

- Features:
- 0402 to 2512 & 1225 sizes available
 - Power ratings to 3W
 - Low inductance – less than 0.2nH typically
 - RoHS compliant
 - Non-standard resistance values available
 - 2010 and 2512 sizes available with narrow terminations (CSRN)



| Electrical Specifications | | | | | | |
|---------------------------|--------------|-----------------------------|---------------------------------|------------------------------------|-------------------------------|----------------------------|
| Type / Code | Package Type | Power Rating (Watts) @ 70°C | Dielectric Withstanding Voltage | Resistance Temperature Coefficient | Ohmic Range (Ω) and Tolerance | |
| | | | | | 1% | 2%, 5% |
| CSR 1/8S | 0402 | 0.125W | 200V | ±200 ppm/°C | 0.051 - 1 | 0.051 - 1 |
| CSR 1/8 | 0603 | 0.125W | 200V | ±300 ppm/°C | 0.021 - 1 | 0.021 - 1 |
| CSR 1/4 | 0805 | 0.250W | 200V | ±200 ppm/°C | 0.01 - 1 | 0.021 - 1 |
| CSR 1/2 | 1206 | 0.500W | 200V | ±100 ppm/°C (1) | 0.01 - 1 | 0.01 - 1 |
| CSRN 1S | 0815 | 1.000W | 200V | ±300 ppm/°C ±150 ppm/°C | 0.01 - 0.019 0.02 - 0.5 | 0.01 - 0.019 0.02 - 0.5 |
| CSRN 1 | 2010 | 1.000W | 200V | ±250 ppm/°C | 0.01 - 1 | 0.01 - 1 |
| CSRN 2 | 2512 | 2.000W | 200V | ±200 ppm/°C | 0.01 - 1 | 0.01 - 1 |
| CSR 3 | 1225 | 3.000W | 200V | ±200 ppm/°C ±100 ppm/°C | 0.003 - 0.02 0.021 - 10 | 0.003 - 0.02 0.021 - 10 |

(1) Contact Factory for TCR below 50mOhm

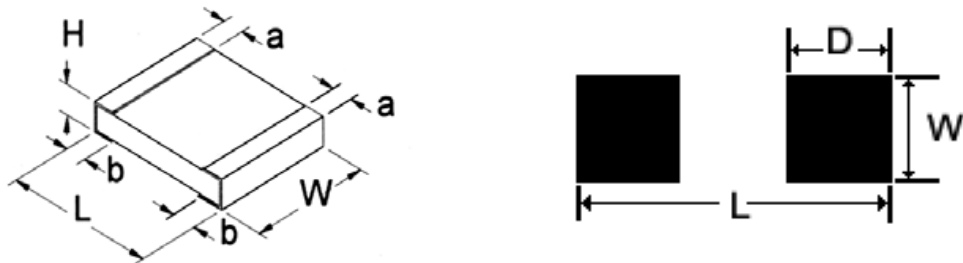
| Performance Characteristics | | |
|------------------------------|----------------------|--------------|
| Test | Test Specification | Typical |
| Moisture Resistance | ± 0.5% | ≤ 0.5% |
| Load Life | ± 0.5% | ≤ 0.5% |
| Leach Resistance | 90 seconds minimum | > 90 seconds |
| Resistance to Soldering Heat | ± 0.5% | ≤ 0.25% |
| Solderability | minimum 95% coverage | ≥ 95% |
| Temperature Cycling | ± 0.5% | ≤ 0.5% |
| Thermal Shock | ± 0.5% | ≤ 0.5% |
| Short Time Overload | ± 0.5% | ≤ 0.5% |
| Insulation Resistance | 1MΩ minimum | ≥ 1MΩ |

Operating Temperature Range: -55°C to +155°C

How to Order

| SEI Type | | Code | | | Nominal Resistance | Tolerance | Packaging | | | |
|----------|---------------------|------|---------|------|--------------------|---------------|-----------|-------------|------|--|
| CSR | | 1/2 | | | 0.01 | 1% | R | | | |
| Type | Description | Code | Wattage | Size | Tolerance | SEI Types | Pkg Qty | Description | Code | |
| CSR | Standard | 1/8S | 0.125W | 0402 | 1% | 1/8, 1/4, 1/2 | 10,000 | 7" reel | R | |
| CSRN | Narrow Terminations | 1/8 | 0.125W | 0603 | | | | | | |
| | | 1/4 | 0.250W | 0805 | | | | | | |
| | | 1/2 | 0.500W | 1206 | 2% | 1, 2 | 4,000 | | | |
| | | 1S | 1.000W | 0815 | | | | | | |
| | | 1 | 1.000W | 2010 | | | | | | |
| | | 2 | 2.000W | 2512 | 5% | 1S, 3 | 2,000 | | | |
| | | 3 | 3.000W | 1225 | | | | | | |

