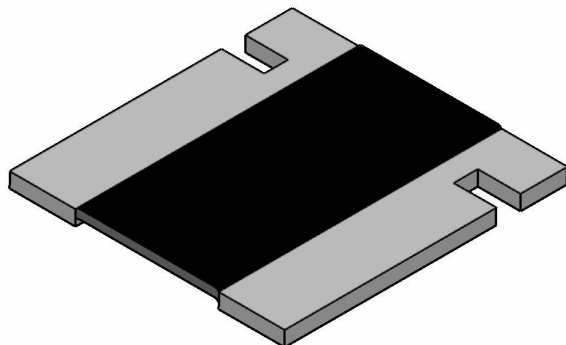


## Power Metal Strip® Resistors, Low Value (down to 0.001 $\Omega$ ), Surface Mount, 4-Terminal



### FEATURES

- 4-Terminal design allows for 0.5 % resistance tolerance down to 0.003  $\Omega$
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments and power amplifiers
- Proprietary processing technique produces extremely low resistance values (down to 0.001  $\Omega$ )
- All welded construction
- Solid metal Nickel-Chrome alloy resistive element with low TCR ( < 20 ppm/°C)
- Solderable terminations
- Low thermal EMF ( < 3  $\mu$ V/°C)
- Very low inductance, 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Lead (Pb)-free version is RoHS compliant



**RoHS\***  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

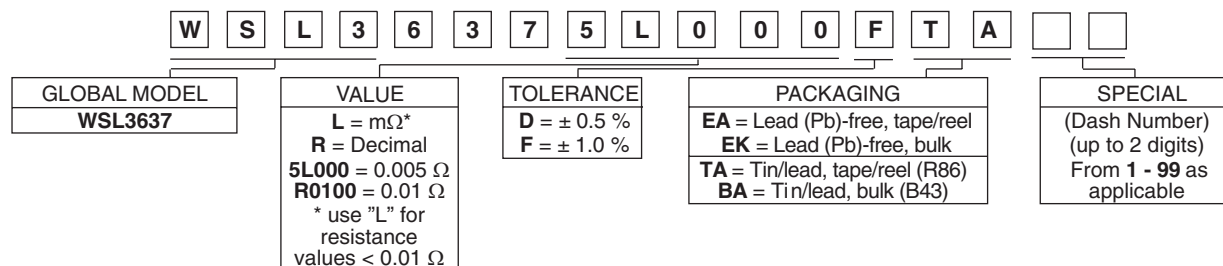
| GLOBAL MODEL | POWER RATING<br>$P_{70^\circ\text{C}}$<br>W | TOLERANCE<br>% | RESISTANCE RANGE<br>$\Omega$ |
|--------------|---------------------------------------------|----------------|------------------------------|
| WSL3637      | 3.0                                         | 0.5 and 1.0    | 0.001 - 0.01                 |

### TECHNICAL SPECIFICATIONS

| PARAMETER                   | UNIT   | WSL3637                                                                                   |
|-----------------------------|--------|-------------------------------------------------------------------------------------------|
| Temperature Coefficient     | ppm/°C | 0.001 $\Omega$ - 0.0029 $\Omega$ = $\pm$ 75<br>0.003 $\Omega$ - 0.010 $\Omega$ = $\pm$ 50 |
| Operating Temperature Range | °C     | - 65 to + 170                                                                             |
| Maximum Working Voltage     | V      | $(P \times R)^{1/2}$                                                                      |
| Weight/1000 pieces          | g      | 274.3                                                                                     |

### GLOBAL PART NUMBER INFORMATION

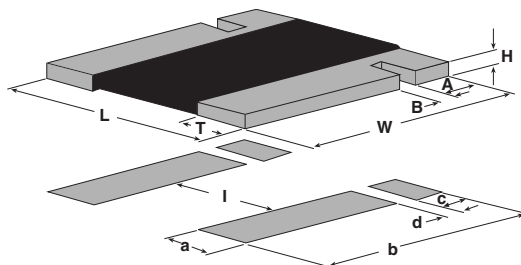
NEW GLOBAL PART NUMBERING: WSL36375L000FTA (PREFERRED PART NUMBERING FORMAT)



HISTORICAL PART NUMBER EXAMPLE: WSL3637 0.005  $\Omega$  1 % R86 (WILL CONTINUE TO BE ACCEPTED)

