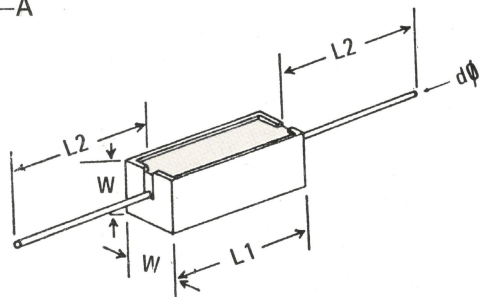


# WIRE WOUND RESISTORS

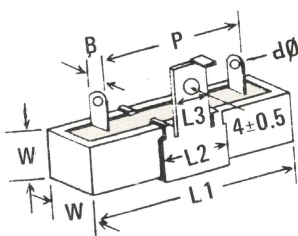
**Firstohm**  
QUALITY • RELIABILITY

LR-A



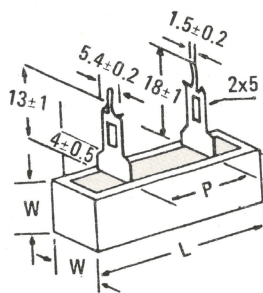
| WATT | DIMENSIONS (mm) |         |         |        | OHM    |
|------|-----------------|---------|---------|--------|--------|
|      | dφ min.         | L1 max. | L2 min. | W max. |        |
| 2    | 0.8             | 18.5    | 30.0    | 7.4    | 0.1~1K |
| 3    | 0.8             | 23.0    | 30.0    | 8.6    | 0.1~2K |
| 5    | 0.8             | 23.0    | 30.0    | 10.4   | 0.1~3K |
| 7    | 0.8             | 36.0    | 30.0    | 10.4   | 1.0~4K |
| 10   | 0.8             | 48.5    | 30.0    | 10.4   | 1.0~5K |
| 15   | 1.0             | 49.2    | 30.0    | 13.5   | 1.0~5K |
| 20   | 1.0             | 61.0    | 30.0    | 14.5   | 1.0~5K |

LR-B



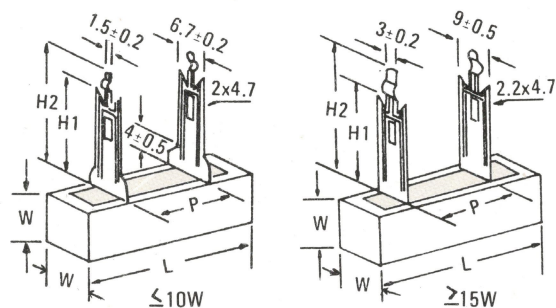
| WATT | DIMENSIONS (mm) |         |         |         |         |        |        | OHM  |
|------|-----------------|---------|---------|---------|---------|--------|--------|------|
|      | B ±0.2          | dφ ±0.2 | L1 max. | L2 ±0.5 | L3 ±1.0 | P ±1.0 | W max. |      |
| 10   | 5.6             | 2.5     | 48.8    | 23.0    | 12.5    | 32.5   | 10.3   | 1~2K |
| 15   | 5.6             | 2.5     | 48.8    | 23.0    | 12.5    | 32.5   | 13.5   | 1~3K |
| 20   | 5.6             | 2.5     | 65.8    | 23.0    | 12.5    | 47.0   | 13.5   | 1~3K |
| 25   | 5.6             | 2.5     | 65.8    | 23.0    | 12.5    | 47.0   | 13.5   | 1~3K |
| 30   | 7.7             | 3.0     | 75.3    | 29.2    | 18.0    | 60.0   | 18.8   | 1~5K |
| 40   | 7.7             | 3.0     | 90.3    | 29.2    | 18.0    | 65.0   | 19.5   | 1~5K |

LR-C1



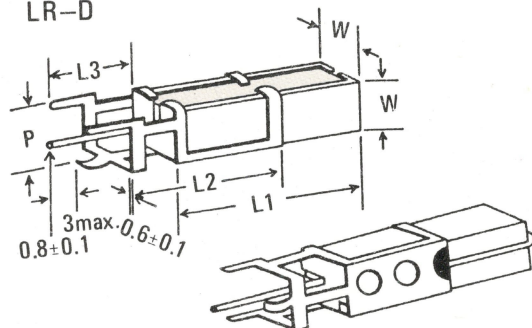
| WATT | DIMENSIONS (mm) |        |        | OHM    |
|------|-----------------|--------|--------|--------|
|      | L max.          | P ±1.0 | W max. |        |
| 5    | 27.8            | 15.0   | 10.3   | 0.1~1K |
| 7    | 35.8            | 22.5   | 10.3   | 1.0~1K |
| 10   | 48.8            | 35.0   | 10.3   | 1.0~1K |

