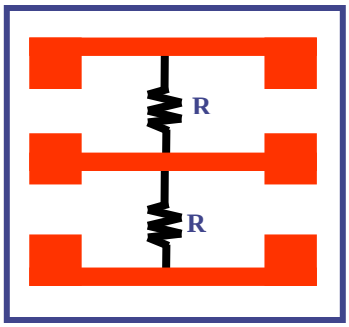
SiliconApps SATR

Thin Film Center-Tapped Silicon Resistor Chip

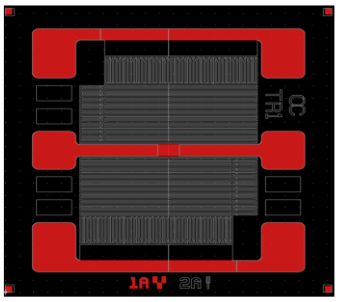
SiliconApps SATR is a miniature dual resistor network with a common pad in the center. This silicon resistor chip is built using the high reliable Tantalum Nitride resistor material. This product offers a very high degree of stability, extremely low Temperature Coefficient of Resistance and exceptionally low noise.

Electrical Specifications			
Parameter	**Conditions**		
Temperature Coefficient of Resistance	-55°C to 125°C	±100ppm/°C	Max
Operating Voltage	-55°C to 125°C	100Vdc	Max
Power Rating (per resistor)	@ 70°C (Derate linearly to zero @ 150°C)	250mw	Max
Thermal Shock	Method 107 MIL-STD-202F	±0.5% @ΔR	Max
High Temperature Exposure	100 Hrs @ 150°C Ambient	±0.25% ΔR	Max
Moisture Resistance	Method 106 MIL-STD-202F	±0.5% ΔR	Max
Life	Method 108 MIL-STD-202F (125°C/1000hr)	±0.5% ΔR	Max
Noise	Method 308 MIL-STD-202F ≥250 KΩ	-25dB -20dB	Max
Centertap Tolerance	R_1/R_2 @ 25°C	±1.0%	
Insulation Resistance	@ 25°C	1 x 10^{12}Ω	Min



Values
From 4.7Ω to 1 meg Ω for each resistor. Values >1 meg ohms use proprietary resistor material.

Mechanical Specifications	
Substrate	Silicon 10±2 mils thick
Isolation Layer	SiO_2 10,000Å thick, min
Backing	Lapped (gold optional)
Metalization	Aluminium 10,000Å thick, min (15,000Å gold optional)



Bonding Area

Format

Die Size: 30±3 mils square

Bonding Pads: 4x4 mils typical

Packaging
Two inch square trays of 400 chips maximum is standard.

Notes
1. Code boxes for alpha numeric laser marking are available
2. Resistor Pattern may vary from one value to another.

Part Number Designation						
SATR	**1002**	**F**	**A**	**G**	**W**	**P**
Series	**Value**	**Tolerance**	**TCR**	**Bond Pads**	**Backing**	**Ratio Tolerance**
	First 3 digits are significant value. Last digit represents number of zeros (Ex: 1001 = 1k-ohms). R indicates decimal point.	D = ±0.5%	No letter = ±100ppm/°C	G = Gold	W = Gold	No Letter = ±1%
		F = ±1%	A = ±50ppm/°C	No Letter = Aluminium	L = Lapped	P = ±0.5%
		G = ±2%	B = ±25ppm/°C		No Letter = Either	
		J = ±5%				
		K = ±10%				
		M = ±20%				