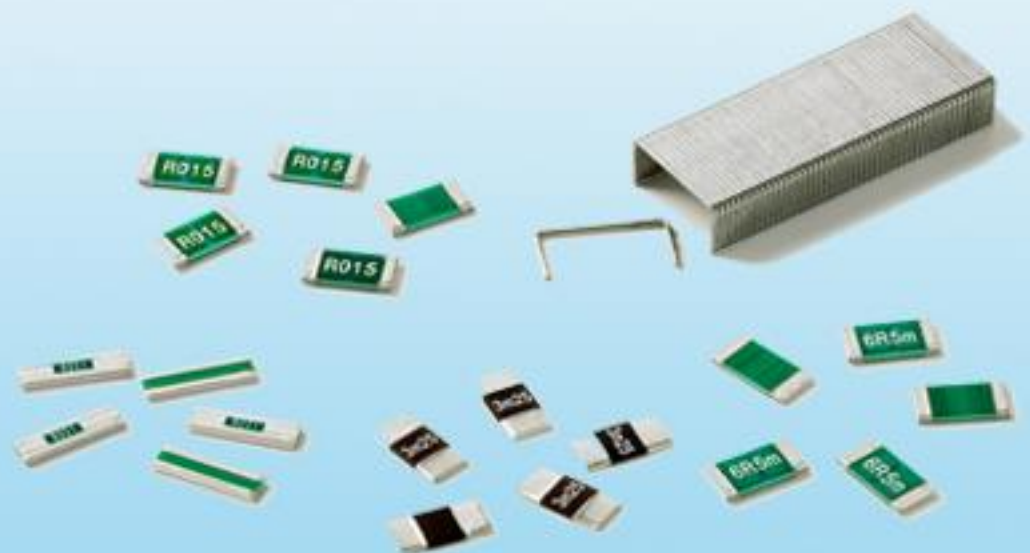


Passive Components

Resistor / Resistor Network
Current Sensing Resistor /
Shunt Sensor / PT Sensor /
Fuse-Resistance Protector

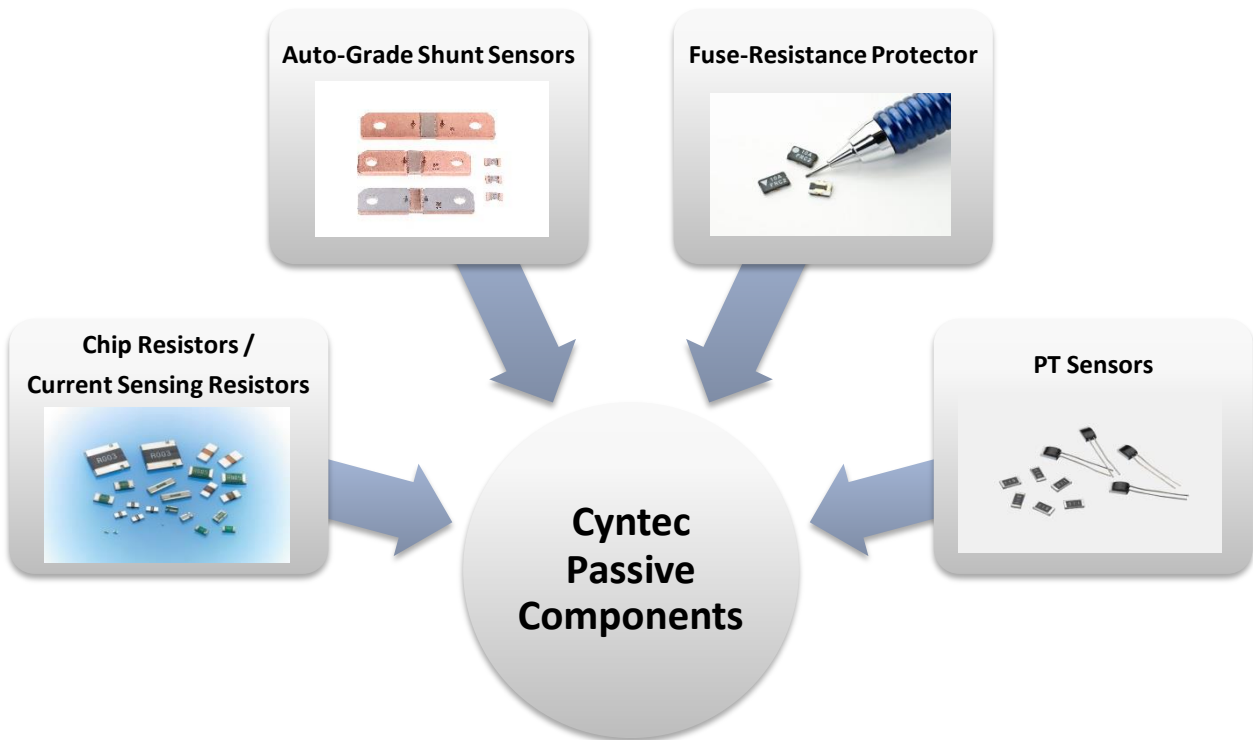


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INTRODUCTION

At Cyntec we do widely use combinations of substrate materials (ceramic, glass, silicon material, etc...) and processing technologies (photolithography, thick film technologies) to produce passive components such as chip resistors, resistor network , current sensors, and fuse-resistance protector which provide the best design and performance solutions for the smartphone, wearable, IOT and other communication products.



