



Features

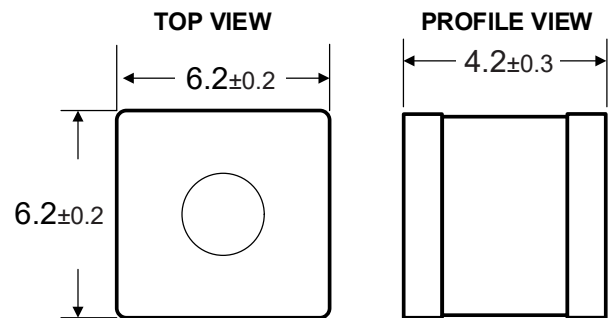
- 2-electrode arrester
- High insulation resistance
- Extremely fast response time
- Low capacitance ($\leq 1\text{pF}$)
- surge current 6KA 8/20us
- Storage and operating temperature:
-40℃ ~ +85℃
- RoHS compliant
- Meets MSL level 1



Applications

- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment

Dimensional drawing



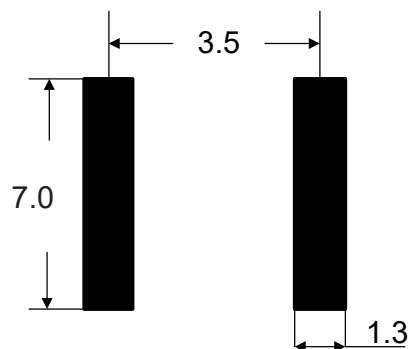
PartNumber Code

2R090N-S6242

- 2R:2-electrode arrester
- 090: DC Spark-over Voltage 90V
- M: Tolerance of DC Spark-Over Voltage
M:20% N: 30%
- S:SMD
- 6242: Size: 6.2mm*6.2mm*4.2mm

SOLDER PAD LAYOUT

Dimensions in mm



Electrical Characteristics

| Part Number | DC Spark-over Voltage | Max.Impulse Spark-over Voltage | Impulse Discharge Current (8/20us) | | AC discharge Current 50Hz,1S | Impulse Life 10/1000us | Minimum Insulation Resistance | | Max. Capacitance 1MHz |
|--------------|-----------------------|--------------------------------|------------------------------------|-------------|------------------------------|------------------------|-------------------------------|------|-----------------------|
| | 100V/S | 1KV /us | Nominal ±5times | Max 1 times | Nominal 5 times | 100A | DC(V) | (GΩ) | (pF) |
| | % | V | KA | KA | A | Times | | | |
| 2R075M-S6242 | 75V±20% | 600 | 5 | 6 | 5 | 200 | 25 | 1 | 1 |
| 2R090M-S6242 | 90V±20% | 600 | 5 | 6 | 5 | 200 | 50 | 1 | 1 |
| 2R150M-S6242 | 150V±20% | 600 | 5 | 6 | 5 | 200 | 50 | 1 | 1 |
| 2R230M-S6242 | 230V±20% | 700 | 5 | 6 | 5 | 200 | 100 | 1 | 1 |
| 2R300M-S6242 | 300V±20% | 800 | 5 | 6 | 5 | 200 | 100 | 1 | 1 |
| 2R350M-S6242 | 350V±20% | 850 | 5 | 6 | 5 | 200 | 250 | 1 | 1 |
| 2R400M-S6242 | 400V±20% | 900 | 5 | 6 | 5 | 200 | 250 | 1 | 1 |
| 2R470M-S6242 | 470V±20% | 90 | 5 | 6 | 5 | 200 | 250 | 1 | 1 |
| 2R600M-S6242 | 600V±20% | 1000 | 5 | 6 | 5 | 200 | 250 | 1 | 1 |
| 2R800M-S6242 | 800V±20% | 1400 | 5 | 6 | 5 | 200 | 250 | 1 | 1 |



