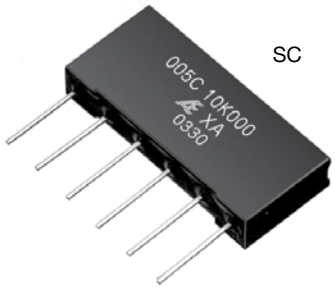
Ultra Precision Resistor Network (Case-Encapsulated)



SC

Pb-free Available
RoHS COMPLIANT

COMPOSITION OF TYPE NUMBER

Example:

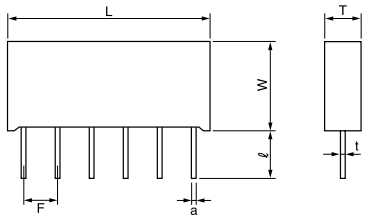
SC 005C 1K000/99K00 B Q
① ② ③ ④ ⑤ ⑥

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.

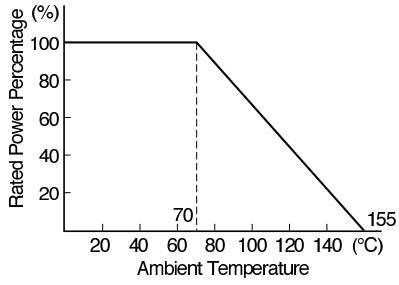
Resistance value, in ohm, is expressed by a series of five characters, four of which represent significant digits. R or K is a dual-purpose letter that designates both the value range (R for ohmic; K for kilo-ohm) and the location of decimal point.

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

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%