Current Sensing Resistor

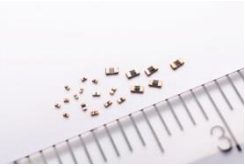





Cyntec has developed a series of current sensing resistor which characterized with miniaturization down to 01005 size, high power up to 3W, high precision, and low TCR. Besides the thin film and thick film, we develop the new processing technology to bond metal foil and ceramic substrate together. Base on the new technical perform, we can keep the competitive strength of low TCR.

Shunt Sensor



Cyntec has Unique size of 6918 , 8420 and 8436 shunt sensor. It used new processing technology E-Beam welding. Own mechanical process technology can meet customized requirement. Patented pin structure can sense ultra-low and high accuracy voltage.

| | |
|---|--|
| <p>Chip Resistor</p>  | <p>Cyntec offers various series of chip resistors based on thin film and thick film types to apply to all electronic equipment. The feature of chip resistor is high precision and miniaturization size that down to 01005size.</p> |
| <p>Resistor Network</p>  | <p>Cyntec resistor network is an effective solution for high-density which can down to 0201*4 array. It also benefit for cost reduction and space-saving.</p> |
| <p>Fuse-resistance Protector</p>  | <p>Cyntec has developed and produced a complete series of low profile and high stability FR-Protector (Fuse-Resistance Protector) with two protection functions for main application in lithium-ion battery pack including OCP (Over Current Protection) and OVP (Over Voltage Protection) to ensure the safety of battery module.</p> |
| <p>PT Sensor</p>  | <p>The Platinum Resistance Temperature Detector (Pt-RTD) chip consists of a thin film Platinum film deposited on a high purity aluminum oxide substrate. In a chip form, the Pt-RTD provides a significant cost advantage compared to the conventional wire wound Pt-RTD. Due to the stability of the TCR of the platinum element, OTP Protection function, the highly advanced packaging materials, and processing technologies, the Pt-RTD in a chip form is able to withstand temperatures ranging from -260°C to 1000°C.</p> |

PRODUCT SPECIFICATION

CURRENT SENSING RESISTOR

[0201](#)
[0402](#)
[0603](#)
[0805](#)
[1206](#)
[2010](#)
[2512](#)
[3720](#)
[7520](#)
[3637](#)
[3923](#)

0201

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|------------------|----------------|---------------|---------------------|----------------------------------|---|---|
| | Metric (mm) | Inch (mil) | | | | |
| RL-0603-C | 0603 | 0201 | 1/10W | 0.020~<1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.020~<0.070 Ω : 0~500 0.070 ~ 1.0 Ω : ± 200 |
| RL-0603-D | 0603 | 0201 | 1/20W | 0.020~<1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.020~<0.070 Ω : 0~500 0.070 ~ 1.0 Ω : ± 200 |
| RLT0306-C | 0603 | 0201 | 1/10W | 0.5~<1.0 1.0~2.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.5~<1.0 Ω : ± 300 1.0~2.0 Ω : ± 200 |

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0402

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|------------------|----------------|------------|---------------------|----------------------------------|---|---|
| | Metric (mm) | Inch (mil) | | | | |
| RL-1005-1 | 1005 | 0402 | 1/16W | 0.020~<1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.020 ~ <0.070 Ω : 0~500 0.070 ~ 1.0 Ω : ± 100 |
| RL-1005-2 | 1005 | 0402 | 1/8W | 0.020~<1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.020 ~ <0.070 Ω : 0~500 0.070 ~ 1.0 Ω : ± 100 |
| RL-1005-7 | 1005 | 0402 | 1/6W | 0.020~<1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.020 ~ <0.070 Ω : 0~500 0.070 ~ 1.0 Ω : ± 100 |
| RLT0510-1 | 1005 | 0402 | 1/16W | 0.065~<0.60 0.60~1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.065~<0.60 Ω : ± 300 0.60~1.0 Ω : ± 200 |
| RLT0510-2 | 1005 | 0402 | 1/8W | 0.065~<0.60 0.60~1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.065~<0.60 Ω : ± 300 0.60~1.0 Ω : ± 200 |
| RLT0510-7 | 1005 | 0402 | 1/6W | 0.065~<0.60 0.60~1.0 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.065~<0.60 Ω : ± 300 0.60~1.0 Ω : ± 200 |

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0603

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|--------------------|----------------|---------------|---------------------|------------------------------------|---|--|
| | Metric (mm) | Inch (mil) | | | | |
| RL-0816-4 | 1608 | 0603 | 1/2W | 0.010~<0.020 0.021~1.0 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.010~0.020 Ω : 0~350 0.021~1.0 Ω : 0~250 |
| RL-0816-F | 1608 | 0603 | 1/3W | 0.010~0.020 0.021~1.0 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.010~0.020 Ω : 0~350 0.021~1.0 Ω : 0~250 |
| RLT0816-2 | 1608 | 0603 | 1/8W | 0.050~<10 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.050~<0.10 Ω : \pm 300 0.10~<10 Ω : \pm 200 |
| RLT0816-3 | 1608 | 0603 | 1/4W | 0.05~<10 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.050~<0.10 Ω : \pm 300 0.10~<10 Ω : \pm 200 |
| RLT0816-C | 1608 | 0603 | 1/10W | 0.050~<10 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.050~<0.10 Ω : \pm 300 0.10~<10 Ω : \pm 200 |
| RLM-0816-3F | 1608 | 0603 | 1/4W | 0.0025 0.005~0.009 0.01~0.02 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.0025 Ω : \pm 400 0.005~0.009 Ω : \pm 200 0.01~0.02 Ω : \pm 75 |
| RLM-0816-FF | 1608 | 0603 | 1/3W | 0.0025 0.005~0.009 0.01~0.02 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.0025 Ω : \pm 400 0.005~0.009 Ω : \pm 200 0.01~0.02 Ω : \pm 75 |
| RLM-0816-4F | 1608 | 0603 | 1/2W | 0.0025 0.005~0.009 0.01~0.02 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.0025 Ω : \pm 400 0.005~0.009 Ω : \pm 200 0.01~0.02 Ω : \pm 75 |