LR-C3



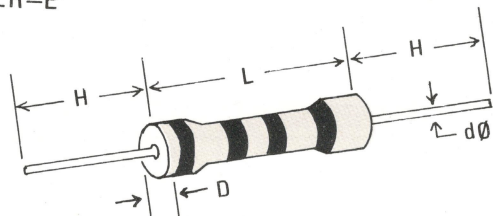
| WATT | DIMENSIONS (mm) |         |        |        |        | OHM    |
|------|-----------------|---------|--------|--------|--------|--------|
|      | H1 ±1.0         | H2 ±1.0 | L max. | P ±1.0 | W max. |        |
| 5    | 25.5            | 30.0    | 27.8   | 15.0   | 10.3   | 0.1~1K |
| 7    | 25.5            | 30.0    | 35.8   | 22.5   | 10.3   | 1.0~1K |
| 10   | 25.5            | 30.0    | 48.8   | 35.0   | 10.3   | 1.0~2K |
| 15   | 25.8            | 30.0    | 48.8   | 32.5   | 13.5   | 1.0~2K |
| 20   | 25.8            | 30.0    | 65.8   | 48.5   | 13.5   | 1.0~2K |

LR-D

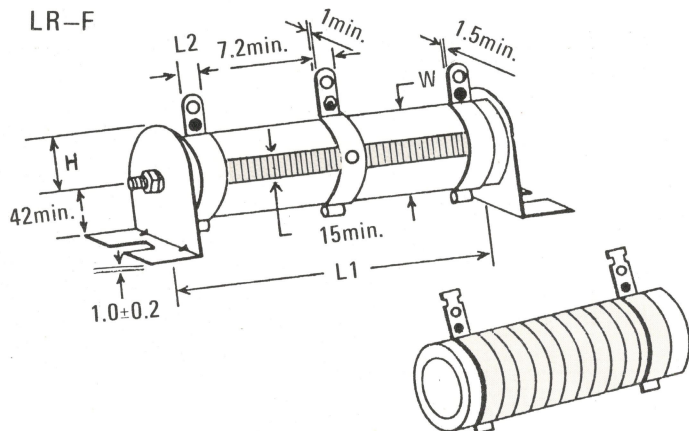


| WATT | DIMENSIONS (mm) |         |         |        |        | OHM    |
|------|-----------------|---------|---------|--------|--------|--------|
|      | L1 max.         | L2 max. | L3 max. | P max. | W max. |        |
| 5    | 22.3            | 29.0    | 9.5     | 10.5   | 10.4   | 0.1~1K |
| 7    | 35.5            | 43.5    | 15.5    | 10.5   | 10.4   | 1.0~1K |
| 10   | 48.5            | 43.5    | 15.5    | 10.5   | 10.4   | 1.0~1K |

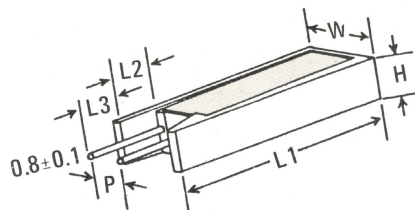
LR-E



LR-F



LR-M



| WATT | DIMENSIONS (mm) |            |           |           | OHM      |
|------|-----------------|------------|-----------|-----------|----------|
|      | D<br>±1.0       | dφ<br>±0.1 | L<br>±1.5 | H<br>min. |          |
| 1    | 4.5             | 0.6        | 10.0      | 25.0      | 0.1~500  |
| 2    | 5.0             | 0.7        | 12.0      | 25.0      | 0.1~600  |
| 3    | 5.5             | 0.7        | 16.0      | 25.0      | 0.1~800  |
| 4    | 5.5             | 0.7        | 18.0      | 25.0      | 0.1~1K   |
| 5    | 5.5             | 0.8        | 21.0      | 25.0      | 0.2~1K   |
| 6    | 6.5             | 0.8        | 26.0      | 25.0      | 0.3~1K   |
| 7    | 6.5             | 0.8        | 33.0      | 25.0      | 0.3~1.5K |
| 8    | 6.5             | 0.8        | 42.0      | 25.0      | 0.3~2K   |
| 10   | 6.5             | 0.8        | 54.0      | 25.0      | 0.5~3K   |

