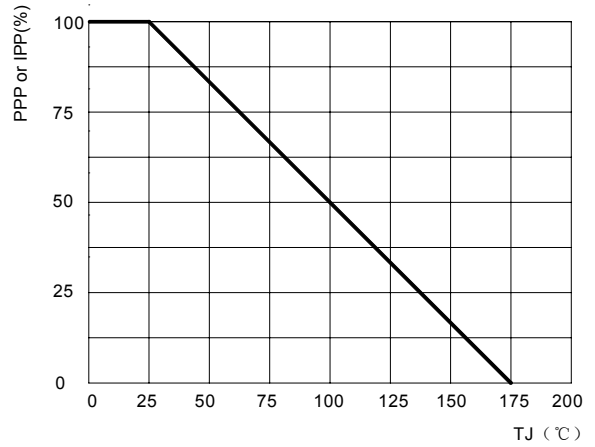


FIG3: Pulse Waveform

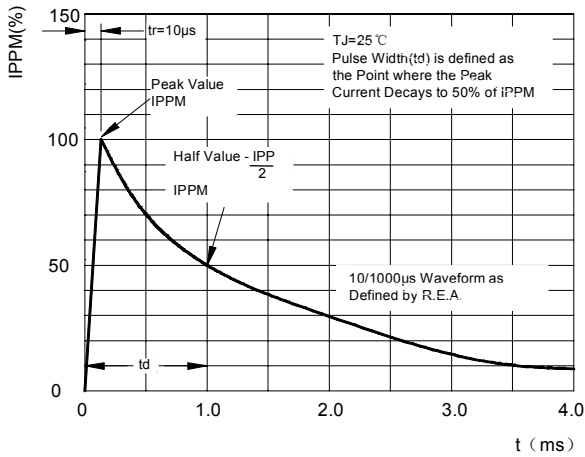


FIG4: Power Derating Curve

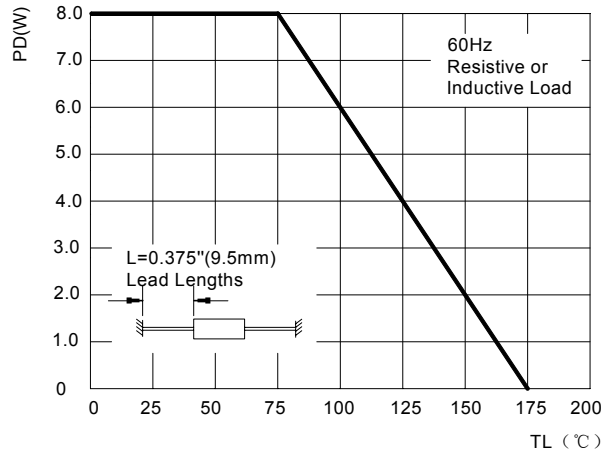
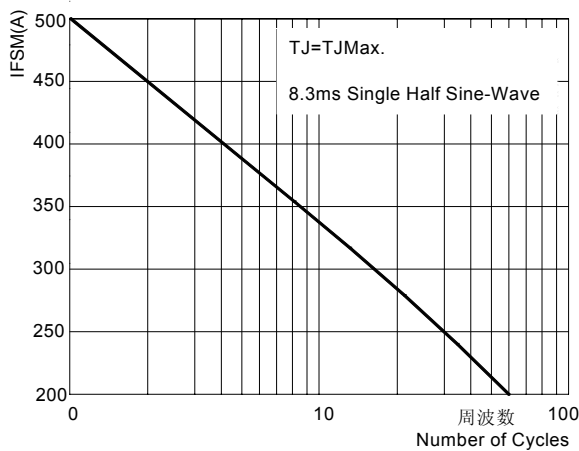
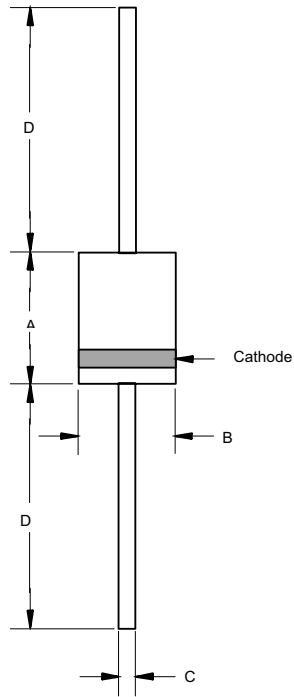


FIG5: Maximum Non-Repetitive Surge Current



Package Outline R-6



| DIMENSIONS | | | | | |
|------------|--------|------|-------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | .340 | .360 | 8.60 | 9.10 | |
| B | .340 | .360 | 8.60 | 9.10 | |
| C | .048 | .052 | 1.20 | 1.30 | |
| D | 1.000 | --- | 25.40 | --- | |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| R-6 | BOX | 300 | EIA-481-1 |

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[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)