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0805

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|--------------------|----------------|---------------|---------------------|----------------------------------|---|--|
| | Metric (mm) | Inch (mil) | | | | |
| RL-1220-4 | 2012 | 0805 | 1/2W | 0.003; 0.005; 0.009~0.050 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.003 Ω : \pm 150; 0.005 Ω : \pm 110; 0.009~0.050 Ω : \pm 100 |
| RLM-1220-6F | 2012 | 0805 | 1W | 0.003~0.010 | \pm 1%(F) \pm 2%(G) \pm 5%(J) | 0.003~0.01 Ω : \pm 100 |

| | | | | | | |
|--------------------|------|------|------|-------------|----------------------------|--|
| RLM-1220-3F | 2012 | 0805 | 1/4W | 0.003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.003~0.020Ω: ±100 |
| RLM-1220-4F | 2012 | 0805 | 1/2W | 0.003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.003~0.020Ω: ±100 |
| RLM-1220-FF | 2012 | 0805 | 1/3W | 0.003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.003~0.020Ω: ±100 |
| RL-1220-4S | 2012 | 0805 | 1/2W | 0.010~1.0 | ±1%(F) ±2%(G) ±5%(J) | 0.010~1.0Ω: 0~250 |
| RLW-2012-4 | 1220 | 0508 | 1/2W | 0.005~0.030 | ±2%(G) | 0.005~0.030Ω: 0~200 |
| RLW-2012-F | 1220 | 0508 | 1/3W | 0.005~0.030 | ±2%(G) | 0.005~0.030Ω: 0~200 |
| RLW-2012-6 | 1220 | 0508 | 1W | 0.005~0.030 | ±2%(G) | 0.005~0.030Ω: 0~200 |
| RLT1220-3 | 2012 | 0805 | 1/4W | 0.05~<10 | ±1%(F) ±2%(G) ±5%(J) | 0.05~<0.1Ω: 0~+300 0.1~<10Ω: 0~+200 |
| RLT1220-F | 2012 | 0805 | 1/3W | 0.05~<10 | ±1%(F) ±2%(G) ±5%(J) | 0.05~<0.1Ω: 0~+300 0.1~<10Ω: 0~+200 |
| SCRR0508WD | 1220 | 0508 | 1/2W | 0.02~0.450 | ±1%(F) ±2%(G) ±5%(J) | 0.020~0.450Ω: ±150 |
| SCRR0805SD | 2012 | 0805 | 1/2W | 0.05~1 | 1%(F) 2%(G) 5%(J) | 0.050~0.099Ω: ±200 0.100~1.000Ω: ±100 |

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1206

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|--------------------|----------------|---------------|---------------------|-------------------------|----------------------------|--------------------|
| | Metric (mm) | Inch (mil) | | | | |
| RLM-1632-4F | 1632 | 0612 | 1/2W | 0.003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.003~0.020Ω: ±100 |
| RLM-1632-6F | 1632 | 0612 | 1W | 0.003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.003~0.020Ω: ±100 |

| | | | | | | |
|---------------------|------|------|------|---|----------------------------|--|
| RLT1632-F | 3216 | 1206 | 1/3W | 0.05 ~ <10 | ±1%(F) ±2%(G) ±5%(J) | 0.05 ~ <0.1Ω: 0~+250 0.1~<10Ω: 0~+200 |
| RLT1632-4 | 3216 | 1206 | 1/2W | 0.05 ~ <10 | ±1%(F) ±2%(G) ±5%(J) | 0.05 ~ <0.1Ω: 0~+250 0.1~<10Ω: 0~+200 |
| RLT1632-6 | 3216 | 1206 | 1W | 0.10<~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.10<~1.000Ω: ±100 |
| RLM-1632W-4F | 3216 | 1206 | 1/2W | 0.001/0.0015 0.002 0.0025 0.003~0.010 | ±1%(F) ±2%(G) ±5%(J) | 0.001 / 0.0015Ω: ±200 0.002 / 0.0025Ω: ±150 0.003~0.010Ω: ±100 |
| RLM-1632W-6F | 3216 | 1206 | 1W | 0.001 0.0015 R>0.002 0.0025 0.003~0.010 | ±1%(F) ±2%(G) ±5%(J) | 0.001 / 0.0015Ω: ±200 0.002 / 0.0025Ω: ±150 0.003~0.010Ω: ±100 |
| SCMM1206S1 | 3216 | 1206 | 1W | 0.001~0.010 | ±1%(F) ±2%(G) ±5%(J) | 0.001~0.010: ±75 |
| SCMM1206SD | 3216 | 1206 | 1/2W | 0.001~0.200 | ±1%(F) ±2%(G) ±5%(J) | 0.001~0.010Ω: ±75 0.011~0.200Ω: ±50 |
| SCRR1206S1 | 3216 | 1206 | 1W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.015Ω: ±200 0.016~1.000Ω: ±100 |
| SCRR1206SD | 3216 | 1206 | 1/2W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.015Ω: ±200 0.016~1.000Ω: ±100 |
| SCRR0612W1 | 1632 | 0612 | 1W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.030Ω: ±100 0.031~0.050Ω: ±150 0.051~1.000Ω: ±100 |
| SCRR0612W2 | 1632 | 0612 | 2W | 0.010~0.150 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.0150Ω: ±200 0.091~0.150Ω: ±100 |

