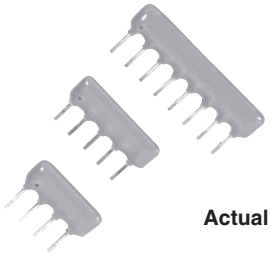
Conformal, Single-In-Line Resistor Networks



Actual Size

These networks are designed to be used in analog circuits in conjunction with operational amplifiers. In addition to the standard models, Vishay also offers semi-custom or custom networks.

FEATURES

- Standard design - no NRE
- Low TCR (10 ppm/°C)
- Excellent TCR tracking (< 2 ppm/°C)
- Low noise (< - 35 dB)
- High stability (0.005 % on ratio, after 2000 h at Pn at + 70 °C)

Pb-free

RoHS COMPLIANT

TYPICAL PERFORMANCE

	ABS	TRACKING
TCR	10 ppm/°C	< 2 ppm/°C
	ABS	RATIO
TOL.	0.1 %	0.02 %

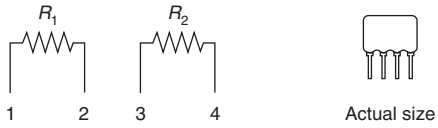
SCHEMATIC

$R_1 = R_2$

TWO EQUAL RESISTORS

ORDERING INFORMATION			
R_1 = 1 kΩ	TAS 209	50 kΩ	TAS 214
2 kΩ	TAS 210	100 kΩ	TAS 215
5 kΩ	TAS 211	200 kΩ	TAS 216
10 kΩ	TAS 212	500 kΩ	TAS 217
20 kΩ	TAS 213	1 MΩ	TAS 218

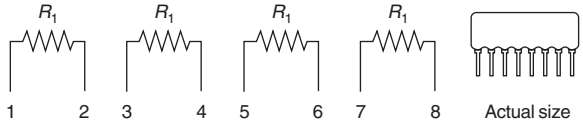
$R_1 = R_2$



TWO EQUAL RESISTORS

ORDERING INFORMATION	
R_1 = 1 kΩ	TAS 365
10 kΩ	TAS 363
100 kΩ	TAS 348

R_1

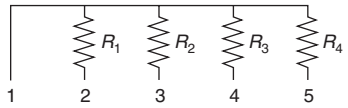


FOUR EQUAL RESISTORS

ORDERING INFORMATION	
R_1 = 1 kΩ	TAS 329
5 kΩ	TAS 1002
10 kΩ	TAS 158
100 kΩ	TAS 288

FOUR EQUAL RESISTORS, ONE COMMON

$R_1 = R_2 = R_3 = R_4$



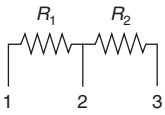
Actual size

ORDERING INFORMATION		
	R_1 = 10 kΩ	TAS 366
	100 kΩ	TAS 367

RATIO DIVIDER 10:1

$R_1 + R_2$ = 10 kΩ, 100 kΩ, 1 MΩ

$$\frac{R_1 + R_2}{R_2} = 10$$



Actual size

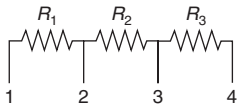
ORDERING INFORMATION		
$R_1 + R_2$ =	9 kΩ + 1 kΩ = 10 kΩ	TAS 280
	90 kΩ + 10 kΩ = 100 kΩ	TAS 193
	900 kΩ + 100 kΩ = 1 MΩ	TAS 281

RATIO DIVIDER 10:1, 100:1

$R_1 + R_2 + R_3$ = 10 kΩ, 100 kΩ

$$\frac{R_1 + R_2 + R_3}{R_3} = 100$$

$$\frac{R_1 + R_2 + R_3}{R_2 + R_3} = 10$$



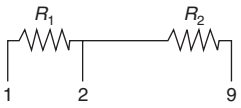
Actual size

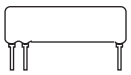
ORDERING INFORMATION		
$R_1 + R_2 + R_3$ = 100 kΩ	TAS 330	
	with R_1	= 90 kΩ
	R_2	= 9 kΩ
	R_3	= 1 kΩ

