

LVC Series

Low Value Chip



Ohmite's LVC Series low value chip resistors are ideal for today's current sense applications requiring low profile, low cost solutions. Available in 0.5, 0.75, and 1 watt sizes, footprints are 1206, 2010, and 2512 size respectively. These resistors are offered in ohmic ranges from 0.10 to 4.7 ohms in standard 1% and 2% in E12 values depending on value.

The LVC Series resistors are well suited for a variety of industrial and commercial applications.

APPLICATIONS

- Switching Power Supplies
- Cellular
- Telecom and Wireless
- Computer
- RF

FEATURES

- Industry Standard Sizes
- Terminal Barrier Resists Ag Migration
- Working Temperature Range is from -40°C to +125°C
- Designed for Automatic Insertion

SERIES SPECIFICATIONS

| Series | Power Rating | Max. Current | Resistance Range* | TCR ppm/°C | Resistance Tolerance |
|--------|--------------|--------------|-------------------|------------|----------------------|
| LVC06 | 0.5W | 32A | 10m-15m | 500 | 10mΩ ~ 22mΩ 2% |
| | | | 18m-27m | 350 | 27mΩ ~ 4.7Ω 1% |
| | | | 33m-47m | 200 | |
| | | | 50m- 4.7 | 100 | |
| LVC20 | 0.75W | 40A | 10m-15m | 500 | |
| | | | 18m-27m | 350 | |
| | | | 33m-47m | 200 | |
| | | | 50m- 4.7 | 100 | |
| LVC25 | 1.0W | 45A | 10m-15m | 500 | |
| | | | 18m-27m | 350 | |
| | | | 33m-47m | 200 | |
| | | | 50m- 4.7 | 100 | |

* E-12 values and 20, 25, 50

CHARACTERISTICS

| | |
|------------------------------|--|
| Substrate | Alumina 96% |
| Resistor | Thick Film, Ni-Cr Alloy |
| Electrode | Sn, Ni, Cu |
| Coating | Epoxy resin |
| Max. Working Volts | $V = \sqrt{PR}$ (P = Rated Watts, R = Resistance Value) |
| Derating | 100% @ 70°C, Derates Linearly to Zero @ 125°C |
| Operating temp. range | -40°C ~ +125°C |
| Soldering | The recommended soldering condition for both reflow and wave soldering is as follows: Preheating: 150° ~ 180°C 60 ~ 120 sec. Soldering: min. 230°C 30 ~ 40 sec. Max. temp.: max. 260°C max. 10 sec. |

PERFORMANCE DATA

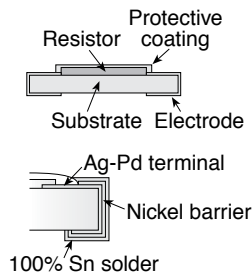
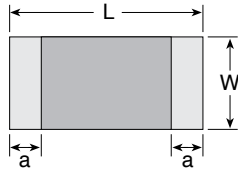
| | | |
|----------------------------------|--|---|
| Moisture resistance | 60°C±2°C, 90%~95% RH, Rated voltage 1.5h ON, 0.5h OFF, 1000h | ±(0.5%+0.0005Ω) |
| Temperature Cycle | -40°C (30min.)/+125°C (30min.), 5 cycles | ±(0.5%+0.0005Ω) |
| Short Time Overload | Rated voltage x 2.5 for 5s | ±(0.5%+0.0005Ω) |
| Endurance | 70°C±3°C, Rated voltage 1.5h ON, 0.5h OFF, 1000h | ±(0.5%+0.0005Ω) |
| Resistance to Solder Heat | 260°C±5°C for 10±1s | ±(0.5%+0.0005Ω) |
| Terminal strength | Bending width: 2mm for 10s±1s, Glass epoxy substrate with thickness of 1.6mm | ±(0.5%+0.0005Ω) |
| Solderability | 245°C±5°C for 3s±0.5s | Min. 90% coverage |
| Max. Overload Current | (A) Time applied: max. 10msec Interval: min. 60sec | LVC06 $I = \sqrt{(32/R)}$ LVC20 $I = \sqrt{(50/R)}$ LVC25 $I = \sqrt{(64/R)}$ |

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DIMENSIONS

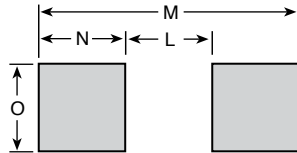
(mm)



| Size | L ±0.2 | W ±0.2 | t ±0.15 | a ±0.15 |
|--------------------------|-----------|-----------|------------|------------|
| LVC06 (EIA size 1206) | 3.2 | 1.6 | 0.5 | 1.0 |
| LVC20 (EIA size 2010) | 5.0 | 2.5 | 0.5 | 1.7 |
| LVC25 (EIA size 2512) | 6.4 | 3.2 | 0.5 | 2.0 |

Land Pattern

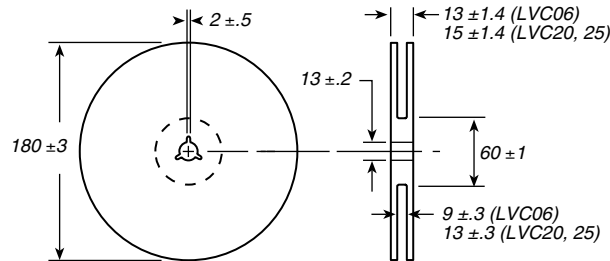
Land pattern dimensions are for reference only



| Size | M | N | O | L |
|-------|-------|-------|-------|-------|
| LVC06 | 0.146 | 0.040 | 0.080 | 0.066 |
| LVC20 | 0.229 | 0.056 | 0.120 | 0.117 |
| LVC25 | 0.288 | 0.068 | 0.150 | 0.152 |

REEL SPECIFICATIONS

5,000 pc/reel



ORDERING INFORMATION

RoHS Compliant

LVC06FR560EV

| Low Value Chip Series | Case Size | Tolerance | Ohms | Taping Code |
|-----------------------|-----------|-----------|--------------|----------------------|
| 06 = 1206 | 06 = 1206 | F = 1% | R249 = 0.249 | blank = bulk package |
| 20 = 2010 | 20 = 2010 | G = 2% | 1R00 = 1.0 | V = reel taped |
| 25 = 2512 | 25 = 2512 | | | |

| Ohm range | Tol. | Available Ohm Values |
|---------------|------|---|
| 0.027 ~ 4.7 | 1% | 0.027, 0.033, 0.039, 0.047, 0.050, 0.056, 0.068, 0.082, 0.10, 0.12, 0.15, 0.18, 0.20, 0.22, 0.25, 0.27, 0.33, 0.39, 0.47, 0.50, 0.56, 0.68, 0.82, 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.5, 2.7, 3.3, 3.9, 4.7 |
| 0.010 ~ 0.022 | 2% | 0.010, 0.012, 0.015, 0.018, 0.020, 0.022 |

Only E12 values plus 20, 25, 50