| WATT | DIMENSIONS (mm) |            |            |           | OHM    |
|------|-----------------|------------|------------|-----------|--------|
|      | H<br>min.       | L1<br>min. | L2<br>min. | W<br>min. |        |
| 50   | 31.0            | 75         | 7.0        | 28.0      | 3~3.5K |
| 60   | 31.0            | 90         | 7.0        | 28.0      | 3~3.5K |
| 80   | 31.0            | 115        | 7.0        | 28.0      | 3~4K   |
| 100  | 31.0            | 140        | 8.0        | 28.0      | 3~5K   |
| 120  | 31.0            | 165        | 8.0        | 28.0      | 3~5K   |
| 150  | 31.0            | 195        | 9.0        | 28.0      | 3~5K   |
| 200  | 31.0            | 254        | 9.0        | 28.0      | 4~7K   |
| 300  | 38.0            | 254        | 10.0       | 42.0      | 5~7K   |
| 400  | 38.0            | 330        | 10.0       | 42.0      | 5~10K  |
| 500  | 41.0            | 350        | 11.0       | 48.0      | 5~10K  |

| WATT | DIMENSIONS (mm) |            |            |            |           |           | OHM    |
|------|-----------------|------------|------------|------------|-----------|-----------|--------|
|      | H<br>max.       | L1<br>max. | L2<br>±0.3 | L3<br>min. | P<br>±0.3 | W<br>max. |        |
| 5    | 9.5             | 26.5       | 3.0        | 6.0        | 4.6       | 13.0      | 0.1~1K |
| 7    | 9.5             | 40.0       | 3.0        | 6.0        | 4.6       | 13.0      | 1.0~1K |
| 10   | 9.5             | 52.0       | 3.0        | 6.0        | 4.6       | 13.0      | 1.0~2K |

## CHARACTERISTICS

| ITEMS                                  | SPECIFICATION VALUE | TEST METHOD                                                                                                                                            |
|----------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| VIBRATION                              | WITHIN ±1%          | AS PER EIA-RS-178-B                                                                                                                                    |
| SHORT-TIME OVERLOAD                    | WITHIN ±3%          | APPLY VOLTAGE 5 TIME RATED POWER FOR 5 SEC.                                                                                                            |
| INSULATION RESISTANCE                  | 20MOHM OR OVER      | MEASURE THE PART BETWEEN CEMENT SURFACE AND RESISTOR.                                                                                                  |
| WITHSTAND VOLTAGE                      | WITHIN ±1%          | APPLY AC 900V FOR 1 MIN.                                                                                                                               |
| FLAME-RESISTANCE                       | NO SELF-IGNITION    | VOLTAGE UNDER 500V UNDER ANY OVERLOAD.                                                                                                                 |
| RESISTANCE TEMPERATURE CHARACTERISTICS | ±260 PPM/°C         | -55 ±5°C TO 275 ±5°C                                                                                                                                   |
| MOISTURE RESISTANCE                    | WITHIN ±3%          | APPLY DC 100V FOR 500 HRS BETWEEN MOUNTING METAL PIECE AND TERMINAL IN MOISTURE (40°C 95% RH)                                                          |
| MOISTURE RESISTANCE LOAD LIFE          | WITHIN ±5%          | IN MOISTURE (40°C 95% RH) IMPRESS FOR 500 HRS IN CYCLES IN WHICH DC VOLTAGE ONE-TENTH 1/10 RATED POWER IS APPLIED FOR 1.5 HRS AND CUT OFF FOR 0.5 HRS. |
| LOAD LIFE                              | WITHIN ±5%          | IMPRESS FOR 500 HRS IN CYCLES IN WHICH RATED VOLTAGE IS APPLIED FOR 1.5 HRS AND CUT OFF 0.5 HR.                                                        |
| THERMAL IMPACT                         | WITHIN ±2%          | IMMEDIATELY AFTER APPLYING RATED POWER FOR 30 MIN., LEAVE IT FOR 2 HRS UNDER TEMPERATURE OF -30°C                                                      |

## POWER DERATING CURVE

