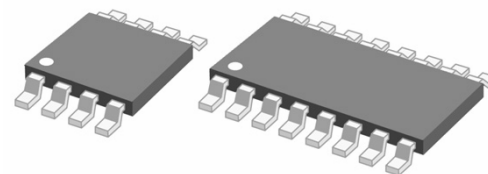
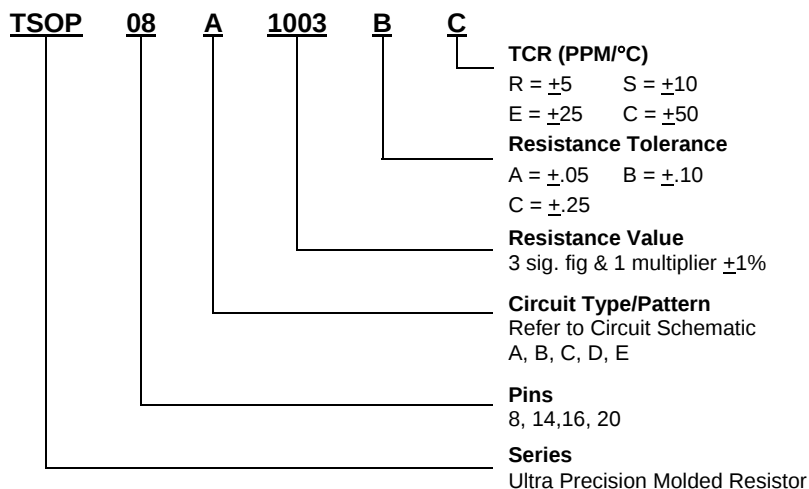


## HOW TO ORDER



## FEATURES

- TSOP High Precision NiCr Thin Film Resistor Networks with tight ratio and tracking
- 10 Standard Circuits
- Excellent to relative Tolerance and TCR
- High Stability Thin Film
- 2.3mm High from PC Board, most fit for high density compacted instruments.
- Custom Circuit Configuration is Available

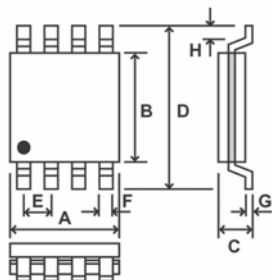
## ELECTRICAL SPECIFICATIONS

|                                  |                 |
|----------------------------------|-----------------|
| Rated Power per Resistor at 70°C | 60mW            |
| Maximum Working Voltage          | 75V             |
| Maximum Overload Voltage         | 150V            |
| Absolute TCR ppm/°C              | 50, 25, 10, 5   |
| Absolute Tolerance %             | 0.25, 0.1, 0.05 |

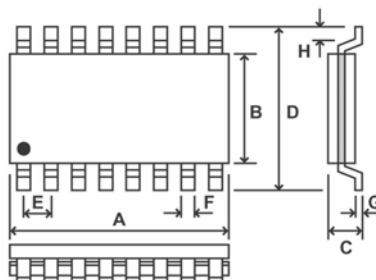
## MECHANICAL SPECIFICATIONS

|                       |              |
|-----------------------|--------------|
| Mechanical Protection | Epoxy Molded |
| Resistive Element     | NiCr Film    |
| Terminal Leads        | Tinned       |

## TSOP 08 SCHEMATIC



TSOP 08



TSOP 16

## TYPICAL PERFORMANCE

| ○ | ABS                | TRACKING       |
|---|--------------------|----------------|
|   | $\pm 5\text{ppm}$  | 1, 2, 3, 5     |
|   | $\pm 10\text{ppm}$ | 1, 2, 3, 5, 10 |
|   | $\pm 25\text{ppm}$ | 1, 2, 3, 5, 10 |
|   | $\pm 50\text{ppm}$ | 1, 2, 3, 5, 10 |

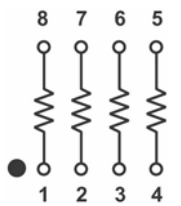
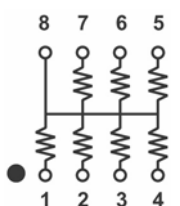
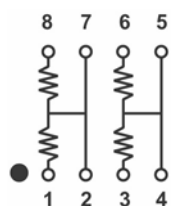
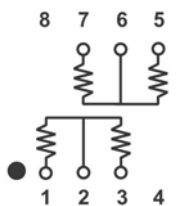
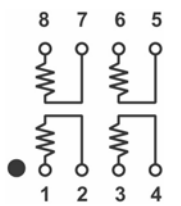
  

| ○ | ABS          | RATIO                       |
|---|--------------|-----------------------------|
|   | $\pm 0.05\%$ | 0.025, 0.05, 0.1            |
|   | $\pm 0.10\%$ | 0.025, 0.05, 0.1, 0.2       |
|   | $\pm 0.25\%$ | 0.025, 0.05, 0.1, 0.25, 0.5 |

