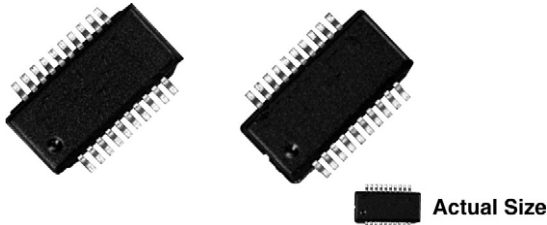
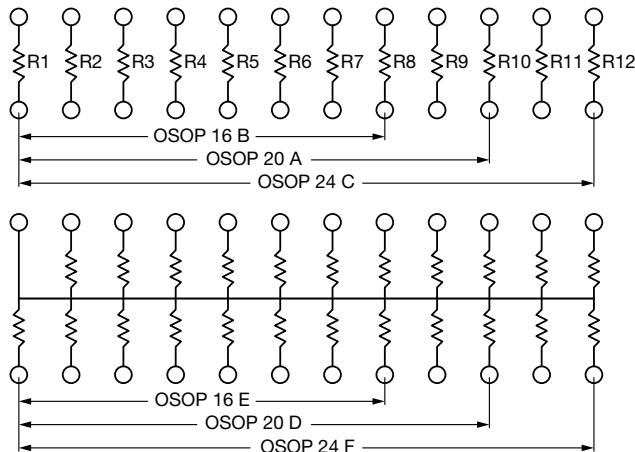


## Molded, 25 mil Pitch, Dual-In-Line Thin Film Resistor, Surface Mount Network



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.

### SCHEMATIC



### 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](http://www.vishay.com/doc?99912)



### 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

### TYPICAL PERFORMANCE

|      | ABSOLUTE TRACKING |       |
|------|-------------------|-------|
|      | ABSOLUTE          | RATIO |
| TCR  | 25                | 5     |
| TOL. | 0.1               | 0.05  |

### STANDARD RESISTANCE OFFERING (R<sub>1</sub> =)

|       |        |
|-------|--------|
| 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  |

| 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        | 0.057         | 1.47 |

| 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: OSOPA1002B U F  |  |  |  |   |
| <div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">B</div> <div style="border: 1px solid black; padding: 2px;">U</div> <div style="border: 1px solid black; padding: 2px;">F</div> </div><br><div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">S</div> <div style="border: 1px solid black; padding: 2px;">O</div> <div style="border: 1px solid black; padding: 2px;">P</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">A</div> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">1</div> </div> |  |  |  |   |
| GLOBAL MODEL<br>(4 or 5 digits)  | SCHEMATIC  | RESISTANCE   | TOLERANCE AND RATIO TOLERANCE  | PACKAGING   |
| <b>OSOP</b><br>(Tin Lead)<br><br><b>OSOPT</b><br>(Lead (Pb)-free)<br>(e3)  | <b>A</b> = 20 pin<br>10 isolated resistors<br><b>B</b> = 16 pin<br>8 isolated resistors<br><b>C</b> = 24 pin<br>12 isolated resistors<br><br><b>D</b> = 20 pin 19 resistors<br>pin 20 common<br><b>E</b> = 16 pin 15 resistors<br>pin 16 common<br><b>F</b> = 24 pin 23 resistors<br>pin 24 common | First 3 digits are significant figures and the last digit specifies the number of zeroes to follow.<br><br>Example:<br>1002 = 10K<br>1003 = 100K | Abs. Tol.      Ratio<br><b>A</b> = 0.1 %      0.05 %<br><b>B</b> = 0.1 %      0.1 %<br><b>C</b> = 0.25 %      0.1 %<br><b>D</b> = 0.5 %      0.1 %<br><b>F</b> = 1 %      0.5 %<br><b>Z</b> = 0.1 % <sup>(1)</sup> 0.025 % | TAPE AND REEL<br><b>T0</b> = 100 min., 100 mult<br><b>T1</b> = 1000 min., 1000 mult <sup>(2)</sup><br><b>T3</b> = 300 min., 300 mult<br><b>T5</b> = 500 min., 500 mult<br><b>TF</b> = Full reel 2500<br><b>TS</b> = 100 min., 1 mult<br><br><b>UF</b> = 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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