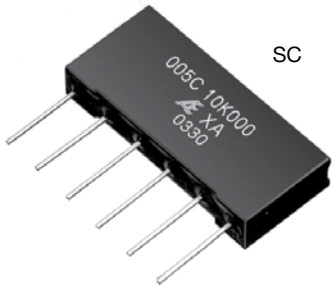
# Ultra Precision Resistor Network (Case-Encapsulated)




SC

Pb-free Available
RoHS COMPLIANT

## COMPOSITION OF TYPE NUMBER

Example:

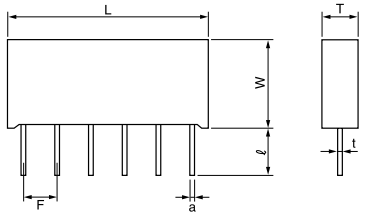
**SC 005C 1K000/99K00 B Q**
① ② ③ ④ ⑤ ⑥

① Type
② Circuit Symbol
③ Resistance Value (R1)
④ Resistance Value (Rn)
⑤ Resistance Tolerance (Absolute)
⑥ Resistance Tolerance (Matching)

Please specify all values for R1 to Rn when you consult or order us.

Resistance value, in ohm, is expressed by a series of five characters, four of which represent significant digits. R or K is a dual-purpose letter that designates both the value range (R for ohmic; K for kilo-ohm) and the location of decimal point.

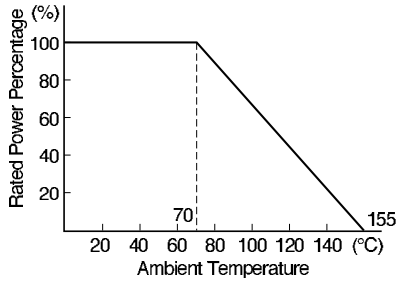
## CONFIGURATION (DIMENSIONS IN mm)




| Type | SC |
|---|---|
| L | 30.0±0.5 |
| W | 13.0±0.5 |
| T | 5.0±0.5 |
| ℓ | 8±5 |
| a | 0.5±0.05 |
| t | 0.25±0.05 |
| F | Multiples of 2.54 |

Lead space will be determined depending on circuit and number of elements.

## POWER DERATING CURVE




## TCR, RESISTANCE RANGE, TOLERANCE, RATED POWER

| Type | TCR (ppm/°C) –25°C to +125°C | Resistance Range Element (Ω)* | Max. Resistance Value Package (Ω) | Resistance Tolerance (%) | | Rated Power/ Package (W) at 70°C |
|---|---|---|---|---|---|---|
| | | | | Absolute** | Matching** | |
| **SC** | 0±5 | 30 to 120k | 1,200k | ±0.01 (T) ±0.02 (Q) ±0.05 (A) ±0.1 (B) ±0.5 (D) ±1 (F) | ±0.01 (T) ±0.02 (Q) ±0.05 (A) ±0.1 (B) ±0.5 (D) ±1 (F) | 1.5 |

*TCR tracking is dependent on resistance ratio. See Table 1 on P32, Ultra Precision Network datasheet.
**Symbols parenthesized are for type number composition.

## PERFORMANCE

| Parameters | Test Condition | ALPHA Specification | | ALPHA Typical Test Data | |
|---|---|---|---|---|---|
| | | ΔR | ΔRatio | ΔR | ΔRatio |
| **Maximum Rated Operating Temperature** | | 70°C | | | |
| **Working Temperature Range** | | –55°C to +155°C | | | |
| **Thermal Shock** | –55°C/30 min.↔+155°C/30 min., 5 cycles | ±0.05% | ±0.01% | ±0.01% | ±0.005% |
| **Low Temperature Storage** | –55°C, No Load, 2 hrs. | ±0.05% | ±0.01% | ±0.005% | ±0.0025% |
| **Overload** | Rated Voltage x 2.5, 5 sec. | ±0.05% | ±0.01% | ±0.0025% | ±0.001% |
| **Terminal Strength** | 0.51 kg (1.123 pounds),10 sec. | ±0.05% | ±0.01% | ±0.005% | ±0.0025% |
| **Dielectric Withstanding Voltage** | Atmo. Pres.: AC 300V, 1 min. | ±0.03% | ±0.01% | ±0.005% | ±0.0025% |
| **Insulation Resistance** | DC 100V, 1 min. | over 10,000 MΩ | | over 10,000 MΩ | |
| **Resistance to Soldering Heat** | 350°C, 3 sec. | ±0.03% | ±0.01% | ±0.005% | ±0.0025% |
| **Moisture Resistance** | +65°C to –10°C, 90% RH to 98% RH, Rated Voltage, 10 cycles (240 hrs.) | ±0.05% | ±0.01% | ±0.015% | ±0.005% |
| **Shock** | 100G, 6 ms., Sawtooth Wave, X, Y, Z, each 6 shocks | ±0.03% | ±0.01% | ±0.005% | ±0.0025% |
| **Vibration** | 20G, 10 Hz to 55 Hz to 10 Hz, 1 min., X, Y, Z, each 2 hrs. | ±0.03% | ±0.01% | ±0.005% | ±0.0025% |
| **Life (Rated Load)** | 70°C, Rated Power, 1.5 hrs. – ON, 0.5 hr. – OFF, 1,000 hrs. | ±0.05% | ±0.01% | ±0.01% | ±0.005% |
| **Life (Moisture Load)** | 40°C, 90% RH to 95% RH, Rated Power, 1.5 hrs. – ON, 0.5 hr. – OFF, 1,000 hrs. | ±0.05% | ±0.01% | ±0.01% | ±0.005% |
| **High Temperature Exposure** | 155°C, No Load, 1,000 hrs. | ±0.03% | ±0.01% | ±0.01% | ±0.005% |
| **Storage Life** | 15°C to 35°C, 15% RH to 75% RH, No Load, 10,000 hrs. | ±0.03% | ±0.01% | ±0.005% | ±0.0025% |

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