Electrical Ratings

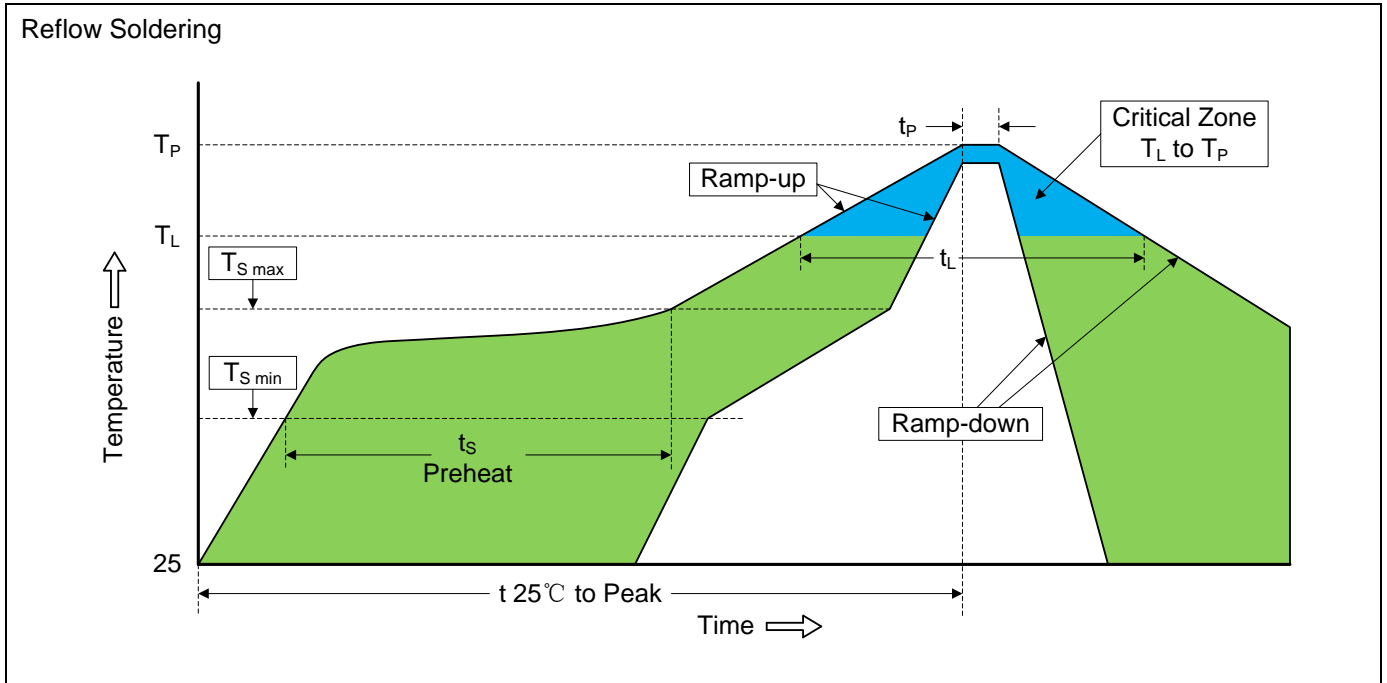
| Items | Test Condition/Description | Requirement |
|------------------------------------|---|-----------------------------|
| DC Spark-over Voltage | The voltage is measured with voltage ramp $dv/dt=100V/s$. | To meet the specified value |
| Maximum Impulse Spark-over Voltage | The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$. | |
| Insulation Resistance | The resistance of gas tube shall be measured between two electrodes. | |
| Capacitance | The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz | |
| Impulse Discharge Current | Maximum $8/20\mu s$ surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time, without causing the DC spark-over voltage to change more than 30% from its initial value. | |
| Impulse Withstanding Voltage | The maximum $10/700\mu s$ surge that can be applied to the Gas Tube, 5 positive and 5 negative surges, with 1 minute interval time, without causing the DC spark-over voltage to change more than 25% from its initial value. | |

