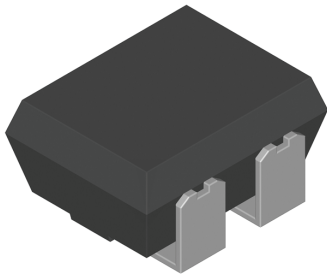


# Resistors

## SMD - Precision - Voltage Divider

MMU - series

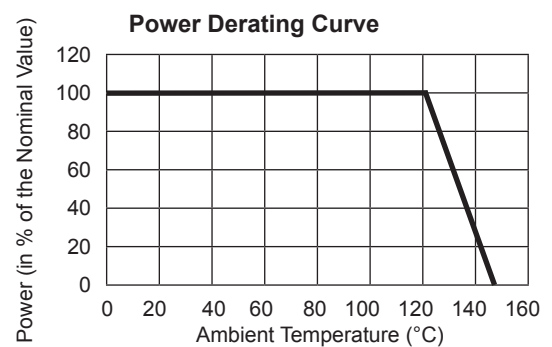


- 1-2-3 Voltage Divider
- Any Resistance from 10Ω - 40kΩ
- Standard TCR from 1ppm
- Rugged Epoxy Housing
- Non-inductive
- Excellent Stability and Accuracy

| Spezifikation        |                          |                                 |             |                | TCR Absolute      | TCR Tracking      |
|----------------------|--------------------------|---------------------------------|-------------|----------------|-------------------|-------------------|
| Resistance Range (Ω) | Tolerances (%)           |                                 | Power 125°C | Voltage (max.) | (ppm/K)           | (ppm/K)           |
|                      | absoluta                 | matching                        |             |                | -55°C - 125°C     | -55°C - 125°C     |
| 10Ω - <100Ω          | ±0,1; ±0,5               | ±0,05; ±0,1; ±0,5               | 0,05W       | 100VDC         | ±15 (10Ω - <30Ω)  | ±1 (Ratio = 1)    |
| 100Ω - <1kΩ          | ±0,05; ±0,1; ±0,5        | ±0,02; ±0,05; ±0,1; ±0,5        | 0,05W       | 100VDC         | ±10 (30Ω - <100Ω) | ±2 (1<Ratio 10)   |
|                      |                          | ±0,1; ±0,5                      |             |                | ±5 (100Ω - ≤10k)  | ±3 (10<Ratio 100) |
| 1kΩ - ≤ 20kΩ         | ±0,02; ±0,05; ±0,1; ±0,5 | ±0,01; ±0,02; ±0,05; ±0,1; ±0,5 | 0,05W       | 100VDC         |                   | ±5 (100<Ratio)    |

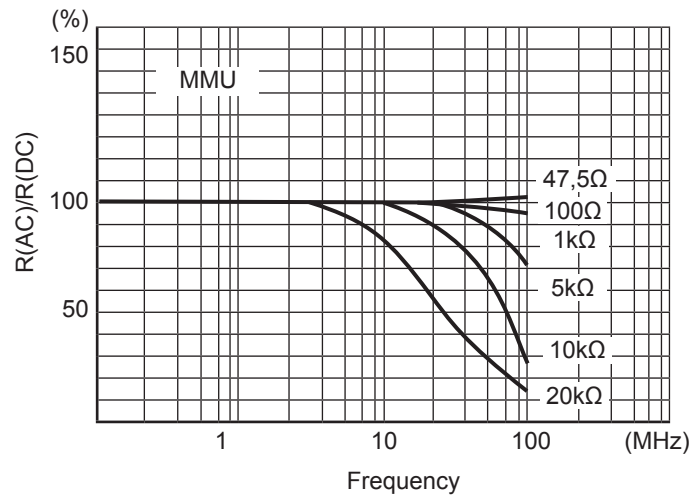
### Mechanical Data

|                    |                      |
|--------------------|----------------------|
| Housing            | Epoxy - Moulded      |
| Resistance Element | NiCr - Foil          |
| Carrier            | Stealit              |
| Leads              | Brass, Silver Plated |

