

# Thick Film, Dual-in-Line Resistor Networks



### FEATURES

- 14, 16 or 20 terminal package
- Isolated, bussed or TTL-terminator circuits
- Molded case construction
- Highly stable thick film elements
- Reflow solderable
- Compatible with automatic surface mounting equipment
- Reduces total assembly costs
- For wave flow soldering contact factory

| STANDARD ELECTRICAL SPECIFICATIONS |                                   |   |      |      |         |   |  |           |                          |          |
|------------------------------------|-----------------------------------|---|------|------|---------|---|--|-----------|--------------------------|----------|
| MODEL                              | ELEMENT<br>P <sub>70°C</sub><br>W | PACKAGE POWER RATING<br>P <sub>70°C</sub> W |      |      | CIRCUIT | LIMITING ELEMENT<br>VOLTAGE MAX.<br>V ≅ | TEMPERATURE<br>COEFFICIENT <sup>1)</sup><br>ppm/°C | TOL.<br>% | RESISTANCE<br>RANGE<br>Ω | E-SERIES |
|                                    |                                   | 14  | 16   | 20   |         |   |  |           |                          |          |
|                                    |                                   | SOMC  | 0.08 | 1.05 |         |   |  |           |                          |          |
|                                    | 0.16                              | 1.125                                       | 1.28 | 1.60 | 03      |   |  |           |                          |          |
|                                    | 0.08                              | 1.05  | 1.20 | 1.52 | 05      |   |  |           |                          |          |

<sup>1)</sup>Temperature Range: - 55°C to + 125°C

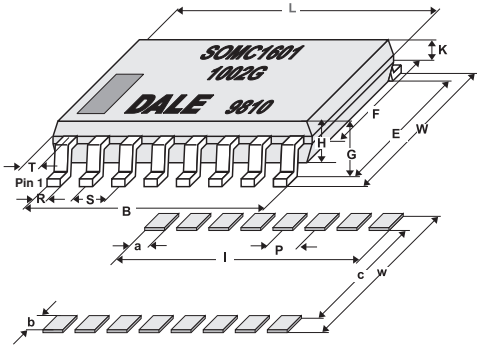
- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material
- Jumper: Zero-Ohm-Resistor on request (100mΩ)
- Packaging: according to EIA; see appropriate catalog or web page

| TECHNICAL CHARACTERISTICS              |                         |                    |            |            |
|--|-------------------------|--------------------|------------|------------|
| PARAMETER                              | UNIT                    | 01 CIRCUIT         | 03 CIRCUIT | 05 CIRCUIT |
| Rated Dissipation at 70°C per Element  | W                       | 0.08               | 0.16       | 0.08       |
| Limiting Element Voltage <sup>2)</sup> | V ≅                     | 50                 |            |            |
| Voltage Coefficient                    | ppm/V                   | < 50               |            |            |
| Insulation Voltage (1min)              | V <sub>dc/ac peak</sub> | 200                |            |            |
| Category Temperature Range             | °C                      | - 55 / + 150       |            |            |
| Insulation Resistance                  | Ω                       | > 10 <sup>10</sup> |            |            |
| TC Tracking (- 55°C to + 125°C)        | ppm/°C                  | 50                 |            |            |

<sup>2)</sup>Rated voltage:  $\sqrt{P \times R}$

| ORDERING INFORMATION    |                        |                        |   |  |                                  |
|-------------------------|------------------------|------------------------|---|--|----------------------------------|
| <b>01, 03 Schematic</b> | <b>16</b><br><b>20</b> | <b>01</b><br><b>03</b> | <b>xxx or xxxx</b>  | <b>G</b>                               |                                  |
| SOMC<br>MODEL           | NUMBER OF<br>LEADS     | SCHEMATIC              | R <sub>1</sub> VALUE  | TOLERANCE                              |                                  |
|                         |                        |                        | First 2 digits (3 for F tolerance) are<br>significant figures. Last digit<br>specifies number of zeros to follow. | F = ± 1%<br>G = ± 2%<br>J = ± 5%       |                                  |
| <b>05 Schematic</b>     | <b>16</b><br><b>20</b> | <b>05</b>              | <b>xxx</b><br><b>or</b><br><b>xxxx</b>  | <b>xxx</b><br><b>or</b><br><b>xxxx</b> | <b>G</b>                         |
| SOMC<br>MODEL           | NUMBER OF<br>LEADS     | SCHEMATIC              | R <sub>1</sub> VALUE  | R <sub>2</sub> VALUE                   | TOLERANCE                        |
|                         |                        |                        | First 2 digits (3 for F tolerance) are<br>significant figures. Last digit<br>specifies number of zeros to follow. |  | F = ± 1%<br>G = ± 2%<br>J = ± 5% |