Reliability

| Items | Test conditions / Methods | Standard |
|---------------------|--|---------------------------------------|
| Cold Resistance | Measurement after $-40^{\circ}C/1000$ HRS & normal temperature/2 HRS. | Features are conformed to rated spec. |
| Heat Resistance | Measurement after $125^{\circ}C/1000$ HRS & normal temperature/2 HRS. | |
| Humidity Resistance | Measurement after humidity $90\sim 95^{\circ}C(45^{\circ}C)/1000$ HRS & normal temperature/2 HRS. | |
| Temperature Cycle | 10 times repetition of cycle $-40^{\circ}C/30min \rightarrow$ normal, temp/2 min $\rightarrow 125^{\circ}C/30min$, measurement after normal temp/2 HRS. | |
| Solder Ability | Check for solder adhesion after $260\pm 5^{\circ}C$ for 3sec, The body immersion depth 1.5mm in molten solder | Evenly covered by solder. |
| Solder Heat | Measurement after $260\pm 5^{\circ}C$ solder for 10sec, The body immersion depth 1.5mm in molten solder | Conformed to rated spec. |



Recommended Soldering Conditions

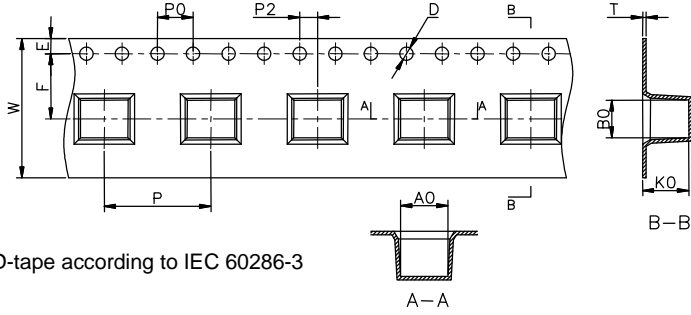
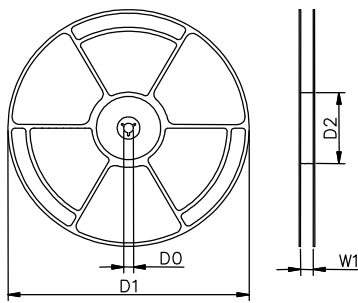


Recommended Conditions

| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average ramp-up rate (T _L to T _P) | 3°C/second max. |
| Preheat | |
| -Temperature Min (T _{S min}) | 150°C |
| -Temperature Max (T _{S max}) | 200°C |
| -Time (min to max) (t _s) | 60-180 seconds |
| T _{S max} to T _L | |
| -Ramp-up Rate | 3°C/second max. |
| Time maintained above: | |
| -Temperature (T _L) | 217°C |
| -Time (t _L) | 60-150 seconds |
| Peak Temperature (T _P) | 260°C |
| Time within 5°C of actual Peak Temperature (t _P) | 20-40 seconds |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |



Packaging

| Tape | Items | Dimension (mm) | |
|--|------------------|----------------|-----------|
| | | Spec. | Tolerance |
|  <p>SMD-tape according to IEC 60286-3</p> | W | 16.0 | ±0.30 |
| | A0 | 4.60 | ±0.10 |
| | B0 | 6.50 | ±0.10 |
| | K0 | 6.70 | ±0.10 |
| | P | 12.0 | ±0.10 |
| | F | 7.50 | ±0.10 |
| | E | 1.75 | ±0.10 |
| | D | 1.50 | ±0.10 |
| | P0 | 4.00 | ±0.10 |
| | P2 | 2.00 | ±0.10 |
| | T | 0.50 | ±0.10 |
| | | | |
|  | D0 | 13.30 | ±0.15 |
| | D1 | 330.0 | ±2.00 |
| | D2 | 100.0 | ±2.00 |
| | W1 | 16.50 | ±0.40 |
| | Quantity: 800pcs | | |

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