PRA 100,135,182

Vishay Sfernice

High Precision Resistor Arrays

PRA arrays can be used in most applications requiring a matched pair (or set) of resistor elements. The networks provide 1ppm/°C T.C.R. tracking, a ratio tolerance as tight as 0.01% and outstanding stability. They are available in 1 mm, 1.35mm and 1.82mm pitch.

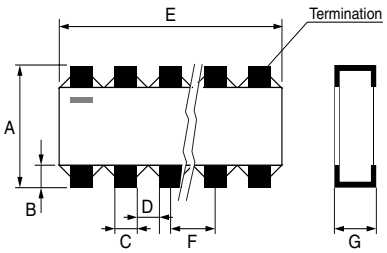
FEATURES

- Very short deliveries even on specials
- High stability passivated nichrome resistive layer
- Tight T.C.R. (10ppm/°C) and T.C.R. tracking (to 1ppm/°C)
- Very low noise and voltage coefficient
- Ratio tolerance to 0.01% (R ≥ 200R)
- Pre-tinned terminations over nickel barrier
- Lead (Pb)-free available

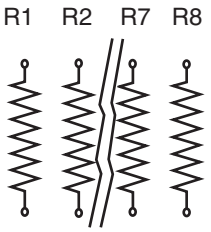
Pb-free Available

DIMENSIONS

I : Independent resistors

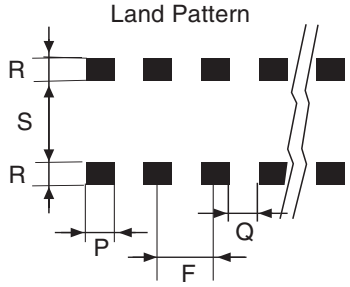


Electrical Diagram

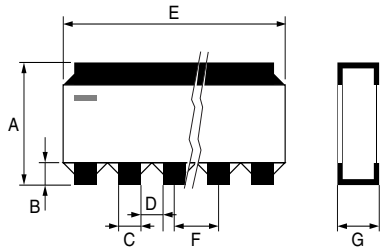


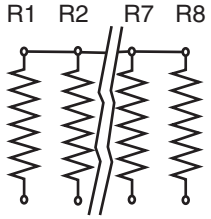
Number of resistors: 2 to 8
R1 = R2 =.... R8

Land Pattern



C : One common point N resistors





Number of resistors: 2 to 8
R1 = R2 =.... R8

Dim.	PRA 100		PRA 135		PRA 182	
	mm	mil	mm	mil	mm	mil
A	$1.6^{+0.2}_{-0.1}$	63	$1.85^{+0.2}_{-0.1}$	72	$3^{+0.2}_{-0.1}$	118
B	$0.4^{+0.2}_{-0.2}$	16	$0.4^{+0.2}_{-0.2}$	16	$0.4^{+0.2}_{-0.2}$	16
C	$0.65^{+0.15}_{-0.15}$	25.5	$1.05^{+0.15}_{-0.15}$	41	$1.3^{+0.35}_{-0.15}$	51
D	0.25	10	0.25	10	0.25	10
E*	E = (N x F) ± 0.2mm				E = (N x F) ± 8mil	
F	1	40	1.35	53.1	1.82	72
G	$0.38^{+0.2}_{-0}$	15	$0.38^{+0.2}_{-0}$	15	$0.38^{+0.2}_{-0}$	15
P	0.7	27.5	1.05	41.3	1.52	59.8
Q	0.3	12	0.3	12	0.3	12
R	1	40	1	40	1	40
S	0.6	23.5	0.8	31.5	1.8	70.8

*E depends on number of resistors

ORDERING INFORMATION

PRA 100	I	2	10kΩ	± 0.5 %	0.1%	B
MODEL	SCHEMATIC OF RESISTORS	NUMBER	OHMIC VALUE TOLERANCE	ABSOLUTE TOLERANCE	RATIO	TERMINATION
PRA 100 PRA 135 PRA 182 resistors	I : Independent resistors C : Common point	2 to 8	For different ohmic values on a given network a specific part number is issued (e.g. CNWxxx)	± 0.1% ± 0.5%	0.1% 0.05% 0.02% 0.01%	B : SnPb over nickel barrier N : SnAg over nickel barrier Lead (Pb)-free