**16-TERMINAL DEVICE**



| SOLDER PAD DIMENSIONS [in millimeters] |      |      |      |      |      |      |
|--|------|------|------|------|------|------|
|  | a    | b    | c    | l    | p    | w    |
| WAVE                                   | 0.64 | 1.91 | 5.34 | 9.53 | 1.27 | 9.15 |
| REFLOW                                 | 0.64 | 1.91 | 5.34 | 9.53 | 1.27 | 9.15 |

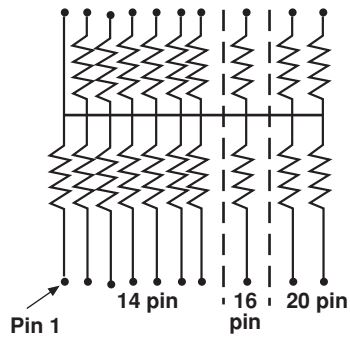
The dimensions shown are for 16 pin part. For parts with different pin numbers use the same pitch and add or subtract pads as required.

Note: Maximum solder reflow temperature + 255°C

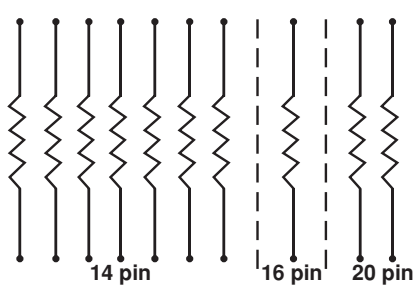
| DIMENSIONS [in millimeters] |         |         |         |         |         |         |         |       |       |         |      |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|-------|-------|---------|------|
| PIN NO#                     | L       | W       | B       | E       | F       | G       | H       | K     | R     | S       | T    |
| 14                          | 9.91    | 7.62    | 7.62    | 6.20    | 5.59    | 2.16    | 2.03    | 0.914 | 0.457 | 1.27    | 1.14 |
| 16                          | 11.18   | 7.62    | 8.89    | 6.20    | 5.59    | 2.16    | 2.03    | 0.914 | 0.457 | 1.27    | 1.14 |
| 20                          | 13.72   | 7.62    | 11.43   | 6.20    | 5.59    | 2.16    | 2.03    | 0.914 | 0.457 | 1.27    | 1.14 |
| Tol                         | ± 0.254 | ± 0.381 | ± 0.254 | ± 0.381 | ± 0.127 | ± 0.127 | ± 0.127 |       |       | ± 0.254 |      |

**CIRCUIT SCHEMATICS**

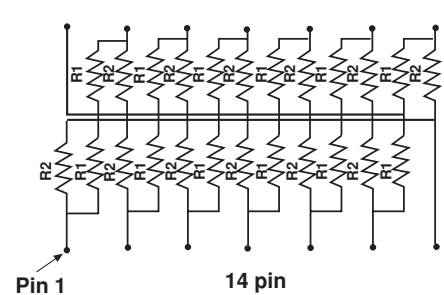
01 Circuit



03 Circuit



05 Circuit



| PERFORMANCE                  |                    |              |
|------------------------------|--------------------|--------------|
| TEST                         | CONDITIONS OF TEST | TEST RESULTS |
| Power Conditioning           | MIL STD-202        | ± 0.5%       |
| Load Life at 70°C            | MIL STD-202        | ± 0.5%       |
| Short Time Overload          | MIL STD-202        | ± 0.25%      |
| Thermal Shock                | MIL STD-202        | ± 0.5%       |
| Moisure Resistance           | MIL STD-202        | ± 0.5%       |
| Resistance to Soldering Heat | MIL STD-202        | ± 0.25%      |
| Low Temperature Operation    | MIL STD-202        | ± 0.25%      |
| Vibration                    | MIL STD-202        | ± 0.25%      |
| Shock                        | MIL STD-202        | ± 0.25%      |
| Terminal Strength            | MIL STD-202        | ± 0.25%      |