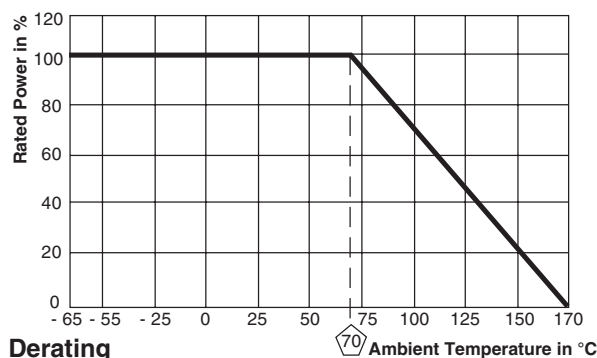


\* Pb containing terminations are not RoHS compliant, exemptions may apply

**DIMENSIONS**


| MODEL   | DIMENSIONS in inches [millimeters] |                                 |                                 |                                  |                                 |                                 |                                  |
|---------|------------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
|         | RESISTANCE RANGE<br>Ω              | W                               | L                               | H                                | T                               | A                               | B                                |
| WSL3637 | 0.002 - 0.01                       | 0.370 ± 0.010<br>[9.40 ± 0.254] | 0.360 ± 0.010<br>[9.14 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] | 0.086 ± 0.010<br>[2.18 ± 0.254] | 0.061 ± 0.010<br>[1.55 ± 0.254] | 0.032 ± 0.010<br>[0.813 ± 0.254] |
|         | 0.001 - 0.0019                     | 0.370 ± 0.010<br>[9.40 ± 0.254] | 0.360 ± 0.010<br>[9.14 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] | 0.138 ± 0.010<br>[3.51 ± 0.254] | 0.061 ± 0.010<br>[1.55 ± 0.254] | 0.032 ± 0.010<br>[0.813 ± 0.254] |

| MODEL   | SOLDER PAD DIMENSIONS in inches [millimeters] |              |              |              |               |              |
|---------|-----------------------------------------------|--------------|--------------|--------------|---------------|--------------|
|         | RESISTANCE RANGE<br>Ω                         | a            | b            | c            | d             | I            |
| WSL3637 | 0.002 - 0.01                                  | 0.116 [2.95] | 0.390 [9.91] | 0.066 [1.68] | 0.024 [0.610] | 0.178 [4.52] |
|         | 0.001 - 0.0019                                | 0.168 [4.27] | 0.390 [9.91] | 0.066 [1.66] | 0.024 [0.610] | 0.074 [1.88] |



| PERFORMANCE               |                                                             |                         |
|---------------------------|-------------------------------------------------------------|-------------------------|
| TEST                      | CONDITIONS OF TEST                                          | TEST LIMITS             |
| Thermal Shock             | - 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme    | ± (0.5 % + 0.0005 Ω) ΔR |
| Short Time Overload       | 5 x Rated Power for 5 s                                     | ± (0.5 % + 0.0005 Ω) ΔR |
| Low Temperature Storage   | - 65 °C for 24 h                                            | ± (0.5 % + 0.0005 Ω) ΔR |
| High Temperature Exposure | 1000 h at + 170 °C                                          | ± (1.0 % + 0.0005 Ω) ΔR |
| Bias Humidity             | + 85 °C, 85 % RH, 10 % Bias, 1000 h                         | ± (0.5 % + 0.0005 Ω) ΔR |
| Mechanical Shock          | 100 g's for 6 ms, 5 pulses                                  | ± (0.5 % + 0.0005 Ω) ΔR |
| Vibration                 | Frequency varied 10 to 2000 Hz in 1 min, 3 directions, 12 h | ± (0.5 % + 0.0005 Ω) ΔR |
| Load Life                 | 1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"     | ± (1.0 % + 0.0005 Ω) ΔR |
| Solder Heat               | + 260 °C Solder, 10 - 12 s dwell, 25 mm/s emergence         | ± (0.5 % + 0.0005 Ω) ΔR |
| Moisture Resistance       | MIL-STD-202, Method 106, 0 % power, 7a and 7b not required  | ± (0.5 % + 0.0005 Ω) ΔR |

| PACKAGING |                        |            |             |      |
|-----------|------------------------|------------|-------------|------|
| MODEL     | REEL                   |            |             |      |
|           | TAPE WIDTH             | DIAMETER   | PIECES/REEL | CODE |
| WSL3637   | 16 mm/Embossed Plastic | 330 mm/13" | 4000        | EA   |

**Note**

- Embossed carrier tape per EIA-481-2



### Disclaimer

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