



## J5GxxxM2SG Gas Discharge Tube

Rev.1.1

### FEATURE

- ✧ Eliminates small size design EIA 4.2×5.0×5.0mm.
- ✧ Current handling capability 5,000A@8/20μs.
- ✧ 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 breakdown voltage<br>100V/s(V) | Tolerance of $V_S$ | Impulse spark-over voltage<br>1KV/μs(V) | Impulse discharge current<br>8/20μs(A) | Insulation resistance |       | $C_o$<br>(1MHz) |
|-------------|-----------------------------------|--------------------|---|--|-----------------------|-------|-----------------|
|             |                                   |                    |   |  | GΩ                    | DC(V) |                 |
| J5G091M2SG  | 90                                | ±20%               | ≤650                                    | 5000                                   | ≥1                    | 50    | ≤1pF            |
| J5G151M2SG  | 150                               | ±20%               | ≤680                                    | 5000                                   | ≥1                    | 50    | ≤1pF            |
| J5G231M2SG  | 230                               | ±20%               | ≤700                                    | 5000                                   | ≥1                    | 100   | ≤1pF            |
| J5G351M2SG  | 350                               | ±20%               | ≤750                                    | 5000                                   | ≥1                    | 100   | ≤1pF            |
| J5G421M2SG  | 420                               | ±20%               | ≤850                                    | 5000                                   | ≥1                    | 100   | ≤1pF            |
| J5G601M2SG  | 600                               | ±20%               | ≤1200                                   | 5000                                   | ≥1                    | 100   | ≤1pF            |

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

**PART NUMBERING SYSTEM**

J5G 421 M 2S G

(1) (2) (3) (4) (5)

(1) JieJie 5KA gas discharge tube

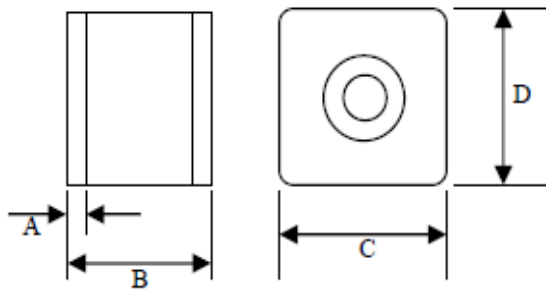
(2) DC breakdown voltage, e.g., 421=42×10<sup>1</sup>=420V

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

(4) 2-electrod SMD

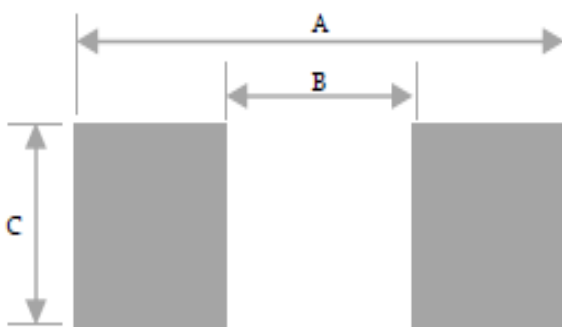
(5) Dimension in 4.2×5.0×5.0 (mm)

**PRODUCT DIMENSIONS (unit: mm)**



| REF | mm      | inch        |
|-----|---------|-------------|
| A   | 0.5±0.1 | 0.020±0.004 |
| B   | 4.2±0.3 | 0.165±0.012 |
| C   | 5.0±0.2 | 0.197±0.008 |
| D   | 5.0±0.2 | 0.197±0.008 |

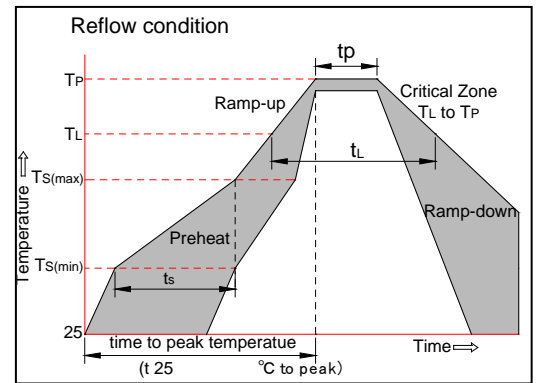
**RECOMMENDED SOLDERING PAD**



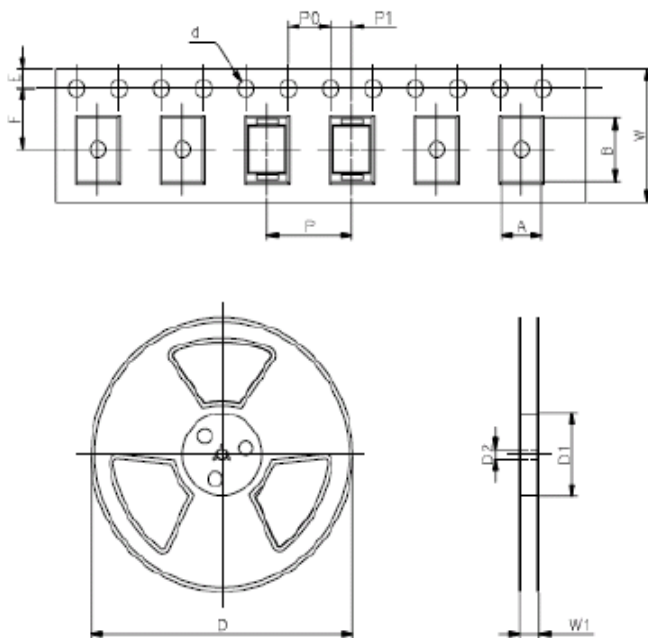
| REF | mm   | inch  |
|-----|------|-------|
| A   | 4.95 | 0.195 |
| B   | 3.0  | 0.118 |
| C   | 5.5  | 0.217 |

**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**



| REF | mm        | inch          |
|-----|-----------|---------------|
| A   | 5.3±0.1   | 0.209±0.004   |
| B   | 4.5±0.2   | 0.177±0.008   |
| d   | Φ 1.5±0.1 | Φ 0.059±0.004 |
| P0  | 4.0±0.1   | 0.157±0.004   |
| P1  | 2.0±0.1   | 0.079±0.004   |
| P   | 12.0±0.1  | 0.472±0.004   |
| E   | 1.75±0.1  | 0.069±0.004   |
| F   | 7.5±0.1   | 0.295±0.004   |
| W   | 16.0±0.3  | 0.630±0.012   |
| D   | Φ 330.0   | Φ 13.0        |
| D1  | Φ 50Min   | Φ 1.97Min     |
| D2  | Φ 13±0.15 | 0.512±0.006   |
| W1  | 16.8±2.0  | 0.661±0.079   |

**PACKAGING**


| Part No.   | Reel Quantity (pcs) | Per Carton (pcs) |
|------------|---------------------|------------------|
| J5GxxxM2SG | 1,000               | 10,000           |

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