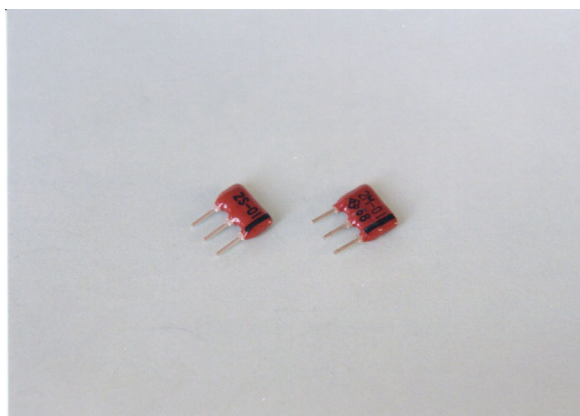


## 複合形薄膜抵抗器

THROUGH-HOLE MATCHED PAIR

SIP RESISTOR NETWORKS

2S, 2M, 2T



### 特長 用途

NiCr 薄膜の高精度2素子複合抵抗器.

高熱伝導、高純度アルミナ基板に、2素子の抵抗器を高密度で形成し、絶対精度はもとより、相対精度と相対温度係数をきわめて少なくした複合抵抗器.

定格電力は抵抗器あたり 1/8W ですから、10V-24V の高電圧回路に適合.

実装基板面からの高さは最大 5.0 mm (2S, 2T)あるいは 7.0 mm (2M)なので高密度実装に適しています. 多種類の比率の抵抗値を標準品としてラインアップし短納期で最高性能の複合抵抗器を供給可能.

画像処理、工業計器、測定器などのオペアンプ帰還抵抗、基準電源、装置電源、定電流電源回路、電子負荷、モータ制御、アクチュエータ制御、コンピュータ、各種電源の分圧抵抗器.

### Features and Applications

High precision matched pair SIP resistor networks made by NiCr thin film sputter on alumina substrates with high density patterning technologies.

1ppm-0.05% tight ratio tolerance and TC tracking are realized at 2T series.

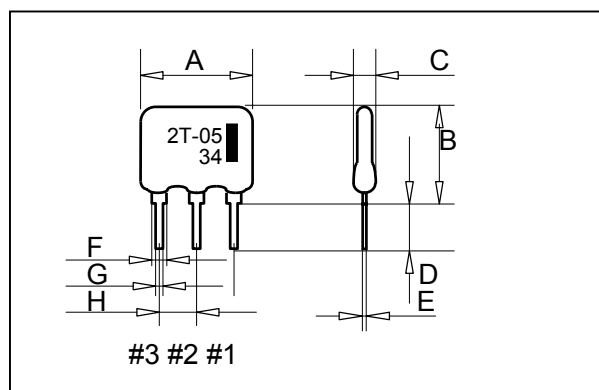
2S and 2M show good performance and economical.

A lot of combination of resistance value is standardized for quick delivery.

2.5mm width slim body and 5.0mm high from PC board fit for high density layout design. (2S)

Wide applications such as voltage dividers, feed back resistors, voltage reference circuit in data processing, data transmission, precision power sources of industrial controls, medical, measurements, ATE.

### 寸法 Dimensions (mm)



	2T	2S	2M
A	8.0max	8.0max	8.0max
B	5.0max	5.0max	7.0max
C	2.54max	2.54max	2.54max
D	3.3	3.3	3.3
E	0.25	0.25	0.25
F	1.2	1.2	1.2
G	0.5	0.5	0.5
H	2.54	2.54	2.54

### 形名称呼 Ordering Information

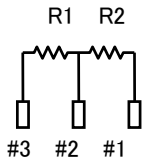
表記 Designation	Type	Resistance Combination
2M-14	2M-	1k-3k, 0.1%, 5ppm/C
2S-03	2S-	10k-10k, 0.1%, 5ppm/C
2T-02	2T-	1k-10k, 0.05%, 1ppm/C

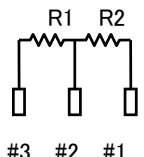
# PRECISION SOLUTION – NIKKOHM

## 複合形薄膜抵抗器

THROUGH-HOLE MATCHED PAIR SIP RESISTOR NETWORKS 2S, 2M, 2T

### 仕様 Electrical specifications

Type	Resistance		Tolerance		TC		Pin configurations
	R1,#2-#3	R2,#1-#2	Absolute	Ratio	Absolute	Tracking	
2M-01 2S-01	1Kohm	1Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-02 2S-02	1Kohm	10Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-03 2S-03	10Kohm	10Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-04 2S-04	10Kohm	20Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-05 2S-05	20Kohm	20Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-06 2S-06	15Kohm	15Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-07 2S-07	30Kohm	30Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-08 2S-08	3Kohm	680ohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-09 2S-09	2.2Kohm	10Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-10 2S-10	50Kohm	50Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-11 2S-11	30Kohm	10Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-12 2S-12	60Kohm	20Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-13 2S-13	18Kohm	2Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-14 2S-14	1Kohm	3Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-15 2S-15	1Kohm	9Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-17 2S-17	3Kohm	6Kohm	+/-1%	0.1%	+/-25ppm	5ppm	
2M-18 2S-18	2Kohm	10Kohm	+/-1%	0.1%	+/-25ppm	5ppm	

Type	Resistance		Tolerance		TC		Pin configurations
	R1,#2-#3	R2,#1-#2	Absolute	Ratio	Absolute	Tracking	
2T-01	1Kohm	1Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-02	1Kohm	10Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-03	10Kohm	10Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-04	10Kohm	20Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-05	20Kohm	20Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-06	15Kohm	15Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-07	30Kohm	30Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-08	3Kohm	680ohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-09	2.2Kohm	10Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-10	50Kohm	50Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-11	30Kohm	10Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-12	60Kohm	20Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-13	18Kohm	2Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-14	1Kohm	3Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-15	1Kohm	9Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-17	3Kohm	6Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	
2T-18	2Kohm	10Kohm	+/-0.1%	0.05%	+/-5ppm	1ppm	

### Specifications and Performances

形名	Type	2T	2S	2M	Test Conditions
定格電力	Rating Power / Element	125mW	125mW	125mW	
定格温度	Rated Ambient Temp.	70C	70C	70C	
使用温度範囲	Operating temp. Range	-55 to +125C			
最高使用電圧	Max. Applied Voltage	100V			Accordance with $E = \sqrt{P \cdot R}$
短時間過負荷	Short Time Overload	+/- (0.1% + 0.01ohm) Abs			2.5 times rated power, 5seconds
負荷寿命	Load Life	+/- (0.1% + 0.01ohm) Abs			70C, 90min ON, 30min OFF, 1000hours
耐湿負荷寿命	Humidity	+/- (0.25% + 0.01ohm) Abs			60C, 90-95RH, DC 0.1W, 1,000hours
はんだ耐熱性	Soldering Heat	+/- (0.1% + 0.01ohm) Abs			350C, 3seconds
絶縁耐電圧	Withstanding Voltage	+/- (0.1% + 0.01ohm) Abs			1000VAC, 60seconds
絶縁抵抗	Insulation Resistance	10,000Mohm			