

# 1/2 WATT METAL

| Value in Ohms | NTE Stock Number | Value in Ohms | NTE Stock Number | Value in Ohms | NTE Stock Number | Value in Ohms | NTE Stock Number | Value in Ohms | NTE Stock Number | Value in Ohms | NTE Stock Number |
|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|
| 0.10          | HWD10            | 1.6           | HW1D6            | 27            | HW027            | 430           | HW143            | 6.8K          | HW268            | 110K          | HW411            |
| 0.11          | HWD11            | 1.8           | HW1D8            | 30            | HW030            | 470           | HW147            | 7.5K          | HW275            | 120K          | HW412            |
| 0.12          | HWD12            | 2.0           | HW2D0            | 33            | HW033            | 510           | HW151            | 8.2K          | HW282            | 130K          | HW413            |
| 0.13          | HWD13            | 2.2           | HW2D2            | 36            | HW036            | 560           | HW156            | 9.1K          | HW291            | 150K          | HW415            |
| 0.15          | HWD15            | 2.4           | HW2D4            | 39            | HW039            | 620           | HW162            | 10K           | HW310            | 160K          | HW416            |
| 0.16          | HWD16            | 2.7           | HW2D7            | 43            | HW043            | 680           | HW168            | 11K           | HW311            | 180K          | HW418            |
| 0.18          | HWD18            | 3.0           | HW3D0            | 47            | HW047            | 750           | HW175            | 12K           | HW312            | 200K          | HW420            |
| 0.20          | HWD20            | 3.3           | HW3D3            | 51            | HW051            | 820           | HW182            | 13K           | HW313            | 220K          | HW422            |
| 0.22          | HWD22            | 3.6           | HW3D6            | 56            | HW056            | 910           | HW191            | 15K           | HW315            | 240K          | HW424            |
| 0.24          | HWD24            | 3.9           | HW3D9            | 62            | HW062            | 1K            | HW210            | 16K           | HW316            | 270K          | HW427            |
| 0.27          | HWD27            | 4.3           | HW4D3            | 68            | HW068            | 1.1K          | HW211            | 18K           | HW318            | 300K          | HW430            |
| 0.30          | HWD30            | 4.7           | HW4D7            | 75            | HW075            | 1.2K          | HW212            | 20K           | HW320            | 330K          | HW433            |
| 0.33          | HWD33            | 5.1           | HW5D1            | 82            | HW082            | 1.3K          | HW213            | 22K           | HW322            | 360K          | HW436            |
| 0.36          | HWD36            | 5.6           | HW5D6            | 91            | HW091            | 1.5K          | HW215            | 24K           | HW324            | 390K          | HW439            |
| 0.39          | HWD39            | 6.2           | HW6D2            | 100           | HW110            | 1.6K          | HW216            | 27K           | HW327            | 430K          | HW443            |
| 0.43          | HWD43            | 6.8           | HW6D8            | 110           | HW111            | 1.8K          | HW218            | 30K           | HW330            | 470K          | HW447            |
| 0.47          | HWD47            | 7.5           | HW7D5            | 120           | HW112            | 2K            | HW220            | 33K           | HW333            | 510K          | HW451            |
| 0.51          | HWD51            | 8.2           | HW8D2            | 130           | HW113            | 2.2K          | HW222            | 36K           | HW336            | 560K          | HW456            |
| 0.56          | HWD56            | 9.1           | HW9D1            | 150           | HW115            | 2.4K          | HW224            | 39K           | HW339            | 620K          | HW462            |
| 0.62          | HWD62            | 10            | HW010            | 160           | HW116            | 2.7K          | HW227            | 43K           | HW343            | 680K          | HW468            |
| 0.68          | HWD68            | 11            | HW011            | 180           | HW118            | 3K            | HW230            | 47K           | HW347            | 750K          | HW475            |
| 0.75          | HWD75            | 12            | HW012            | 200           | HW120            | 3.3K          | HW233            | 51K           | HW351            | 820K          | HW482            |
| 0.82          | HWD82            | 13            | HW013            | 220           | HW122            | 3.6K          | HW236            | 56K           | HW356            | 910K          | HW491            |
| 0.91          | HWD91            | 15            | HW015            | 240           | HW124            | 3.9K          | HW239            | 62K           | HW362            | 1M            | HW510            |
| 1.0           | HW1D0            | 16            | HW016            | 270           | HW127            | 4.3K          | HW243            | 68K           | HW368            | 1.1M          | HW511            |
| 1.1           | HW1D1            | 18            | HW018            | 300           | HW130            | 4.7K          | HW247            | 75K           | HW375            | 1.2M          | HW512            |
| 1.2           | HW1D2            | 20            | HW020            | 330           | HW133            | 5.1K          | HW251            | 82K           | HW382            | 1.3M          | HW513            |
| 1.3           | HW1D3            | 22            | HW022            | 360           | HW136            | 5.6K          | HW256            | 91K           | HW391            | 1.5M          | HW515            |
| 1.5           | HW1D5            | 24            | HW024            | 390           | HW139            | 6.2K          | HW262            | 100K          | HW410            | 1.6M          | HW516            |

## SPECIFICATIONS

### Electrical Characteristics @ 70°C

| NTE Number       | Resistance Range (Ohms) | Tolerance (%) | Voltage (Volts) | Operating Temperature (T <sub>opr</sub> ) | Temperature Coefficient (PPM/°C) |
|------------------|-------------------------|---------------|-----------------|-------------------------------------------|----------------------------------|
| HWD10 thru HW9D1 | 0.20 to 9.1             | 5             | 300             | -55° to +155°C                            | 100                              |
| HW010 thru HW510 | 10 to 1M                | 2             | 350             | -55° to +155°C                            | 200                              |
| HW511 thru HW622 | 1.1M to 22M             | 2             | 350             | -55° to +155°C                            | 200                              |

### Mechanical\* (Typical, inches/mm)

| NTE Number       | Body Length (L) | Body Diameter (D) | Lead Diameter (d) | Lead Length (LL) |
|------------------|-----------------|-------------------|-------------------|------------------|
| HWD10 thru HW9D1 | 0.375 (9.5)     | 0.138 (3.5)       | 0.027 (0.7)       | 1.02 (26)        |
| HW010 thru HW510 | 0.355 (9.02)    | 0.148 (3.76)      | 0.032 (0.81)      | 1.5 (38.1)       |
| HW511 thru HW622 | 0.375 (9.5)     | 0.138 (3.5)       | 0.032 (0.81)      | 1.18 (30)        |

\* These dimensions are for reference only, please consult the factory for actual size.