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2010

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|------------------|----------------|---------------|---------------------|----------------------------------|---|---|
| | Metric (mm) | Inch (mil) | | | | |
| RL2550W | 2550 | 1020 | 1W | 0.003~0.050 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.003~<0.005 Ω : ± 300 0.005~0.010 Ω : ± 100 |
| RLT2550-6 | 5025 | 2010 | 1W | 0.05~1 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.05~<0.45 Ω : 0~+200 0.45~1 Ω : 0~+75 |

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2512

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|--------------------|----------------|---------------|---------------------|----------------------------------|---|--|
| | Metric (mm) | Inch (mil) | | | | |
| RLD-3264-6F | 3264 | 2512 | 1W | 0.0005 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0005 Ω : ± 100 |
| RLD-3264-9F | 3264 | 2512 | 2W | 0.0005 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0005 Ω : ± 100 |
| RL-3264-9D | 3264 | 2512 | 2W | 0.003~0.1 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.003~0.1 Ω : ± 100 |
| RL-3264-6C | 3264 | 2512 | 1W | 0.003~0.1 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.003~0.1 Ω : ± 100 |
| SCMM2512S1 | 6432 | 2512 | 1W | 0.0003~0.200 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0003~0.0004 Ω : ± 125 0.0005~0.0009 Ω : ± 75 0.001~0.200 Ω : ± 50 |
| SCMM2512S2 | 6432 | 2512 | 2W | 0.0003~0.020 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0003~0.0004 Ω : ± 100 0.0005~0.0009 Ω : ± 75 0.001~0.020 Ω : ± 50 |
| SCMM2512S3 | 6432 | 2512 | 3W | 0.0003~0.010 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0003~0.0004 Ω : ± 100 0.0005~0.0009 Ω : ± 75 0.001~0.010 Ω : ± 50 |
| SCMM2512S5 | 6432 | 2512 | 5W | 0.0003~0.001 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0003~0.0004 Ω : ± 150 0.0005~0.0009 Ω : ± 75 0.001 Ω : ± 50 |
| SCRR2512S1 | 6432 | 2512 | 1W | 0.010~1.000 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.010~0.019 Ω : ± 400 0.020~0.030 Ω : ± 250 0.031~0.050 Ω : ± 200 0.051~1.000 Ω : ± 100 |

| | | | | | | |
|------------|------|------|----|-------------|----------------------------|--|
| SCRR2512S2 | 6432 | 2512 | 2W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.019Ω: ±400 0.020~0.030Ω: ±250 0.031~0.050Ω: ±200 0.051~1.000Ω: ±100 |
|------------|------|------|----|-------------|----------------------------|--|

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3720

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-------------|----------------|------------|---------------------|-------------------------|------------------------------|-------------------------------------|
| | Metric (mm) | Inch (mil) | | | | |
| RL3720WT | 3720 | 1508 | 1W | 0.001 0.003~0.012 | ± 1%(F) ±2%(G) ± 5%(J) | 0.001Ω: 0~500 0.003~0.012Ω: ±100 |

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7520

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-------------|----------------|------------|---------------------|-----------------------------|------------------------------|---|
| | Metric (mm) | Inch (mil) | | | | |
| RL7520T | 7520 | 3008 | 1W | 0.001~0.005, 0.010~0.020 | ± 1%(F) ±2%(G) ± 5%(J) | 0.001W ~ 0.005W: ±100 0.010W ~ 0.020W: 0~200 |
| RL7520WT | 7520 | 3008 | 2W | 0.001~0.005 | ± 1%(F) ±2%(G) ± 5%(J) | 0.001~0.005Ω: ±100 |

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3637

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-------------|----------------|---------------|---------------------|-----------------------------|----------------------------|--|
| | Metric (mm) | Inch (mil) | | | | |
| RL-3637-0 | 9194 | 3637 | 3W | 0.001~<0.002 0.002~0.010 | ±1%(F) ±2%(G) ±5%(J) | 0.001~<0.002Ω: 0~150 0.002~0.010:Ω ±100 |

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3923

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-------------|----------------|---------------|---------------------|-------------------------|----------------------------|--|
| | Metric (mm) | Inch (mil) | | | | |
| SCMM3923S5 | 10075 | 3923 | 5W | 0.0002~0.004 | ±1%(F) ±2%(G) ±5%(J) | 0.0002~0.0003Ω: ±100 0.0005~0.0007Ω: ±75 0.001~0.004Ω: ±50 |



