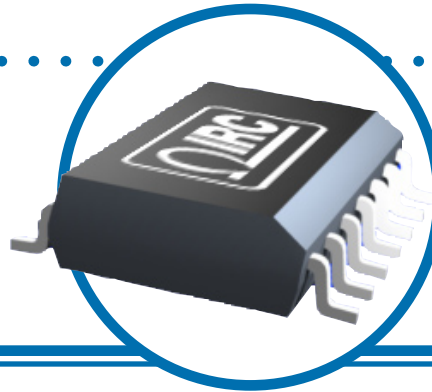


Surface Mount SOIC Resistor Networks

SOIC Series

- Tested for COTS applications
- Both narrow and wide body versions available
- Standard JEDEC 8, 14, 16, and 20 pin packages
- Ultra-stable TaNSil® resistors on silicon substrates
- RoHS compliant and Sn/Pb terminations available



IRC's TaNSil® SOIC resistor networks are the perfect solution for high volume applications that demand a small wiring board footprint. The .050" lead spacing provides higher lead density, increased component count, lower resistor cost, and high reliability.

The tantalum nitride film system on silicon provides precision tolerance, exceptional TCR tracking, low cost and miniature package. Excellent performance in harsh, humid environments is a trademark of IRC's self-passivating TaNSil® resistor film.

The SOIC series is ideally suited for the latest surface mount assembly techniques and each lead can be 100% visually inspected. The compliant gull wing leads relieve thermal expansion and contraction stresses created by soldering and temperature excursions.

For applications requiring high performance resistor networks in a low cost, surface mount package, specify IRC SOIC resistor networks.

Electrical Data

| | |
|--|---|
| Resistance Range | 10 – 250KΩ |
| Absolute Tolerance | To ±0.1% |
| Ratio Tolerance to R1 | To ±0.05% |
| Absolute TCR | To ±25ppm/°C |
| Tracking TCR | To ±5ppm/°C |
| Element Power Rating @ 70°C Isolated Schematic Bussed Schematic | 100mW 50mW |
| Power Rating @ 70°C SOIC-N Package | 8-Pin 400mW 14-Pin 700mW 16-Pin 800mW |
| Power Rating @ 70°C SOIC-W Package | 16-Pin 1.2W 20-Pin 1.5W |
| Rated Operating Voltage (not to exceed $\sqrt{\text{Power} \times \text{Resistance}}$) | 100 Volts |
| Operating Temperature | -55°C to +125°C |
| Noise | <-30dB |

Environmental Data

| Test Per MIL-PRF-83401 | Typical Delta R | Max Delta R |
|---------------------------|-----------------|-------------|
| Thermal Shock | ±0.02% | ±0.1% |
| Power Conditioning | ±0.03% | ±0.1% |
| High Temperature Exposure | ±0.03% | ±0.05% |
| Short-time Overload | ±0.02% | ±0.05% |
| Low Temperature Storage | ±0.03% | ±0.05% |
| Life | ±0.05% | ±2.0% |

General Note

IRC reserves the right to make changes in product specification without notice or liability. All information is subject to IRC's own data and is considered accurate at time of going to print.

