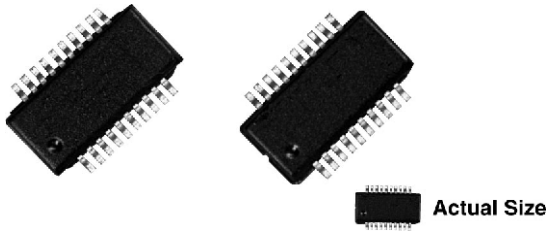
Molded, 25 mil Pitch, Dual-In-Line Thin Film Resistor, Surface Mount Network



OSOP Series resistor networks feature a space saving 25 mil lead pitch versus the current 50 mil pitch standard. This allows users to reduce board space more than 50 % over current standards. The OSOP series features 16, 20, and 24 pin variations with isolated and last pin common schematics. Custom schematics and resistor values are also available, consult factory.

FEATURES

- 0.068" (1.73 mm) maximum seated height
- Rugged molded case construction with no internal solder
- JEDEC® MO-137 variation AB = 16 pin, AD = 20 pin, AE = 24 pin
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

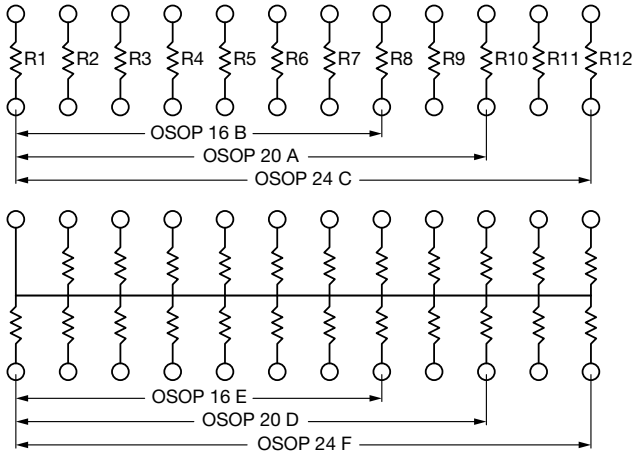
RoHS* Available

HALOGEN FREE

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

SCHEMATIC



TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.05

STANDARD RESISTANCE OFFERING (R_1 =)	
500 Ω	10 kΩ
1 kΩ	20 kΩ
2 kΩ	50 kΩ
5 kΩ	100 kΩ

Note

- Consult factory for additional values and schematics

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin / Lead Number	16, 20, 24	-
Resistance Range	500 Ω to 100 kΩ per resistor	-
TCR: Absolute	± 25 ppm/°C	-55 °C to +125 °C
TCR: Tracking	± 5 ppm/°C	-55 °C to +125 °C
Tolerance: Absolute	± 0.1 % to ± 1 %	+25 °C
Tolerance: Ratio	± 0.025 % to ± 0.5 %	+25 °C
Power Rating: Resistor	100 mW	Maximum at +70 °C
Power Rating: Package	400 mW	Maximum at +70 °C
Stability: Absolute	ΔR ± 0.05 %	2000 h at +70 °C
Stability: Ratio	ΔR ± 0.015 %	2000 h at +70 °C
Voltage Coefficient	< 0.1 ppm/V (typical)	-
Working Voltage	100 V max. not to exceed $\sqrt{P \times R}$	-
Operating Temperature Range	-55 °C to +125 °C	-
Storage Temperature Range	-55 °C to +150 °C	-
Noise	< -30 dB	-
Thermal EMF	0.08 µV/°C	-
Shelf Life Stability: Absolute	ΔR ± 0.01 %	1 year at +25 °C
Shelf Life Stability: Ratio	ΔR ± 0.002 %	1 year at +25 °C

For technical questions, contact: thinfilm@vishay.com

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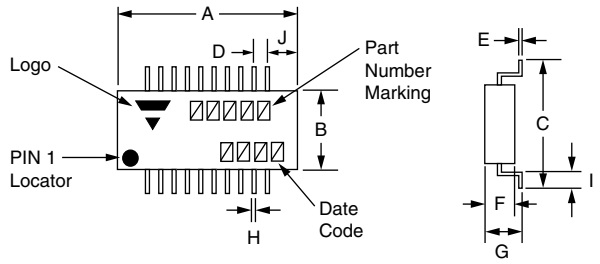
DIMENSIONS AND IMPRINTING in inches and millimeters



DIMENSION		INCHES	MILLIMETERS
A	16 pin	0.193 ± 0.003	4.90
	20, 24 pin	0.341 ± 0.003	8.66
B		0.154	3.91
C		0.237	6.02
D		0.025	0.635
E		0.010 ± 0.002	0.25 ± 0.05
F		0.062	1.58
G		0.068	1.73
H		0.010 ± 0.002	0.25 ± 0.05
I		0.025	0.64
J	16 pin	0.009	0.23
	20 pin	0.057	1.47
	24 pin	0.033	0.838

MECHANICAL SPECIFICATIONS

Resistive Element	Passivated nichrome
Substrate Material	Silicon
Body	Molded epoxy
Terminals	Copper alloy
Lead (Pb)-free Option	100 % matte tin
Tin Lead Option	Sn90
Tin Lead and Lead (Pb)-free Finish	Plated

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: OSOPA1002BUF

O	S	O	P	A	1	0	0	2	B	U	F
O	S	O	P	T	A	1	0	0	3	A	T	1

GLOBAL MODEL (4 or 5 digits)	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE	PACKAGING
OSOP (Tin Lead) **OSOPT** (Lead (Pb)-free) (e3)	**A** = 20 pin 10 isolated resistors **B** = 16 pin 8 isolated resistors **C** = 24 pin 12 isolated resistors **D** = 20 pin 19 resistors pin 20 common **E** = 16 pin 15 resistors pin 16 common **F** = 24 pin 23 resistors pin 24 common	First 3 digits are significant figures and the last digit specifies the number of zeroes to follow. Example: 1002 = 10K 1003 = 100K	Abs. Tol. / Ratio **A** = 0.1 % / 0.05 % **B** = 0.1 % / 0.1 % **C** = 0.25 % / 0.1 % **D** = 0.5 % / 0.1 % **F** = 1 % / 0.5 % **Z** = 0.1 % [1] / 0.025 %	TAPE AND REEL **T0** = 100 min., 100 mult **T1** = 1000 min., 1000 mult [2] **T3** = 300 min., 300 mult **T5** = 500 min., 500 mult **TF** = Full reel 2500 **TS** = 100 min., 1 mult **UF** = TUBED

Historical Part Number example: OSOPA5000B (for reference purposes only)

OSOP	A	5000	B
SERIES	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE

Notes

(1) Tolerance available 1K and up

(2) Preferred packaging code

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