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| | | | | | | |
|------------|-------|------|----|--------------|--------|----------------------|
| SCMM3923S7 | 10075 | 3923 | 7W | 0.0002~0.002 | ±1%(F) | 0.0002~0.0003Ω: ±100 |
| | | | | | ±2%(G) | 0.0005~0.0007Ω: ±75 |
| | | | | | ±5%(J) | 0.001~0.002Ω: ±50 |
| SCMM3923S9 | 10075 | 3923 | 9W | 0.0002~0.001 | ±1%(F) | 0.0002~0.0003Ω: ±100 |
| | | | | | ±2%(G) | 0.0005~0.0007Ω: ±75 |
| | | | | | ±5%(J) | 0.001Ω: ±50 |

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CURRENT SENSING RESISTOR (Automotive-Grade)

[0805](#) [1206](#) [2512](#) [3923](#)

0805

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|-------------|----------------|---------------|---------------------|----------------------------------|-------------------------|----------------------------|
| | Metric (mm) | Inch (mil) | | | | |
| VSRP0805SD | 2012 | 0805 | 1/2W | 0.05~1 | $\pm 1\%$ (F) | 0.05~0.099: ± 200 |
| | | | | | $\pm 2\%$ (G) | 0.10~1.000: ± 100 |
| | | | | | $\pm 5\%$ (J) | |
| VSRP0508WD | 1220 | 0508 | 1/2W | 0.020~0.450 | $\pm 1\%$ (F) | 0.02~0.45: ± 150 |
| | | | | | $\pm 2\%$ (G) | |
| | | | | | $\pm 5\%$ (J) | |

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1206

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|-------------|----------------|---------------|---------------------|----------------------------------|-----------------------------|-----------------------------------|
| | Metric (mm) | Inch (mil) | | | | |
| VSRP1206S1 | 3216 | 1206 | 1W | 0.010~1.000 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.010~0.015 Ω : ± 200 |
| | | | | | $\pm 5\%$ (J) | 0.016~1.000 Ω : ± 100 |
| | | | | | | |
| VSRP1206SD | 3216 | 1206 | 1/2W | 0.010~1.000 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.010~0.015 Ω : ± 200 |
| | | | | | $\pm 5\%$ (J) | 0.016~1.000 Ω : ± 100 |
| | | | | | | |
| VSML1206SD | 3216 | 1206 | 1/2W | 0.001~0.200 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.001~0.010 Ω : ± 75 |
| | | | | | $\pm 5\%$ (J) | 0.011~0.200 Ω : ± 50 |
| | | | | | | |
| VSML1206S1 | 3216 | 1206 | 1W | 0.001~0.010 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.001~0.010: ± 75 |
| | | | | | $\pm 5\%$ (J) | |
| | | | | | | |
| VSRP0612W1 | 1632 | 0216 | 1W | 0.010~1.000 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.010~0.030 Ω : ± 100 |
| | | | | | $\pm 5\%$ (J) | 0.031~0.050 Ω : ± 150 |
| | | | | | | 0.051~1.000 Ω : ± 100 |
| VSRP0612W2 | 1632 | 0612 | 2W | 0.010~0.150 | $\pm 1\%$ (F) $\pm 2\%$ (G) | 0.010~0.0150 Ω : ± 200 |
| | | | | | $\pm 5\%$ (J) | 0.091~0.150 Ω : ± 100 |
| | | | | | | |

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2512

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-------------|----------------|---------------|---------------------|-------------------------|-------------------------|----------------------|
| | Metric (mm) | Inch (mil) | | | | |
| VSML2512S1 | 6432 | 2512 | 1W | 0.0003~0.200 | ±1%(F) ±2%(G) ±5%(J) | 0.0003~0.0004Ω: ±125 |
| | | | | | | 0.0005~0.0009Ω: ±100 |
| | | | | | | 0.001~0.0049Ω: ±75 |
| | | | | | | 0.005~0.200Ω: ±50 |
| VSRP2512S1 | 6432 | 2512 | 1W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.019Ω: ±400 |
| | | | | | | 0.020~0.030Ω: ±250 |
| | | | | | | 0.031~0.050Ω: ±200 |
| | | | | | | 0.051~1.000Ω: ±100 |
| VSML2512S2 | 6432 | 2512 | 2W | 0.0003~0.020 | ±1%(F) ±2%(G) ±5%(J) | 0.0003~0.0004Ω: ±125 |
| | | | | | | 0.0005~0.0009Ω: ±100 |
| | | | | | | 0.001~0.0049Ω: ±75 |
| | | | | | | 0.005~0.020Ω: ±50 |
| VSRP2512S2 | 6432 | 2512 | 2W | 0.010~1.000 | ±1%(F) ±2%(G) ±5%(J) | 0.010~0.019Ω: ±400 |
| | | | | | | 0.020~0.030Ω: ±250 |
| | | | | | | 0.031~0.050Ω: ±200 |
| | | | | | | 0.051~1.000Ω: ±100 |
| VSML2512S3 | 6432 | 2512 | 3W | 0.0003~0.010 | ±1%(F) ±2%(G) ±5%(J) | 0.0003~0.0004Ω: ±125 |
| | | | | | | 0.0005~0.0009Ω: ±100 |
| | | | | | | 0.001~0.0049Ω: ±75 |
| | | | | | | 0.005~0.010Ω: ±50 |
| VSML2512S5 | 6432 | 2512 | 5W | 0.0005~0.001 | ±1%(F) ±2%(G) ±5%(J) | 0.0003~0.0004Ω: ±150 |
| | | | | | | 0.0005~0.0009Ω: ±100 |
| | | | | | | 0.001Ω: ±75 |