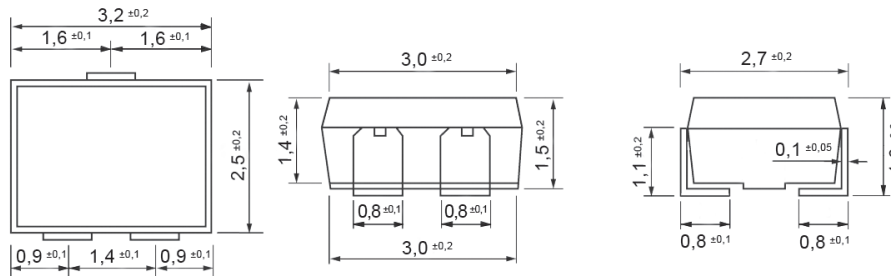


| Parameter                   | Test   | Δ R              | Δ Ratio  |
|-----------------------------|--|------------------|----------|
| Operating Temperature Range |  | -65°C bis +150°C |          |
| Thermal Shock               | -65°C/30 min., +150°C/30 min., 5 Cycles          | ±0,05%           | ±0,02%   |
| Overload                    | 2,5-fache Related Voltage, 5sec.                 | ±0,05%           | ±0,02%   |
| Soldering Heat Resistance   | 260°C, 10 sec.                                   | ±0,05%           | ±0,02%   |
| Insulation Resistance       | 100 VDC, 1 min.                                  | >10.000 MΩ       |          |
| Shock                       | 100G, 6 ms, Saw Tooth, X,Y,Z, 10 Shocks each     | ±0,02%           | ±0,01%   |
| Vibration                   | 20G, 10Hz-2000Hz-10Hz, 20 min., X,Y,Z, 2,5h each | ±0,02%           | ±0,01%   |
| Load Life                   | 125°C, Related Voltage, 1,5h an, 0,5h aus, 2000h | ±0,05%           | ±0,02%   |
| Humidity                    | +65°C to -10°C, 90 to 98% R.H., 10 Cycles 240h   | ±0,05%           | ±0,02%   |
| Storage Life                | 15°C to 35°C, 15% R.H. to 75% R.H. Unload 10000h | ±0,005%          | ±0,0025% |
| High Temperature            | 150°C, Load Free, 2000h                          | ±0,05%           | ±0,02%   |

### Frequency Characteristics

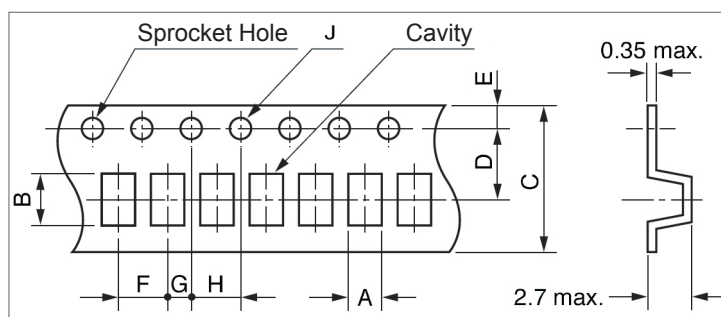


### Technical Drawing



All Dimensions in mm

### Tape Dimension



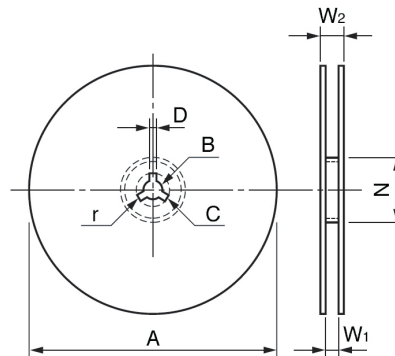
| Dimension (mm) | A        | B        | C       | D         | E         | F      | G       | H      | J         |
|----------------|----------|----------|---------|-----------|-----------|--------|---------|--------|-----------|
|                | 3,6 ±0,2 | 3,1 ±0,2 | 12 ±0,3 | 5,5 ±0,05 | 1,75 ±0,1 | 8 ±0,1 | 2 ±0,05 | 4 ±0,1 | Ø1,5 ±0,1 |

# Resistors

SMD - Precision - Voltage Divider

MMU - series

## Reel Dimensions



| Dimension (mm) | A         | N       | B        | C        | D      | W <sub>1</sub> | W <sub>2</sub> | r      |
|----------------|-----------|---------|----------|----------|--------|----------------|----------------|--------|
|                | Ø178 ±0,2 | Ø60 min | Ø13 ±0,5 | Ø21 ±0,8 | 2 ±0,5 | 12,4 +2        | 18,4 max.      | 1 ±0,5 |

## Packaging

|               |     |
|---------------|-----|
| Reel Capacity | 800 |
|---------------|-----|

## Ordering Information

| MMP<br>Type | WA0,1%<br>Tolerance (absolute) | WM0,1%<br>Tolerance (matching) | TK5<br>Temp. Coefficient (abs.) | 10k/10k<br>Resistance Value                |
|-------------|--------------------------------|--------------------------------|---------------------------------|--|
|             | ±0,02% (1kΩ - <20kΩ)           | ±0,01% (1kΩ - <20kΩ)           | ±15 (10Ω - <30Ω)                | (30Ω - 40kΩ)                               |
|             | ±0,05% (100Ω - <20kΩ)          | ±0,02% (100Ω - <20kΩ)          | ±10 (30Ω - <100Ω)               | The total resistance must not exceed 40kΩ! |
|             | ±0,1% (10Ω - <20kΩ)            | ±0,05% (10Ω - <20kΩ)           | ±5 (100Ω - ≤10k)                |  |
|             | ±0,5% (10Ω - <20kΩ)            | ±0,1% (10Ω - <20kΩ)            |                                 |  |
|             |                                | ±0,5% 10Ω - <20kΩ)             |                                 |  |

Note: All specifications and information in this data sheet are not considering customer's special requirements. All containing information of this data sheet are not a binding description of the product's properties. MEGATRON is not responsible for any damage caused by an improper use of the product. The customer has the responsibility to check the usability of the product in his application. MEGATRON does not guarantee the reproducibility of their publications.