RATIO DIVIDER 100:1

$R_1 + R_2$ = 10 MΩ

$$\frac{R_1 + R_2}{R_1} = 100$$



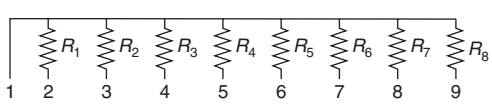


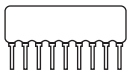
Actual size

ORDERING INFORMATION		
$R_1 + R_2$ = 10 MΩ	TAS 112	

FOUR EQUAL RESISTORS

$R_1 = R_2 = R_3 = R_4 = R_5 = R_6 = R_7 = R_8$



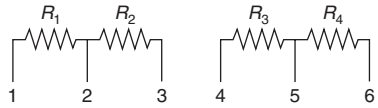


Actual size

ORDERING INFORMATION		
	R_1 = 10 kΩ	TAS 368
	100 kΩ	TAS 369

DIVIDER NETWORK 10:1

$$\frac{R_2}{R_1} = \frac{R_4}{R_3} = 10$$

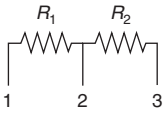


Actual size

ORDERING INFORMATION		
	R_1 = 10 kΩ	TAS 220

DIVIDER NETWORK 10:1

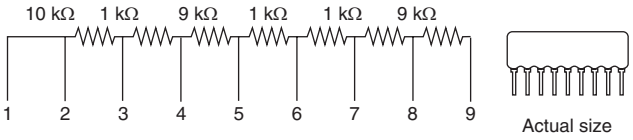
$$\frac{R_1}{R_2} = 10$$



Actual size

ORDERING INFORMATION		
	R_1 = 100 kΩ	TAS 282
	1 MΩ	TAS 283

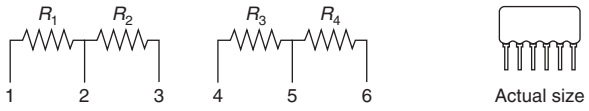
EIGHT RESISTOR NETWORKS



ORDERING INFORMATION
TAS 272

DIVIDER NETWORK 10:1

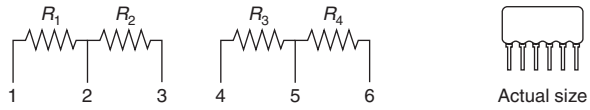
$\frac{R_1}{R_2} = 10$



ORDERING INFORMATION	
R_1 = 10 kΩ	TAS 328
100 kΩ	TAS 284
1 MΩ	TAS 285

DIVIDER NETWORK 1:1

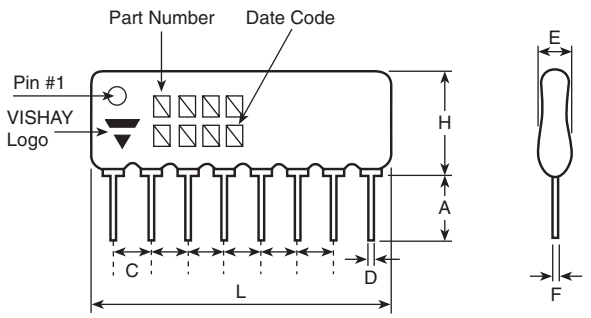
$R_1 = R_2$



ORDERING INFORMATION	
R_1 = 5 kΩ	TAS 225
10 kΩ	TAS 286
100 kΩ	TAS 219
1 MΩ	TAS 287

STANDARD ELECTRICAL SPECIFICATIONS			
TEST		**SPECIFICATIONS**	**CONDITIONS**
MATERIAL		**PASSIVATED NICHROME**	
TCR:	**Tracking**	< 2 ppm/°C	
	Absolute	± 15 ppm/°C ± 10 ppm/°C	- 40 °C to + 125 °C 0 °C to + 70 °C
Tolerance:	**Ratio**	± 0.05 % (± 0.02 or ± 0.01 % on request)	
	Absolute	± 0.1 %	
Power rating:	**Resistor**	100 mW	at + 70 °C
	Package	Varies with size	
Stability (△*R* ratio)		0.005 %	2000 h at + 70 °C at Pn
Voltage coefficient		< 0.002 ppm/V	
Working voltage		100 V	
Operating temperature range		- 40 °C to + 125 °C	
Storage temperature range		- 55 °C to + 125 °C	
Noise		- 35 dB typical	
Thermal EMF		0.1 µV/°C	
Shelf life stability		50 ppm maximum	1 year

DIMENSIONS



Marking: The pin 1, series and model, Vishay trademark, manufacturing date (year, week)

DIMENSION	INCHES	MILLIMETERS
A	0.124	3.17 minimum
C	0.100	2.54
D	0.020	0.51
H	0.260	6.62 maximum
E	0.100	2.54 maximum
F	0.010	0.25

PIN COUNT	3	4	5	6	7	8	9	10
L max. Inches	0.320	0.420	0.520	0.620	0.720	0.820	0.920	1.020
Millimeters	8.14	10.68	13.23	15.78	18.32	20.87	23.40	25.95

MECHANICAL SPECIFICATIONS

Resistive element	Passivated Nichrome
Substrate material	Alumina
Body	Epoxy-conformal coating
Terminals	Tin/silver on Cu alloy
Marking resistance to solvents	Laser marking

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: TAS214BW (preferred part number format)

T	A	S	2	1	4	B	W
GLOBAL MODEL		REFERENCE		ABS. TOLERANCE			RATIO TOLERANCE
TAS		(see list)		**B** = 0.1 %			**W** = 0.05 % **P** = 0.02 %

Custom Network: CNS 1128

CNS	1128
GLOBAL MODEL	REFERENCE

Historical Part Number example: TAS 214 50K 0.1 % 0.05 % e2 (will continue to be accepted)

TAS	214	50K	0.1 %	0.05 %	e2
HISTORICAL MODEL	REFERENCE	OHMIC VALUE	ABS. TOLERANCE	RATIO TOLERANCE	RoHS

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