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3923

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|-------------|----------------|---------------|---------------------|----------------------------------|--|--|
| | Metric (mm) | Inch (mil) | | | | |
| VSML3923S5 | 10075 | 3923 | 5W | 0.0002~0.004 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0002~0.0003 Ω : ± 100 0.0005~0.0007 Ω : ± 75 0.001~0.004 Ω : ± 50 |
| VSML3923S7 | 10075 | 3923 | 7W | 0.0002~0.002 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0002~0.0003 Ω : ± 100 0.0005~0.0007 Ω : ± 75 0.001~0.002 Ω : ± 50 |
| VSML3923S9 | 10075 | 3923 | 9W | 0.0002~0.001 | $\pm 1\%$ (F) $\pm 2\%$ (G) $\pm 5\%$ (J) | 0.0002~0.0003 Ω : ± 100 0.0005~0.0007 Ω : ± 75 0.001 Ω : ± 50 |

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SHUNT SENSOR (Automotive-Grade)

[6918](#) [8420](#) [8436](#)

6918

| Part Number | Dimension (mm) | | Power Rating (W) | Resistance Value (mΩ) | Resistance Tolerance | TCR (ppm/°C) |
|-------------------|----------------|------|---------------------|--------------------------|-------------------------|-----------------|
| | L | W | | | | |
| VSME6918SY | 69.25 | 18.0 | 36W | 0.1 | ± 5%(J) | 0.1mΩ: ±100 |
| VSPE6918SY | 69.25 | 18.0 | 36W | 0.1 | ± 5%(J) | 0.1mΩ: ±100 |

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8420

| Part Number | Dimension (mm) | | Power Rating (W) | Resistance Value (mΩ) | Resistance Tolerance | TCR (ppm/°C) |
|-------------------|----------------|------|---------------------|--------------------------|-------------------------|-----------------|
| | L | W | | | | |
| VSME8420SY | 84.0 | 20.0 | 36W | 0.1 | ± 5%(J) | 0.1mΩ: ±100 |
| VSPE8420SY | 84.0 | 20.0 | 36W | 0.1 | ± 5%(J) | 0.1mΩ: ±100 |

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8436

| Part Number | Dimension (mm) | | Power Rating (W) | Resistance Value (mΩ) | Resistance Tolerance | TCR (ppm/°C) |
|-------------------|----------------|------|---------------------|--------------------------|-------------------------|-----------------|
| | L | W | | | | |
| VSME8436SY | 84.0 | 36.0 | 36W | 0.025 | ± 5%(J) | 0.025mΩ: ±100 |
| VSPE8436SY | 84.0 | 36.0 | 36W | 0.025 | ± 5%(J) | 0.025mΩ: ±100 |

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RESISTOR

[03015](#) [01005](#) [0201](#) [0402](#)

03015

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|----------------|----------------|------------|---------------------|-------------------------|---------------------------|-----------------------------------|
| | Metric (mm) | Inch (mil) | | | | |
| RR0203S | 03015 | - | 1/50W | 10~1M | ± 1%(F) ±2%(G) ± 5%(J) | 10Ω~91Ω:-200~600 100Ω~1MΩ:±200 |

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01005

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-----------------|----------------|------------|---------------------|-------------------------|---------------------------|--|
| | Metric (mm) | Inch (mil) | | | | |
| PFR02S | 0402 | 01005 | 1/32W | 1~10M | ±1%(F) ±2%(G) ±5%(J) | 1.0~9.76Ω: +600~-200 10~91Ω: ±300 100~10MΩ: ±200 |
| RR0204S | 0402 | 01005 | 1/32W | 1~10M | ± 1%(F) ±2%(G) ± 5%(J) | 1.0Ω~9.1Ω:-200~600 10Ω~91Ω:±300 100Ω~10MΩ:±200 |
| RR0204SE | 0402 | 01005 | 1/32W | 10~1M | ± 1%(F) ±2%(G) ± 5%(J) | 10~91Ω: ±300 100~1MΩ: ±200 |

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0201

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/°C) |
|-----------------|----------------|------------|---------------------|-------------------------|------------------------------------|--|
| | Metric (mm) | Inch (mil) | | | | |
| PFR03S | 0603 | 0201 | 1/20W | 1~10M | ±0.5%(D) ±1%(F) ±2%(G) ±5%(J) | 1.0Ω~9.76Ω:+600~-200 10.0Ω~91Ω:±300 100Ω~10MΩ:±200 |
| RR0306S | 0603 | 0201 | 1/20W | 1~10M | ±0.5%(D) ± 1%(F) ±2%(G) ± 5%(J) | 1.0Ω~9.1Ω:-200~600 10Ω~91Ω:±300 100Ω~10MΩ:±200 |
| RR0306SE | 0603 | 0201 | 1/20W | 10~1M | ±1%(F) ±2%(G) ±5%(J) | 10.0Ω~91.0Ω:±300 100.0Ω~1MΩ:±200 |

