

## High Value Precision SIP



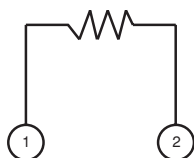
### FEATURES

- High nominal ultra precision resistor (Value range 50K-10M).
- Highly accurate resistance tolerance to  $\pm 0.01\%$
- Conformal coating flame resistant (UL94V-) Rating)
- Ultra low TCR  $\pm 5 \text{ ppm}/^\circ\text{C}$

### APPLICATIONS

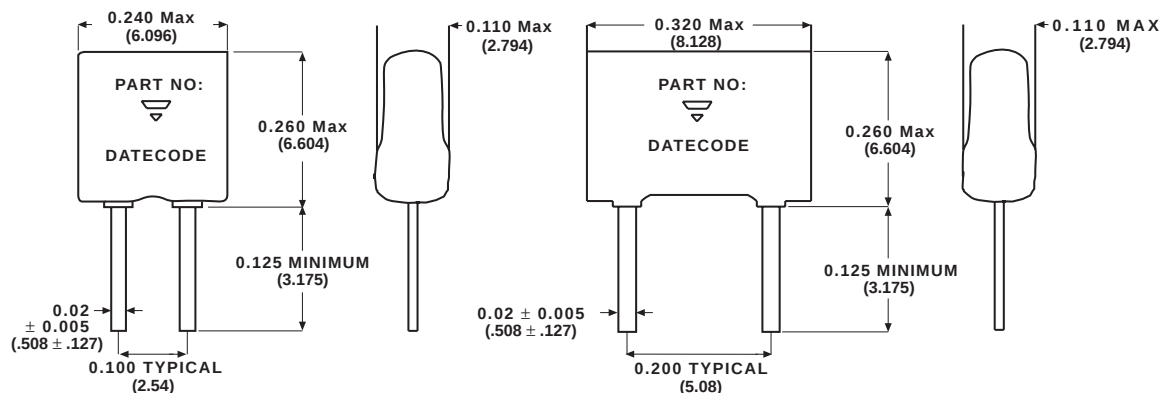
- Precise Instrumentation (Medical, Test etc).
- Precision Amplifiers

### SCHEMATIC



### STANDARD ELECTRICAL SPECIFICATIONS

| TEST                        | SPECIFICATIONS                                  | CONDITIONS                                                 |
|-----------------------------|-------------------------------------------------|------------------------------------------------------------|
| MATERIAL                    | TAMELOX                                         |                                                            |
| Resistance Range            | HVPS1 50K to 5M Ohms<br>HVPS2 100K to 10M Ohms  |                                                            |
| TCR                         | 5, 10, 15, 25 ppm/ $^\circ\text{C}$             | - 55 $^\circ\text{C}$ to + 125 $^\circ\text{C}$            |
| Tolerance                   | 0.01%, 0.02%, 0.05%<br>0.10%, 0.50%, 1.0%       | + 25 $^\circ\text{C}$                                      |
| Power Rating                | HVPS1 0.125 W<br>HLPS2 0.250 W                  | Max @ + 70 $^\circ\text{C}$<br>Max @ + 70 $^\circ\text{C}$ |
| Stability                   | 500 ppm                                         | 2000 hours @ +70 $^\circ\text{C}$                          |
| Voltage Coefficient         | < 1.0 ppm/Volt                                  |                                                            |
| Working Voltage             | HVPS1 250 Volts<br>HLPS 2 300 Volts             |                                                            |
| Operating Temperature Range | - 55 $^\circ\text{C}$ to + 125 $^\circ\text{C}$ |                                                            |
| Noise                       | < - 30 db                                       |                                                            |
| Thermal EMF                 | < 0.1 micro volt/ $^\circ\text{C}$              |                                                            |
| Shelf Life Stability        | < 100 ppm                                       | 1 Year @ + 25 $^\circ\text{C}$                             |

**DIMENSIONS AND IMPRINTING** in inches (millimeters)**STANDARD ELECTRICAL SPECIFICATIONS**

|                                |                              |
|--------------------------------|------------------------------|
| Resistive Elements             | TAMELOX(Passivated Nichrome) |
| Substrate Material             | 99.6% Alumina                |
| Body                           | Epoxy                        |
| Terminals                      | Copper with Nickel barrier   |
| Plating                        | SN 60                        |
| Marking Resistance to Solvents | Per MIL-PRF-83401            |

**How to Order**

| Series                                | TCR $\pm$ (ppm/°C)                                              | Resistance Value                                                                                                | Tolerance $\pm$ (%)                                                                                               |
|---------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>HVPS1</b><br>(100 mil Pin Spacing) | <b>E</b> = 25<br><b>D</b> = 15<br><b>Y</b> = 10<br><b>Z</b> = 5 | 4 digits. The first 3 digits are significant figures and the last digit specifies the number of zeros to follow | <b>F</b> = 1.0%<br><b>D</b> = 0.5%<br><b>B</b> = 0.1%<br><b>A</b> = 0.05%<br><b>P</b> = 0.02%<br><b>L</b> = 0.01% |
| <b>HVPS2</b><br>(200 mil Pin Spacing) |                                                                 | HVPS1 = 50K to 5M ohms<br>HVPS2 = 100K to 10M ohms<br>e.g. 100K = <b>1003</b>                                   |                                                                                                                   |

**EXAMPLE: HVPS1E5004B** Is a high value precision single-in-line discrete resistor with 100 mil spacing, 25ppm°C TCR, 5mΩ resistance value and a tolerance of  $\pm 0.1\%$