



## J5GxxxM3SF Gas Discharge Tube

Rev.1.1

### FEATURE

- ✧ Eliminates small size design EIA  $7.6 \times 5.0 \times 5.0\text{mm}$ .
- ✧ Current handling capability  $5,000\text{A}@8/20\mu\text{s}$ .
- ✧ Low capacitance and insertion loss.
- ✧ Fast response and long service life.
- ✧ Reliable to protect electrostatic surge.
- ✧ Moisture sensitivity level: Level 1.



Exterior



Schematic symbol

### APPLICATION INFORMATION

- ✧ Repeaters, modems.
- ✧ Telephone interface, line cards.
- ✧ Data communication equipment.
- ✧ Line test equipment.

### ELECTRICAL CHARACTERISTICS

| Part number | DC<br>breakdown<br>voltage<br>100V/s(V) | Tolerance<br>of $V_s$ | Impulse<br>spark-over<br>voltage<br>1KV/ $\mu\text{s}$ (V) | Impulse<br>discharge<br>current<br>8/20 $\mu\text{s}$ (A) | Insulation<br>resistance |       | $C_o$<br>(1MHz)   |
|-------------|---|-----------------------|--|---|--------------------------|-------|-------------------|
|             |   |                       |  |   | G $\Omega$               | DC(V) |                   |
| J5G091M3SF  | 90                                      | $\pm 20\%$            | $\leq 700$   | 5000  | $\geq 1$                 | 50    | $\leq 1\text{pF}$ |
| J5G151M3SF  | 150                                     | $\pm 20\%$            | $\leq 750$   | 5000  | $\geq 1$                 | 50    | $\leq 1\text{pF}$ |
| J5G231M3SF  | 230                                     | $\pm 20\%$            | $\leq 850$   | 5000  | $\geq 1$                 | 100   | $\leq 1\text{pF}$ |
| J5G421M3SF  | 420                                     | $\pm 20\%$            | $\leq 1050$  | 5000  | $\geq 1$                 | 250   | $\leq 1\text{pF}$ |
| J5G471M3SF  | 470                                     | $\pm 20\%$            | $\leq 1100$  | 5000  | $\geq 1$                 | 250   | $\leq 1\text{pF}$ |

1. The parameters of all tested by ITU-T K12.
2. Total Impulse discharge current  $5,000\text{A}@8/20\mu\text{s}$  by IEC 61000-4-5, 10 shots.
3. The capacitance is tested by  $1\text{MHz}@DC=0.5\text{V}$ .
4. The V-T waveform of DCBV and IPBV mus lie between the shades.

## PART NUMBERING SYSTEM

J5G   091   M   3S   F

(1)   (2)   (3)   (4)   (5)

(1) JieJie 5KA gas discharge tube

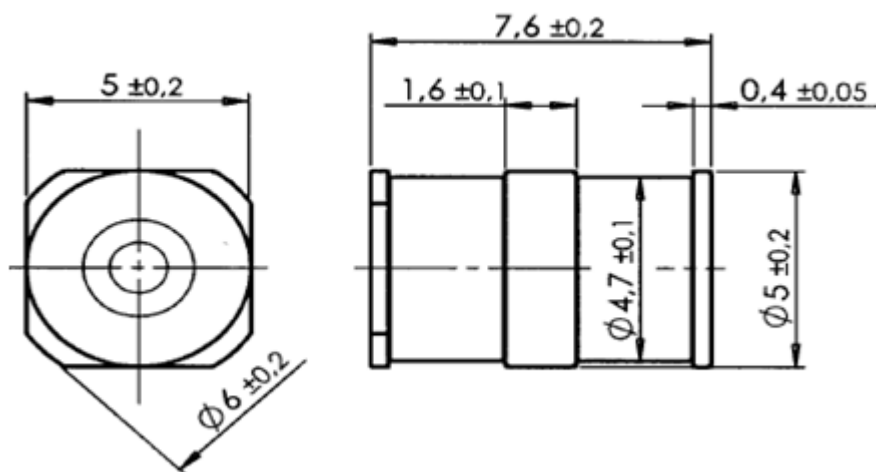
(2) DC breakdown voltage, e.g., 91=9×10<sup>1</sup>=90V

(3) Tolerance is DC breakdown voltage, M=+-20%, N=+-30%

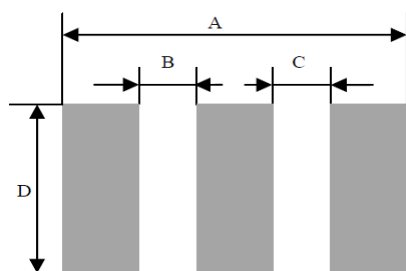
(4) 3-electrod SMD

(5) Dimension in 7.6×5.0×5.0 (mm)