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0402

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|-----------------|----------------|------------|---------------------|----------------------------------|--|--|
| | Metric (mm) | Inch (mil) | | | | |
| PFR05 | 1005 | 0402 | 1/16W | 1~10M | $\pm 0.5\%$ (D) $\pm 1\%$ (F) $\pm 5\%$ (J) | 1.0 Ω ~9.76 Ω :0~500 10.0 Ω ~97.6 Ω : ± 100 100 Ω ~1M Ω : ± 50 10 Ω ~10M Ω : ± 200 1.02M Ω ~10M Ω : ± 100 1K Ω ~1.8M Ω : ± 25 |
| RR0510 | 1005 | 0402 | 1/16W | 1~10M | $\pm 0.5\%$ (D) $\pm 1.0\%$ (F) $\pm 5.00\%$ (J) | 1.0 Ω ~9.76 Ω :0~500 10.0 Ω ~97.6 Ω : ± 100 100 Ω ~1M Ω : ± 50 10 Ω ~10M Ω : ± 200 1K Ω ~1.8M Ω : ± 25 |
| RR0510SE | 1005 | 0402 | 1/16W | 10~1M | $\pm 1\%$ (F) $\pm 5\%$ (J) | 10.0 Ω ~1M Ω : ± 200 |

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RESISTOR NETWORK

| Part Number | Dimension | | Power Rating (W) | Resistance Value (Ω) | Resistance Tolerance | TCR (ppm/ $^{\circ}$ C) |
|---------------|----------------|------------|---------------------|------------------------------------|--------------------------------------|----------------------------|
| | Metric (mm) | Inch (mil) | | | | |
| RS062R | 0.6*0.8 | 0201*2 | 0.031 | 10~1M Ω | $\pm 1.00\%$ (F) $\pm 5.00\%$ (J) | ± 200 |
| RS064R | 0.6*1.4 | 0201*4 | 0.031 | 10~100K Ω 10~1M Ω | $\pm 1.00\%$ (F) $\pm 5.00\%$ (J) | ± 200 |

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FUSE-RESISTANCE PROTECTOR

[4030](#) [5432](#) [9550](#)

4030

| Part Number | Dimension | | | Rated Current | Operating Voltage | Heater Resistance | Operating Electric Power |
|------------------|-----------|------|------|---------------|-------------------|-------------------|--------------------------|
| | L | W | T | | | | |
| | (mm) | (mm) | (mm) | | | | |
| FC-4030-12A-C1-C | 4.0 | 3.0 | 0.85 | 12A | 3.00~5.00V | 1.00~1.50Ω | 6.0~39W |
| FD-4030-12A-C1-C | 4.0 | 3.0 | 0.85 | 12A | 3.00~4.50V | 0.63~1.35Ω | 6.0~39W |
| FD-4030-12A-C2-C | 4.0 | 3.0 | 0.85 | 12A | 4.00~9.00V | 2.00~2.65Ω | 6.0~40W |
| FD-4030-12A-C3-C | 4.0 | 3.0 | 0.85 | 12A | 7.40~14.0V | 5.00~9.00Ω | 6.0~39W |
| FD-4030-12A-C4-C | 4.0 | 3.0 | 0.85 | 12A | 10.5~19.6V | 9.80~18.0Ω | 6.0~39W |
| FR-4030-12A-C1-C | 4.0 | 3.0 | 1.05 | 12A | 3.00~4.50V | 0.63~1.35Ω | 6.0~39W |
| FR-4030-12A-C2-C | 4.0 | 3.0 | 1.05 | 12A | 4.00~9.00V | 2.00~3.20Ω | 6.0~48W |
| FR-4030-12A-C3-C | 4.0 | 3.0 | 1.05 | 12A | 7.00~14.0V | 5.00~9.00Ω | 6.0~39W |
| FR-4030-12A-C4-C | 4.0 | 3.0 | 1.05 | 12A | 10.5~19.6V | 9.80~18.0Ω | 6.0~39W |

5432

| Part Number | Dimension | | | Rated Current | Operating Voltage | Heater Resistance | Operating Electric Power |
|------------------|-----------|------|------|---------------|-------------------|-------------------|--------------------------|
| | L | W | T | | | | |
| | (mm) | (mm) | (mm) | | | | |
| FR-5432-5A-C2-B | 5.4 | 3.2 | 1.35 | 5A | 4.0~9.0V | 3.22±0.32Ω | 4.5~28.0W |
| FC-5432-10A-C1-C | 5.4 | 3.2 | 1.05 | 10A | 4.0~7.0V | 1.25~2.65Ω | 6.0~39.0W |
| FC-5432-10A-C2-C | 5.4 | 3.2 | 1.05 | 10A | 4.0~9.0V | 1.7~2.65Ω | 6.0~48.0W |
| FC-5432-10A-C3-C | 5.4 | 3.2 | 1.05 | 10A | 7.0~14.0V | 5.0~8.0Ω | 6.0~39.0W |
| FC-5432-10A-C4-C | 5.4 | 3.2 | 1.05 | 10A | 10.5~19.5V | 9.8~16.5Ω | 6.0~39.0W |
| FC-5432-10A-H2-C | 5.4 | 3.2 | 1.05 | 10A | 5.0~10.0V | 2.5~4.2Ω | 6.5~40.0W |
| FC-5432-12A-C1-C | 5.4 | 3.2 | 1.05 | 12A | 4.0~7.0V | 1.25~2.65Ω | 6.0~39.0W |
| FC-5432-12A-C2-C | 5.4 | 3.2 | 1.05 | 12A | 4.0~9.0V | 1.7~2.65Ω | 6.0~48.0W |
| FC-5432-12A-C3-C | 5.4 | 3.2 | 1.05 | 12A | 7.0~14.0V | 5.0~8.0Ω | 6.0~39.0W |
| FC-5432-12A-C4-C | 5.4 | 3.2 | 1.05 | 12A | 10.5~19.5V | 9.8~16.5Ω | 6.0~39.0W |
| FC-5432-12A-H3-C | 5.4 | 3.2 | 1.05 | 12A | 8.0~15.0V | 7.0~11.0Ω | 6.5~40.0W |
| FC-5432-12A-L1-C | 5.4 | 3.2 | 1.05 | 12A | 3.0~5.0V | 0.63~1.35Ω | 6.5~40W |
| FC-5432-15A-C1-C | 5.4 | 3.2 | 1.05 | 15A | 4.0~7.0V | 1.0~2.5Ω | 6.5~35.0W |
| FC-5432-15A-C3-C | 5.4 | 3.2 | 1.05 | 15A | 7.0~14.0V | 5.0~9.0Ω | 6.5~35.0W |
| FC-5432-15A-C4-C | 5.4 | 3.2 | 1.05 | 15A | 10.5~19.5V | 10.0~18.0Ω | 6.5~35.0W |