Surface Mount SOIC Resistor Networks

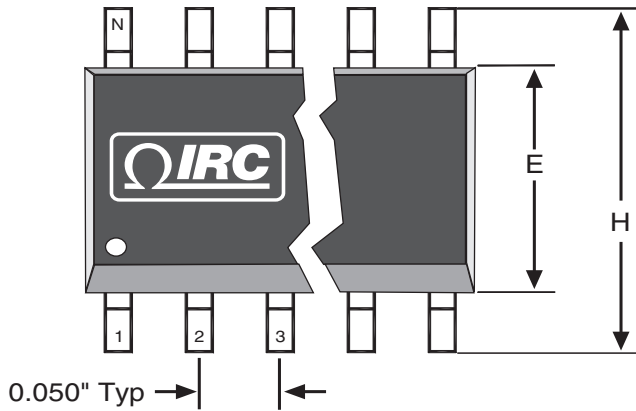


Manufacturing Capability Data

| Absolute TCR (ppm/°C) | ISOLATED SCHEMATIC A | | | | BUSSED SCHEMATIC B | | | |
|-----------------------|----------------------|----------------------|----------------------------|-------------------------|--------------------|----------------------|----------------------------|-------------------------|
| | Ohmic Range (Ω) | Available Tolerances | Available Ratio Tolerances | Best Tracking (±ppm/°C) | Ohmic Range (Ω) | Available Tolerances | Available Ratio Tolerances | Best Tracking (±ppm/°C) |
| 250 | 10-25 | FGJ | FG | 50 | 10-25 | FGJ | FG | 200 |
| | 26-50 | DFGJ | CDFG | 10 | 26-50 | FGJ | DFG | 100 |
| | 51-200 | CDFGJ | CDFG | 5 | 51-100 | DFGJ | CDFG | 50 |
| | 201-250K | BCDFGJ | ABCDG | 5 | 101-200 | DFGJ | BCDFG | 25 |
| | | | | | 201-500 | BCDFGJ | BCDFG | 20 |
| | | | | | 501-100K | BCDFGJ | ABCDG | 5 |
| 100 | 26-50 | DFGJ | CDFG | 10 | 26-50 | FGJ | DFG | 100 |
| | 51-200 | CDFGJ | CDFG | 5 | 51-100 | DFGJ | CDFG | 50 |
| | 201-250K | BCDFGJ | ABFG | 5 | 101-200 | DFGJ | BCDFG | 25 |
| | | | | | 201-500 | BCDFGJ | BCDFG | 20 |
| | | | | | 501-100K | BCDFGJ | ABCDG | 5 |
| 50 | 26-50 | DFGJ | CDFG | 10 | 51-100 | DFGJ | CDFG | 50 |
| | 51-200 | CDFGJ | CDFG | 5 | 101-200 | DFGJ | BCDFG | 25 |
| | 201-250K | BCDFGJ | ABFG | 5 | 201-500 | BCDFGJ | BCDFG | 20 |
| | | | | | 501-100K | BCDFGJ | ABCDG | 5 |
| 25 | 51-200 | CDFGJ | CDFG | 5 | 201-500 | BCDFGJ | BCDFG | 20 |
| | 201-250K | BCDFGJ | ABFG | 5 | 501-100K | BCDFGJ | ABCDG | 5 |

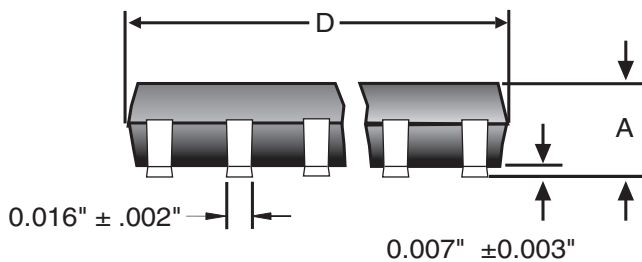
Surface Mount SOIC Resistor Networks

Physical and Schematic Data

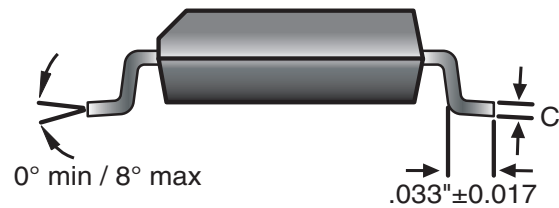


| | SOIC-N | | | SOIC-W | |
|---|------------------|--------------|--------------|--------------|--------------|
| | 8-Pin | 14-Pin | 16-Pin | 16-Pin | 20-Pin |
| D | 0.193"±0.004 | 0.341"±0.004 | 0.390"±0.004 | 0.402"±0.004 | 0.502"±0.004 |
| H | 0.236"±0.008 | | | 0.406"±0.008 | |
| E | 0.153"±0.004 | | | 0.295"±0.004 | |
| A | 0.064"±0.004 | | | 0.100"±0.004 | |
| C | 0.0075" - 0.010" | | | 0.011"±0.002 | |

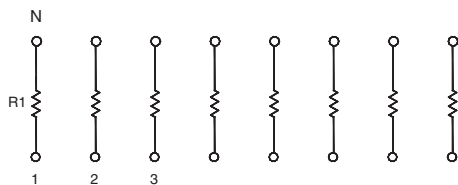
Note: N = number of pins (8, 14, 16)



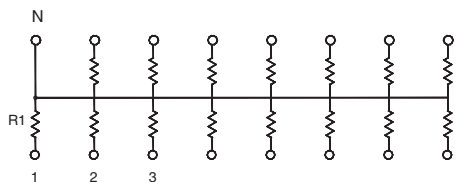
Note: All dimensions exclude mold flash and end flash which shall not exceed 0.006" per side.