## PRODUCT DIMENSIONS (unit: mm)



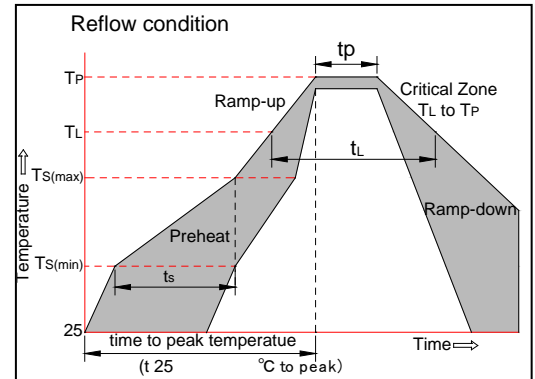
## RECOMMENDED SOLDERING PAD



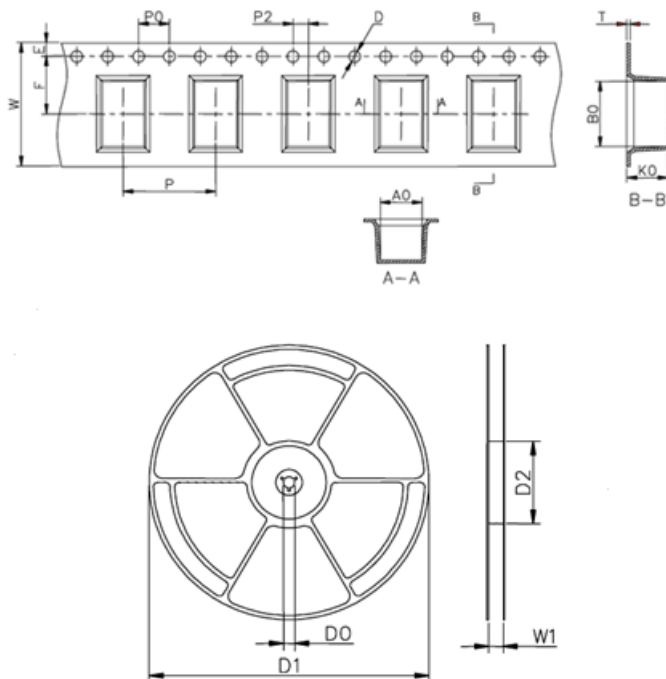
| REF | mm  | inch  |
|-----|-----|-------|
| A   | 9.6 | 0.378 |
| B   | 1.5 | 0.059 |
| C   | 1.5 | 0.059 |
| D   | 5.0 | 0.197 |

## REFLOW PROFILE

|  |                                   |   |
|--|-----------------------------------|---|
| Reflow Condition                                       |                                   | Pb-Free assembly<br>(see figure at right) |
| Pre Heat   | -Temperature Min ( $T_{s(min)}$ ) | +150°C                                    |
|  | -Temperature Max( $T_{s(max)}$ )  | +200°C                                    |
|  | -Time (Min to Max) (ts)           | 60-180 secs.                              |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                   | 3°C/sec. Max                              |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                   | 3°C/sec. Max                              |
| Reflow   | -Temperature( $T_L$ )(Liquidus)   | +217°C                                    |
|  | -Temperature( $t_L$ )             | 60-150 secs.                              |
| Peak Temp ( $T_p$ )                                    |                                   | +260(+0/-5)°C                             |
| Time within 5°C of actual Peak Temp ( $t_p$ )          |                                   | ~10 secs.                                 |
| Ramp-down Rate   |                                   | 6°C/sec. Max                              |
| Time 25°C to Peak Temp ( $T_p$ )                       |                                   | 8 min. Max                                |
| Do not exceed  |                                   | +260°C                                    |



## PACKAGE REEL INFORMATION



| Symbol | Millimeters  | Inches             |
|--------|--------------|--------------------|
| W      | 16±0.3       | 0.630±0.012        |
| A0     | 5.4±0.1      | 0.213±0.004        |
| B0     | 8.4±0.1      | 0.331±0.004        |
| K0     | 5.3±0.1      | 0.209±0.004        |
| P      | 12±0.1       | 0.472±0.004        |
| F      | 7.5±0.1      | 0.295±0.004        |
| E      | 1.75±0.1     | 0.069±0.004        |
| D      | 1.5+0.1/-0.0 | 0.059+0.004/-0.0   |
| P0     | 4±0.1        | 0.157±0.004        |
| P2     | 2±0.1        | 0.079±0.004        |
| T      | 0.4±0.1      | 0.016±0.004        |
| D0     | 13.3±0.15    | 0.524±0.006        |
| D1     | 330±2        | 12.992±0.079       |
| D2     | 100+1/-2     | 3.937+0.039/-0.079 |
| W1     | 16.5±0.4     | 0.65±0.016         |

## PACKAGING

| Part No.   | Reel Quantity (pcs) | Per Carton (pcs) |
|------------|---------------------|------------------|
| J5GxxxM3SF | 1,000               | 20,000           |

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