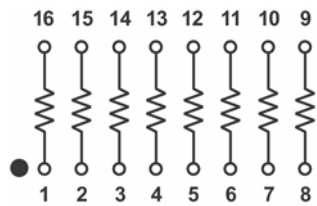
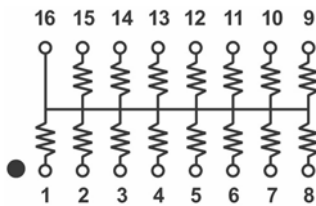
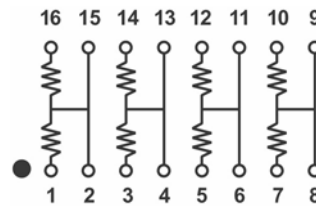
## DIMENSIONS (mm)

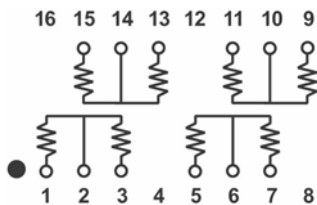
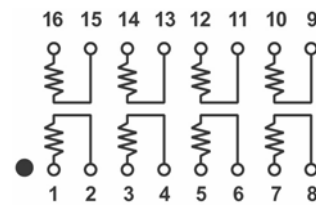
| Model   | A              | B             | C       | D             | E              | F              | G             | H       |
|---------|----------------|---------------|---------|---------------|----------------|----------------|---------------|---------|
| TSOP 08 | $5.5 \pm 0.3$  | $5.3 \pm 0.3$ | 2.3 max | $8.0 \pm 0.2$ | $1.27 \pm 0.2$ | $0.4 \pm 0.05$ | $0.2 \pm 0.1$ | 0.3 min |
| TSOP 16 | $10.5 \pm 0.5$ | $5.3 \pm 0.3$ | 2.3 max | $8.0 \pm 0.2$ | $1.27 \pm 0.2$ | $0.4 \pm 0.05$ | $0.2 \pm 0.1$ | 0.3 min |

## CIRCUIT SPECIFICATION

| Circuit Symbol                    | A                                                                                 | B                                                                                 | C                                                                                  | D                                                                                   | E                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| TSOP 08<br>Circuit Layout Options |  |  |  |  |  |
| Resistance Range ( $\Omega$ )     | 50.0 ~ 22.0K                                                                      | 50.0 ~ 10.0K                                                                      | 50.0 ~ 22.0K                                                                       | 50.0 ~ 22K                                                                          | 500 ~ 10.0K                                                                         |

## CIRCUIT SPECIFICATION – 16 PINS

| Circuit Symbol                    | A                                                                                 | B                                                                                  | C                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| TSOP 16<br>Circuit Layout Options |  |  |  |
| Resistance Range ( $\Omega$ )     | 50.0 ~ 22.0K                                                                      | 50.0 ~ 10.0K                                                                       | 50.0 ~ 22.0K                                                                        |

| Circuit Symbol                    | D                                                                                   | E                                                                                    |
|-----------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| TSOP 16<br>Circuit Layout Options |  |  |
| Resistance Range ( $\Omega$ )     | 50.0 ~ 22K                                                                          | 500 ~ 10.0K                                                                          |

## PERFORMANCE

| TEST                          | TEST METHOD                                                   | REQUIREMENTS                |
|-------------------------------|---------------------------------------------------------------|-----------------------------|
| Operating Temperature Range   |                                                               | -55°C ~ 155°C               |
| Short Time Overload           | 2.5 x rated voltage for 5 seconds                             | $\pm (0.02\% + 0.01\Omega)$ |
| Temperature Cycle             | -55°C ~ 155°C for 5 cycles                                    | $\pm (0.02\% + 0.01\Omega)$ |
| Resistance to Solder Heat     | 250°C for 10 seconds                                          | $\pm (0.02\% + 0.01\Omega)$ |
| Moisture Resistance Load Life | 40°C, 90 ~ 95% R.H. rated voltage, 1,000 hours                | $\pm (0.02\% + 0.01\Omega)$ |
| Load Life at 70°C             | 70°C, rated voltage, 1.5 hours on, 0.5 hours off, 1,000 hours | $\pm (0.02\% + 0.01\Omega)$ |