For technical questions contact: sfer@vishay.com

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High Precision Resistor Arrays

Vishay Sfernice

ELECTRICAL SPECIFICATIONS

Resistance Range : PRA 100.....100Ω to 200KΩ
PRA 135.....100Ω to 300KΩ
PRA 182.....100Ω to 1MΩ

Tolerances : Absolute...± 0.5% to ± 0.1%
Ratio...0.1% - 0.05% - 0.02% - 0.01%
(R ≥ 200R)

Temperature Coefficient :
Absolute.....± 10ppm/°C (- 40 °C +125°C)
Ratio.....2ppm/°C (1ppm/°C on request)

Power Rating : PRA 100.....100mW/resistor at + 70°C
PRA 135.....100mW/resistor at + 70°C
PRA 182.....100mW/resistor at + 70°C

Operating Temperature Range : - 55°C to + 155°C
For temperature up to 200°C, please consult factory

Noise : ≤ - 35 dB

Voltage Coefficient : ≤ 0.01ppm/V

Limiting Voltage : PRA 100.....35V
PRA 135.....75V
PRA 182.....100V

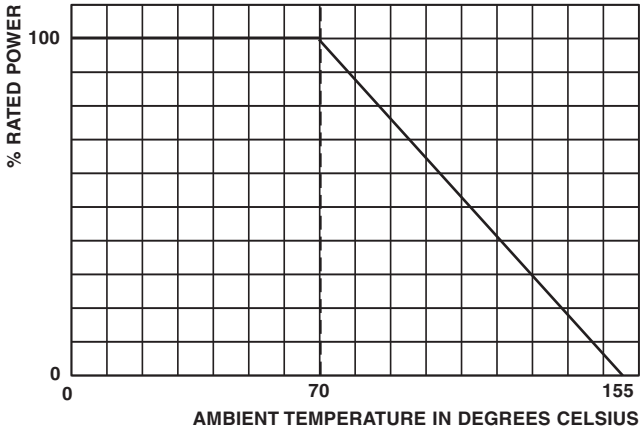
MECHANICAL SPECIFICATIONS

Substrate : Alumina

Technology : Thin film

Film : Nickel chromium with mineral passivation

Terminations : **B Type :** SnPb over nickel barrier
N Type : SnAg over nickel barrier



POWER RATING

SPECIAL FEATURES

Resistance values can be different on a given network (R max. /R min. as high as 300) with no tooling charge and short delivery.
Please, consult VISHAY SFERNICE for ohmic values, tolerances and also temperature coefficient (e.g. ± 1ppm/°C) outside the standard range.

PACKAGING

Several types of packaging are available: waffle-pack and tape and reel

MARKING

On the primary package, printed information includes VISHAY S.A. trademark series and model, schematic number of resistors, ohmic value, absolute tolerance, ratio tolerance, type of termination: B tinned over nickel barrier.

PERFORMANCE

TESTS	CONDITIONS CECC REQUIREMENTS	DRIFTS	
		ABSOLUTE PER (Typical Values)	RATIO
Overload	2.5Un/2s	0.05% Rn + 0.05Ω	0.01% Rn
Climatic Sequences	- 55°C + 155°C/5 moisture cycles	0.1% Rn + 0.05Ω	0.01% Rn
Thermal Shock	- 55°C + 155°C/5 cycles 30'	0.05% Rn + 0.05Ω	0.01% Rn
Load Life	1000h/Pn at + 70°C	0.1% Rn + 0.05Ω	0.02% Rn
Resistance to Solder Heat	260°C/10s	0.05% Rn + 0.05Ω	0.01% Rn
Moisture Resistance	0.01Pn at + 40°C 93% RH	0.1% Rn + 0.05Ω	0.01% Rn
High Temperature Storage	1000h/no load at + 155°C	0.1% Rn + 0.05Ω	0.02% Rn

Rn : nominal resistance

Disclaimer

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