| Mechanical Specifications | | | | | | |
|-------------------------------|------------------|-----------------|------------------|----------------------|-------------------------|--------|
| Type / Code | L Body Length | W Body Width | H Body Height | a Top Termination | b Bottom Termination | Units |
| CSR 1/8 S | 0.039 ± 0.002 | 0.020 ± 0.002 | 0.013 ± 0.004 | 0.010 ± 0.004 | 0.008 ± 0.004 | inches |
| | 1.000 ± 0.050 | 0.500 ± 0.050 | 0.320 ± 0.100 | 0.250 ± 0.100 | 0.200 ± 0.100 | mm |
| CSR 1/8 | 0.063 ± 0.004 | 0.032 ± 0.004 | 0.018 ± 0.004 | 0.012 ± 0.008 | 0.012 ± 0.008 | inches |
| | 1.600 ± 0.100 | 0.800 ± 0.100 | 0.450 ± 0.100 | 0.300 ± 0.200 | 0.300 ± 0.200 | mm |
| CSR 1/4 | 0.079 ± 0.006 | 0.049 ± 0.006 | 0.022 ± 0.004 | 0.012 ± 0.008 | 0.016 ± 0.010 | inches |
| | 2.000 ± 0.150 | 1.250 ± 0.150 | 0.550 ± 0.100 | 0.300 ± 0.200 | 0.400 ± 0.250 | mm |
| CSR 1/2 | 0.120 ± 0.006 | 0.061 ± 0.006 | 0.022 ± 0.004 | 0.020 ± 0.012 | 0.016 ± 0.010 | inches |
| | 3.050 ± 0.150 | 1.550 ± 0.150 | 0.550 ± 0.100 | 0.500 ± 0.300 | 0.400 ± 0.250 | mm |
| CSRN 1S | 0.079 ± 0.008 | 0.148 ± 0.008 | 0.024 ± 0.004 | 0.016 ± 0.008 | 0.016 ± 0.008 | inches |
| | 2.000 ± 0.200 | 3.750 ± 0.200 | 0.600 ± 0.100 | 0.400 ± 0.200 | 0.400 ± 0.200 | mm |
| CSRN 1 | 0.197 ± 0.008 | 0.097 ± 0.006 | 0.024 ± 0.006 | 0.024 ± 0.012 | 0.020 ± 0.010 | inches |
| | 5.000 ± 0.200 | 2.450 ± 0.150 | 0.600 ± 0.150 | 0.600 ± 0.300 | 0.508 ± 0.250 | mm |
| CSRN 2 (10-99 milliohm) | 0.250 ± 0.008 | 0.124 ± 0.006 | 0.029 ± 0.004 | 0.024 ± 0.012 | 0.022 ± 0.010 | inches |
| | 6.350 ± 0.200 | 3.150 ± 0.150 | 0.740 ± 0.100 | 0.600 ± 0.300 | 0.550 ± 0.250 | mm |
| CSRN 2 (100-1000 milliohm) | 0.250 ± 0.008 | 0.124 ± 0.006 | 0.029 ± 0.004 | 0.024 ± 0.012 | 0.083 ± 0.004 | inches |
| | 6.350 ± 0.200 | 3.150 ± 0.150 | 0.740 ± 0.100 | 0.600 ± 0.300 | 2.100 ± 0.100 | mm |
| CSR 3 | 0.122 ± 0.006 | 0.248 ± 0.006 | 0.035 ± 0.006 | 0.024 ± 0.012 | 0.022 ± 0.010 | inches |
| | 3.100 ± 0.150 | 6.300 ± 0.150 | 0.900 ± 0.150 | 0.600 ± 0.300 | 0.550 ± 0.250 | mm |



| Solder Pad Dimensions | | | | | | |
|-----------------------|-------------------|------------------|----------------|--------|-------------|-------------------|
| Type / Code | L Total Length | W Total Width | D Pad Depth | Units | CSR3 (1225) | 4 Terminal Bottom |
| CSR 1/8 S | 0.05 | 0.03 | 0.02 | inches | | |
| | 1.30 | 0.80 | 0.40 | mm | | |
| CSR 1/8 | 0.08 | 0.04 | 0.03 | inches | | |
| | 2.10 | 1.10 | 0.70 | mm | | |
| CSR 1/4 | 0.11 | 0.06 | 0.04 | inches | | |
| | 2.70 | 1.40 | 1.00 | mm | | |
| CSR 1/2 | 0.16 | 0.07 | 0.06 | inches | | |
| | 4.00 | 1.80 | 1.40 | mm | | |
| CSRN 1S | 0.15 | 0.18 | 0.06 | inches | | |
| | 3.80 | 4.50 | 1.50 | mm | | |
| CSRN 1 | 0.25 | 0.14 | 0.06 | inches | | |
| | 6.40 | 3.60 | 1.40 | mm | | |
| CSRN 2 | 0.31 | 0.15 | 0.10 | inches | | |
| | 8.00 | 3.75 | 2.50 | mm | | |
| CSR 3 | 0.20 | 0.30 | 0.08 | inches | | |
| | 5.08 | 7.60 | 2.00 | mm | | |

Power Derating Curve Chart:

