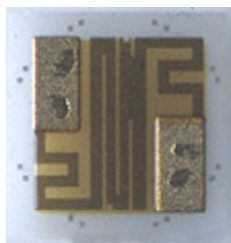


## Thin Film 0202 Size Resistor on Alumina



Product may not be to scale

The CC8 series resistor chips offer a combination of low shunt capacitance, small size and excellent stability. The CC8s are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC8s are 100 % electrically tested and visually inspected to MIL-STD-883 method 2032 class H or class K.

### FEATURES

- Chip size: 0.020 inches square
- Wire bondable
- Resistance range: 20  $\Omega$  to 20 k $\Omega$
- Alumina substrate
- Case: 0202
- Low stray capacitance: < 0.2 pF
- Resistor material: nichrome with passivation coat
- Tolerances to 0.5 %
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

Vishay EFI CC8 chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

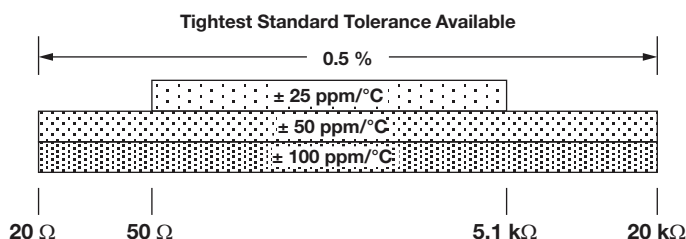
Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

Recommended for hermetic environment where die is not exposed to moisture.

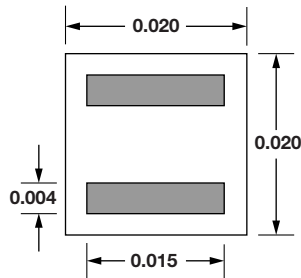
### TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES

| PARAMETER              | VALUE                     | UNIT              |
|------------------------|---------------------------|-------------------|
| Total Resistance Range | 20 to 20K                 | $\Omega$          |
| Standard Tolerances    | $\pm 0.5$                 | %                 |
| TCR                    | $\pm 25, \pm 50, \pm 100$ | ppm/ $^{\circ}$ C |

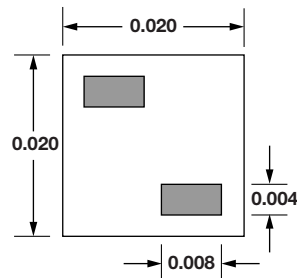


### STANDARD ELECTRICAL SPECIFICATIONS

| PARAMETER                                                                  | VALUE                        | UNIT         |
|----------------------------------------------------------------------------|------------------------------|--------------|
| Noise, MIL-STD-202, Method 308                                             | -20 dB typ.                  | dB           |
| Moisture Resistance, MIL-STD-202 Method 106 (Passivated Film)              | $\pm 0.5$ max. $\Delta R/R$  | %            |
| Stability, 1000 h, +125 $^{\circ}$ C, 25 mW                                | $\pm 0.2$ max. $\Delta R/R$  | %            |
| Operating Temperature Range                                                | -55 to +125                  | $^{\circ}$ C |
| Thermal Shock, MIL-STD-202, Method 107, Test Condition F                   | $\pm 0.25$ max. $\Delta R/R$ | %            |
| High Temperature Exposure, +150 $^{\circ}$ C, 1000 h                       | $\pm 0.5$ max. $\Delta R/R$  | %            |
| Dielectric Voltage Breakdown                                               | 400                          | V            |
| Insulation Resistance                                                      | $10^{12}$ min.               | $\Omega$     |
| Operating Voltage                                                          | 100 max.                     | V            |
| DC Power Rating at +70 $^{\circ}$ C (Derated to zero at +150 $^{\circ}$ C) | 0.035 max.                   | W            |
| 5x Rated Power Short-Time Overload, +25 $^{\circ}$ C, 5 s                  | $\pm 0.25$ max. $\Delta R/R$ | %            |

**DIMENSIONS** in inches


**TYPICAL RANGE**  
20  $\Omega$  to 100  $\Omega$



**TYPICAL RANGE**  
110  $\Omega$  to 20 k $\Omega$

**SCHEMATIC**

**MECHANICAL SPECIFICATIONS**

| PARAMETER                  | VALUE                                                        |
|----------------------------|--------------------------------------------------------------|
| Chip Size                  | 0.020" x 0.020" $\pm$ 0.003" (0.5 mm x 0.5 mm $\pm$ 0.08 mm) |
| Chip Thickness             | 0.010" $\pm$ 0.002" (0.25 mm $\pm$ 0.05 mm)                  |
| Chip Substrate Material    | 99.6 % alumina, 2 $\mu$ " to 4 $\mu$ " finish                |
| Resistor Material          | Nichrome                                                     |
| Bonding Pad Size           | 0.004" x 0.008" (0.10 mm x 0.20 mm) minimum                  |
| Number of Pads             | 2                                                            |
| Pad Material               | 25 k $\Omega$ minimum gold standard                          |
| Passivation <sup>(1)</sup> | PECVD nitride                                                |
| Backing                    | None                                                         |

**Note**

<sup>(1)</sup> PECVD nitride will be included on part unless otherwise specified

**GLOBAL PART NUMBER INFORMATION**

**GLOBAL PART NUMBER: CC8-12500KKSGNHWS**

**GLOBAL PART NUMBER DESCRIPTION: CC8 1.25K 10 % 100 ppm Std Gold None H WS**

| C     | C                                                    | 8                                      | -                                                            | 1                                             | 2                             | 5                | 0                  | 0                          | K                                  | K | S | G | N | H | W | S |
|-------|------------------------------------------------------|----------------------------------------|--------------------------------------------------------------|-----------------------------------------------|-------------------------------|------------------|--------------------|----------------------------|------------------------------------|---|---|---|---|---|---|---|
| MODEL | RESISTANCE                                           | RESISTANCE MULTIPLIER CODE             | TOLERANCE CODE                                               | TCR (ppm/ $^{\circ}$ C)                       | TRIM STYLE                    | TERMINATION      | BACK METAL         | VISUAL CLASS               | PACK CODE                          |   |   |   |   |   |   |   |
| CC8-  | First 4 digits are significant figures of resistance | B = 0.01<br>A = 0.1<br>0 = 1<br>1 = 10 | D = 0.5 %<br>F = 1.0 %<br>G = 2.0 %<br>J = 5.0 %<br>K = 10 % | E = $\pm$ 25<br>C = $\pm$ 50<br>K = $\pm$ 100 | E = edg<br>S = std<br>U = usr | G = Au<br>A = Al | G = Au<br>N = none | H = class H<br>K = class K | WS = waffle pack 100 min., 1 mult. |   |   |   |   |   |   |   |



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