Note: Lead Coplanarity 0.004" Max.

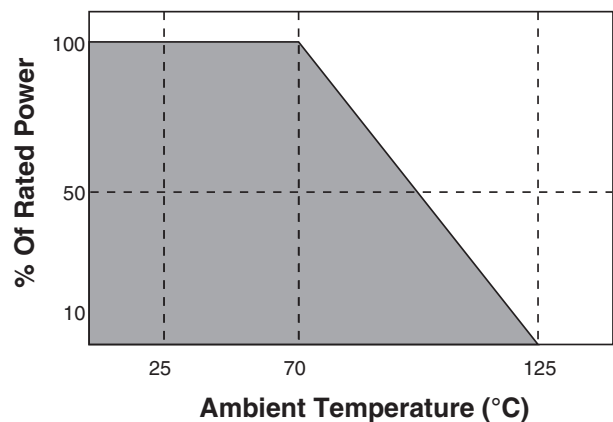


Schematic A
Isolated



Schematic B
Bussed

Power Derating Curve



For additional information or to discuss your specific requirements, please contact our Applications Team using the contact details below.

Surface Mount SOIC Resistor Networks



Ordering Data

Prefix **GUS** - **SS4A** - **01** - **1002** - **F** **B**

Style, Schematic and Termination

- SS4A = 8-pin SOIC-N, 4 Isolated Resistors; Sn/Pb terminations
- SS4ALF = 8-pin SOIC-N, 4 Isolated Resistors; 100% tin (Pb-free) terminations
- SS4B = 8-pin SOIC-N, 7 Bussed Resistors; Sn/Pb terminations
- SS4BLF = 8-pin SOIC-N, 7 Bussed Resistors; 100% tin (Pb-free) terminations

- SS7A = 14-pin SOIC-N, 7 Isolated Resistors; Sn/Pb terminations
- SS7ALF = 14-pin SOIC-N, 7 Isolated Resistors; 100% tin (Pb-free) terminations
- SS7B = 14-pin SOIC-N, 13 Bussed Resistors; Sn/Pb terminations
- SS7BLF = 14-pin SOIC-N, 13 Bussed Resistors; 100% tin (Pb-free) terminations

- SS8A = 16-pin SOIC-N, 8 Isolated Resistors; Sn/Pb terminations
- SS8ALF = 16-pin SOIC-N, 8 Isolated Resistors; 100% tin (Pb-free) terminations
- SS8B = 16-pin SOIC-N, 15 Bussed Resistors; Sn/Pb terminations
- SS8BLF = 16-pin SOIC-N, 15 Bussed Resistors; 100% tin (Pb-free) terminations

- SL8A = 16-pin SOIC-W, 8 Isolated Resistors; Sn/Pb terminations
- SL8ALF = 16-pin SOIC-W, 8 Isolated Resistors; 100% tin (Pb-free) terminations
- SL8B = 16-pin SOIC-W, 15 Bussed Resistors; Sn/Pb terminations
- SL8BLF = 16-pin SOIC-W, 15 Bussed Resistors; 100% tin (Pb-free) terminations

- SL0A = 20-pin SOIC-W, 10 Isolated Resistors; Sn/Pb terminations
- SL0ALF = 20-pin SOIC-W, 10 Isolated Resistors; 100% tin (Pb-free) terminations
- SL0B = 20-pin SOIC-W, 19 Bussed Resistors; Sn/Pb terminations
- SL0BLF = 20-pin SOIC-W, 19 Bussed Resistors; 100% tin (Pb-free) terminations

Absolute TCR Code

- 00 = ± 250 ppm/ $^{\circ}$ C; 01 = ± 100 ppm/ $^{\circ}$ C
- 02 = ± 50 ppm/ $^{\circ}$ C; 03 = ± 25 ppm/ $^{\circ}$ C

Resistance Code

- 4-Digit Resistance Code
- Ex: 1002 = 10K Ω , 50R1 = 50.1 Ω

Absolute Tolerance Code

- J = $\pm 5\%$; G = $\pm 2\%$; F = $\pm 1\%$; D = $\pm 0.5\%$
- C = $\pm 0.25\%$; B = $\pm 0.1\%$

Optional Ratio Tolerance Code

- G = $\pm 2\%$; F = $\pm 1\%$; D = $\pm 0.5\%$;
- C = $\pm 0.25\%$; B = $\pm 0.1\%$; A = $\pm 0.05\%$

Packaging

Specify tubes or tape & reel.