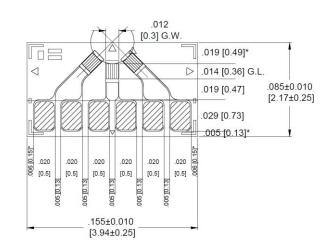


# **S5198 Planar Rosette Datasheet**

### **Main properties**

- High performance Planar Rosette Strain Gage with miniature grids and matrix size, for stress determination in precise locations
- High resistance grid values for reduced self-heating when using substrates with lower heat conductivity such as PCBs
- 3 grids configuration allowing analysis of biaxial strain fields without the need for former knowledge of principal stress directions
- Pre-wired, high performance, color coded wires for easy integration directly to data acquisition systems



| Item  |                            | Value                              |  |  |  |
|---|----------------------------|------------------------------------|--|--|--|
| Resistance  |                            | 350±0.5%                           |  |  |  |
| Gage Factor   | (-45 <sup>-</sup> ) Grid 1 | 1.86 Nom                           |  |  |  |
|   | (0') Grid 2                | 1.79 Nom                           |  |  |  |
|   | (+45 <sup>-</sup> ) Grid 3 | 1.86 Nom                           |  |  |  |
| Transverse<br>Sensitivity                                 | (-45 <sup>-</sup> ) Grid 1 | 1.9±0.2%                           |  |  |  |
|   | (0 <sup>-</sup> ) Grid 2   | 3.6±0.2%                           |  |  |  |
|   | (+45 <sup>-</sup> ) Grid 3 | 1.9±0.2%                           |  |  |  |
| Operating Temperature                                     |                            | -75 to 200°C                       |  |  |  |
| Fatigue   |                            | More than $10^7$ cycles at ±1800με |  |  |  |
| Structure   | Backing                    | Polyimide, 20μm                    |  |  |  |
|   | Resistive Foil             | NiCr                               |  |  |  |
|   | Encapsulation              | Epoxy, 10-12μm                     |  |  |  |
| Thermal performance coefficients on package, per gage lot |                            |                                    |  |  |  |

<sup>\*</sup>Values above referenced to gage only

#### Wires

- Teflon insulated, flexible, 3 twisted wires per grid. Stripped and tinned at ends for easy integration to DAQ. Operating temperature up to 200 °C
- · Color coding:

| (-45') Grid 1         |          | (0') Grid 2             |          | (+45 <sup>-</sup> ) grid 3 |          |
|-----------------------|----------|-------------------------|----------|----------------------------|----------|
| Pad A                 | Pad B    | Pad A                   | Pad B    | Pad A                      | Pad B    |
| Black+white           | Red Wire | Black+white             | Red Wire | Black+white                | Red Wire |
| wire                  |          | wire                    |          | wire                       |          |
| Red label at wire end |          | Green label at wire end |          | Blue label at wire end     |          |

#### **Complies to**

- IPC-JEDEC 9702 Monotonic Bend Characteristics of Board-Level Interconnects
- IPC-JEDEC 9704 Printed Wiring Board Strain Gage Test Guideline
- JEDEC JESD22-B111 Board Level Drop Test Method of Components for Handheld Electronic Products

For technical questions, contact mm@vpgsensors.com

<sup>\*\*</sup> GF and TS values for K93 ingot, for other ingots slight variations are possible, indicated on package

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