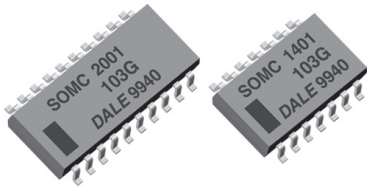
# Thick Film, Dual-in-Line Resistor Networks




## FEATURES

- 14,16 or 20 terminal package
- Isolated, bussed or TTL-terminator circuits
- Molded case construction
- Thick film resistive elements
- Reflow solderable
- Compatible with automatic surface mounting equipment
- Reduces total assembly costs
- For wave flow soldering contact factory
- Lead (Pb)-free version is RoHS compliant

Pb Available

e1 RoHS* COMPLIANT

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | ELEMENT $P_{70\,°C}$ W | PACKAGE POWER RATING $P_{70\,°C}$ W | | | CIRCUIT | LIMITING ELEMENT VOLTAGE MAX. V≅ | TEMPERATURE COEFFICIENT[1] ppm/°C | TOL. % | RESISTANCE RANGE Ω | E-SERIES |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 14 | 16 | 20 | | | | | | |
| SOMC | 0.08<br>0.16<br>0.08 | 1.05<br>1.125<br>1.05 | 1.20<br>1.28<br>1.20 | 1.52<br>1.60<br>1.52 | 01<br>03<br>05 | 50 | 100 | 1, 2, 5<br>1, 2, 5<br>1, 2, 5 | 10R - 1M | 24 |

**Notes**

1. 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 (100 mΩ)
   - Packaging: according to EIA; see appropriate catalog or web page

## TECHNICAL SPECIFICATIONS

| 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[1] | V≅ | 50 | | |
| Voltage Coefficient | ppm/V | < 50 | | |
| Insulation Voltage (1 min) | $V_{dc/ac}$ peak | 200 | | |
| Category Temperature Range | °C | - 55/+ 150 | | |
| Insulation Resistance | Ω | $> 10^{10}$ | | |
| TC Tracking (- 55 °C to + 125 °C) | ppm/°C | 50 | | |

**Note:** 1.Rated voltage: $\sqrt{P \times R}$

## GLOBAL PART NUMBER INFORMATION

**New Global Part Numbering: SOMC16011K00GDC (preferred part numbering format)**

| S | O | M | C | 1 | 6 | 0 | 1 | 1 | K | 0 | 0 | G | D | C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL | PIN COUNT | SCHEMATIC | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING | SPECIAL |
|---|---|---|---|---|---|---|
| **SOMC** | **14**<br>**16**<br>**20** | **01** = Bussed<br>**03** = Isolated<br>**00** = Special | **R** = Decimal<br>**K** = Thousand<br>**M** = Million<br>**10R0** = 10 Ω<br>**680K** = 680 kΩ<br>**1M00** = 1.0 MΩ | **F** = ± 1 %<br>**G** = ± 2 %<br>**J** = ± 5 %<br>**S** = Special | **EJ** = Lead (Pb)-free, Tube<br>**EA** = Lead (Pb)-free, Tape & Reel<br>**DC** = Tin/Lead, Tube<br>**RZ** = Tin/Lead, Tape & Reel | Blank = Standard (Dash Number) (up to 3 digits) From **1-999** as applicable |

**Historical Part Number example: SOMC1601102G (will continue to be accepted)**

| SOMC | 16 | 01 | 102 | G | D02 |
|---|---|---|---|---|---|
| HISTORICAL MODEL | PIN COUNT | SCHEMATIC | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING |

**New Global Part Numbering: SOMC2005500BGRZ (preferred part numbering format)**

| S | O | M | C | 2 | 0 | 0 | 5 | 5 | 0 | 0 | B | G | R | Z | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL | PIN COUNT | SCHEMATIC | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING | SPECIAL |
|---|---|---|---|---|---|---|
| **SOMC** | **14**<br>**16**<br>**20** | **05** = Dual Terminator | 3 digit Impedence code, followed by Alpha modifier (see Impedence table | **F** = ± 1 %<br>**G** = ± 2 %<br>**J** = ± 5 % | **EJ** = Lead (Pb)-free, Tube<br>**EA** = Lead (Pb)-free, Tape & Reel<br>**DC** = Tin/Lead, Tube<br>**RZ** = Tin/Lead, Tape & Reel | Blank = Standard (Dash Number) (up to 3 digits) From **1-999** as applicable |