| | | | | | | | |
|------------------|-----|-----|------|-----|------------|------------|-----------|
| FC-5432-15A-C5-C | 5.4 | 3.2 | 1.05 | 15A | 14.4~23.5V | 15.8~31.8Ω | 6.5~35.0W |
|------------------|-----|-----|------|-----|------------|------------|-----------|

9550

| Part Number | Dimension | | | Rated Current | Operating Voltage | Heater Resistance | Operating Electric Power |
|-------------------|-----------|--------|--------|---------------|-------------------|-------------------|--------------------------|
| | L (mm) | W (mm) | T (mm) | | | | |
| FR-9550-30A-C01-B | 9.5 | 5.0 | 2.0 | 30A | 4.0~6.6V | 0.8~1.2Ω | 13~53W |
| FR-9550-30A-C03-B | 9.5 | 5.0 | 2.0 | 30A | 8.4~13.2V | 3.2~5.2Ω | 13~53W |
| FR-9550-30A-C04-B | 9.5 | 5.0 | 2.0 | 30A | 11.1~18.4V | 6.3~9.3Ω | 13~53W |
| FR-9550-30A-C05-B | 9.5 | 5.0 | 2.0 | 30A | 14.0~23.4V | 10.0~15.0Ω | 13~53W |
| FR-9550-30A-C07-B | 9.5 | 5.0 | 2.0 | 30A | 20.2~31.5V | 18.8~31.2Ω | 13~53W |
| FR-9550-30A-C10-B | 9.5 | 5.0 | 2.0 | 30A | 28.0~46.9V | 40.0~60.0Ω | 13~53W |
| FR-9550-30A-C14-B | 9.5 | 5.0 | 2.0 | 30A | 39.6~62.0V | 72.4~120.6Ω | 13~53W |

PT SENSORS

| Part Number | Dimension | | Nominal Resistance at 0°C | TCR (ppm/°C) | Operating Temperature Range |
|-------------|-------------|-------------|---------------------------|--------------|-----------------------------|
| | sensor body | wire length | | | |
| SE10255018 | 3.2*1.6 | None | 1000Ω±0.48% | 3750 | -55°C~125°C |
| SA10160552 | 1.7*2.8 | 10.0 | 100Ω±0.06% | 3850 | -50°C~500°C |
| SA10100627 | 1.7*2.8 | 10.0 | 100Ω±0.12% | 3850 | -50°C~500°C |
| SA50160536 | 2.0*3.0 | 8.0 | 500Ω±0.06% | 3850 | -50°C~500°C |
| SA50100594 | 2.0*3.0 | 8.0 | 500Ω±0.12% | 3850 | -50°C~500°C |
| SA10260557 | 2.0*3.0 | 10.0 | 1000Ω±0.06% | 3850 | -50°C~500°C |
| SA10200542 | 2.0*3.0 | 10.0 | 1000Ω±0.12% | 3850 | -50°C~500°C |
| SI10210508 | 2.0*5.0 | 8.0 | 1000Ω±0.24% | 3850 | -50°C~750°C |
| SA10101553 | ψ3.0*6.0 | 8.0 | 100Ω±0.12% | 3850 | -50°C~500°C |
| SA50101528 | ψ3.0*6.0 | 8.0 | 500Ω±0.12% | 3850 | -50°C~500°C |
| SA10201521 | ψ3.0*6.0 | 8.0 | 1000Ω±0.12% | 3850 | -50°C~500°C |
| SB10232500N | 4.7*4.7 | 14.0 | 1000Ω±0.06% | 3750 | -20°C~105°C |
| SB10242506N | 4.7*4.7 | 14.0 | 1000Ω±0.12% | 3750 | -20°C~105°C |
| CYN-8Y-001 | ψ6.0*106.0 | 550.0 | 500Ω±0.24% | 3850 | -40°C~538°C |
| CYN-8Y-002 | ψ5.0*78.0 | 152.0 | 1000Ω±0.4% | 3750 | -40°C~538°C |
| CYN-8Y-003 | ψ5.0*180.0 | 152.0 | 1000Ω±0.4% | 3750 | -40°C~538°C |
| CYN-8Y-004 | ψ5.0*78.0 | 450.0 | 1000Ω±0.4% | 3750 | -40°C~350°C |
| CYN-8Y-005 | ψ5.0*124.0 | 725.0 | 1000Ω±0.4% | 3850 | -40°C~750°C |

CONTACT US

Beside the standard products, we also make customize products according to your different request and specifications. If you have any question or request, please contact us. We will reply to you as soon as possible.

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