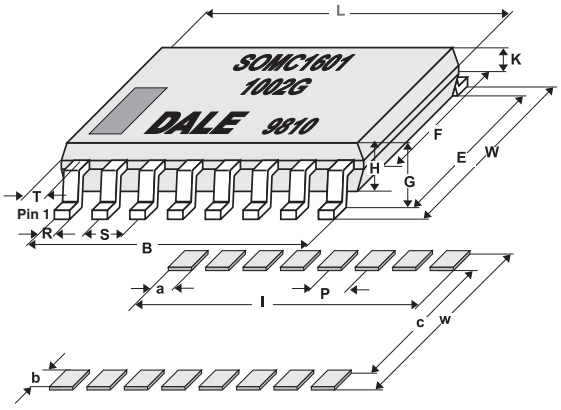
Tape & Reel

**Historical Part Number example: SOMC2005820131G (will continue to be accepted)**

| SOMC | 20 | 05 | 810 | 131 | G | R61 |
|---|---|---|---|---|---|---|
| HISTORICAL MODEL | PIN COUNT | SCHEMATIC | RESISTANCE VALUE 1 | RESISTANCE VALUE 2 | TOLERANCE CODE | PACKAGING |

* Pb containing terminations are not RoHS compliant, exemptions may apply

## DIMENSIONS



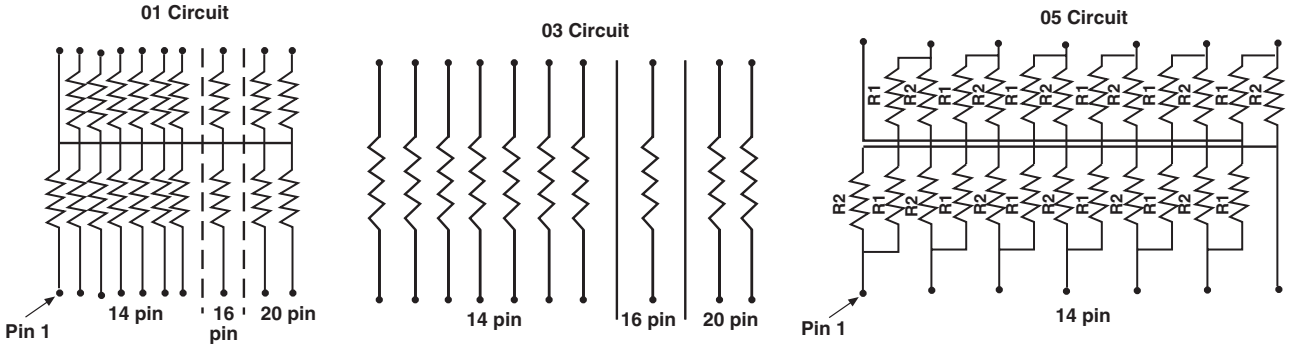

| SOLDER PAD DIMENSIONS in inches [millimeters] | | | | | | |
|---|---|---|---|---|---|---|
| | a | b | c | l | p | w |
| WAVE | 0.64 | 1.91 | 5.34 | 9.53 | 1.27 | 9.15 |
| REFLOW | 0.64 | 1.91 | 5.34 | 9.53 | 1.27 | 9.15 |

The dimension shown are for a 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




## IMPEDANCE CODES

| CODE | $R_1$ (Ω) | $R_2$ (Ω) | CODE | $R_1$ (Ω) | $R_2$ (Ω) |
|---|---|---|---|---|---|
| 500B | 82 | 130 | 141A | 270 | 270 |
| 750B | 120 | 200 | 181A | 330 | 390 |
| 800C | 130 | 210 | 191A | 330 | 470 |
| 990A | 160 | 260 | 221B | 330 | 680 |
| 101C | 180 | 240 | 281B | 560 | 560 |
| 111C | 180 | 270 | 381B | 560 | 1.2K |
| 121B | 180 | 390 | 501C | 620 | 2.7K |
| 121C | 220 | 270 | 102A | 1.5K | 3.3K |
| 131A | 220 | 330 | 202B | 3K | 6.2K |

## 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 % |

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