

## Feature

- Excellent flame retardant coating
- Stable performance in diverse environments
- High purity ceramic core
- Meet EIA-RC2655A requirements
- High safety standard



## Derating Curve



## Heat Rise Chart



## Specifications

| Part No.                                 | Type       | Power Rating At 70°C | Dimension (mm) |        |  |           | Max. Working Voltage | Max. Overload Voltage | Dielectric Withstanding Voltage | Resistance Range |
|--|------------|----------------------|----------------|--------|--|-----------|----------------------|-----------------------|---------------------------------|------------------|
|  |            |                      | D Max.         | L Max. | d $\begin{matrix} +0.02 \\ -0.05 \end{matrix}$ | H $\pm 3$ |                      |                       |                                 |                  |
| <b>Normal Size</b>                       |            |                      |                |        |  |           |                      |                       |                                 |                  |
| MOR0W4                                   | MOR-25     | 1/4W                 | 2.5            | 7.5    | 0.6  | 28        | 250V                 | 400V                  | 250V                            | 0.1Ω ~ 100KΩ     |
| MOR0W2                                   | MOR-50     | 1/2W                 | 4              | 10     | 0.6  | 28        | 250V                 | 400V                  | 250V                            | 0.1Ω ~ 120KΩ     |
| MOR01W                                   | MOR-100    | 1W                   | 5              | 12     | 0.7  | 28        | 350V                 | 600V                  | 350V                            | 0.1Ω ~ 150KΩ     |
| MOR02W                                   | MOR-200    | 2W                   | 5.5            | 16     | 0.8  | 28        | 350V                 | 600V                  | 350V                            | 0.1Ω ~ 150KΩ     |
| MOR03W                                   | MOR-300    | 3W                   | 6.5            | 17.5   | 0.8  | 28        | 500V                 | 800V                  | 500V                            | 0.1Ω ~ 150KΩ     |
| MOR05W                                   | MOR-500    | 5W                   | 8.5            | 26     | 0.8  | 38        | 750V                 | 1000V                 | 750V                            | 0.1Ω ~ 180KΩ     |
| MOR07W                                   | MOR-700    | 7W                   | 8.5            | 32     | 0.8  | 38        | 750V                 | 1000V                 | 750V                            | 20Ω ~ 150KΩ      |
| MOR08W                                   | MOR-800    | 8W                   | 8.5            | 41     | 0.8  | 38        | 750V                 | 1000V                 | 750V                            | 30Ω ~ 200KΩ      |
| MOR09W                                   | MOR-900    | 9W                   | 8.5            | 54     | 0.8  | 38        | 750V                 | 1000V                 | 750V                            | 50Ω ~ 200KΩ      |
| <b>Small Size &amp; Extra Small Size</b> |            |                      |                |        |  |           |                      |                       |                                 |                  |
| MOR05S                                   | MOR-50-S   | 1/2W                 | 3              | 7.5    | 0.6  | 28        | 250V                 | 400V                  | 250V                            | 0.1Ω ~ 100KΩ     |
| MOR01S                                   | MOR-100-S  | 1W                   | 4.5            | 10     | 0.7  | 28        | 350V                 | 600V                  | 350V                            | 0.1Ω ~ 120KΩ     |
| MOR02S                                   | MOR-200-S  | 2W                   | 5              | 12     | 0.7  | 28        | 350V                 | 600V                  | 350V                            | 0.1Ω ~ 150KΩ     |
| MOR03S                                   | MOR-300-S  | 3W                   | 5.5            | 16     | 0.8  | 28        | 350V                 | 600V                  | 350V                            | 0.1Ω ~ 150KΩ     |
| MOR05U                                   | MOR-500-SS | 5W                   | 6.5            | 17.5   | 0.8  | 28        | 500V                 | 800V                  | 500V                            | 0.1Ω ~ 150KΩ     |
| MOR05S                                   | MOR-500-S  | 5W                   | 8              | 25     | 0.8  | 38        | 500V                 | 800V                  | 500V                            | 0.1Ω ~ 180KΩ     |

- Standard E-24 series values in  $\pm 5\%$  tolerance
- Standard Gray base color for Normal Size product ; Blue color for Small Size product
- Standard Non – Flammable coating
- Non – Inductive type available on a case to case basis

## Performance Specifications

|  |  |
|--|--|
| <b>Temperature coefficient</b>         | $\pm 350\text{PPM}/^{\circ}\text{C}$   |
| <b>Short-time overload</b>             | Normal Size, $\Delta R/R \leq \pm(1\%+0.05\Omega)$ , with no evidence of mechanical damage<br>Small Size, $\Delta R/R \leq \pm(2\%+0.05\Omega)$ , with no evidence of mechanical damage  |
| <b>Dielectric withstanding voltage</b> | No evidence of flashover, mechanical damage, arcing or insulation breakdown.   |
| <b>Pulse overload</b>                  | Normal Size, $\Delta R/R \leq \pm(2\%+0.05\Omega)$ , with no evidence of mechanical damage<br>Small Size, $\Delta R/R \leq \pm(5\%+0.05\Omega)$ , with no evidence of mechanical damage. |
| <b>Terminal strength</b>               | No evidence of mechanical damage.  |
| <b>Resistance to Soldering heat</b>    | $\Delta R/R \leq \pm(1\%+0.05\Omega)$ , with no evidence of mechanical damage.   |
| <b>Solderability</b>                   | Min. 95% coverage.   |
| <b>Resistance to solvent</b>           | No deterioration of protective coating and markings.   |
| <b>Temperature cycling</b>             | $\Delta R/R \leq \pm(2\%+0.05\Omega)$ , with no evidence of mechanical damage.   |
| <b>Humidity (Steady state)</b>         | $\Delta R/R \leq \pm(2\%+0.05\Omega)$ , with no evidence of mechanical damage.   |
| <b>Load life in humidity</b>           | $\Delta R/R: \leq \pm 5\%$ for $<100\text{K}\Omega$ ; $\pm 10\%$ for $\geq 100\text{K}\Omega$ .  |
| <b>Load life</b>                       | $\Delta R/R: \leq \pm 5\%$ for $<100\text{K}\Omega$ ; $\pm 10\%$ for $\geq 100\text{K}\Omega$ .  |
| <b>Flame retardant</b>                 | No evidence of flaming or arcing.  |

## Ordering Procedure (Example: MOR 1W-S 5% 8.2Ω T/B-1000)



## Four Band Color Code (Available for CFR, MOR, KNP & 2% or 5% of MFR Products)



1 2 3 4

| 4 <sup>th</sup> Band |        |
|----------------------|--------|
| Red                  | = ±2%  |
| Gold                 | = ±5%  |
| Silver               | = ±10% |

| 1 <sup>st</sup> Band |     |
|----------------------|-----|
| Black                | = 0 |
| Brown                | = 1 |
| Red                  | = 2 |
| Orange               | = 3 |
| Yellow               | = 4 |
| Green                | = 5 |
| Blue                 | = 6 |
| Violet               | = 7 |
| Grey                 | = 8 |
| White                | = 9 |

| 2 <sup>nd</sup> Band |     |
|----------------------|-----|
| Black                | = 0 |
| Brown                | = 1 |
| Red                  | = 2 |
| Orange               | = 3 |
| Yellow               | = 4 |
| Green                | = 5 |
| Blue                 | = 6 |
| Violet               | = 7 |
| Grey                 | = 8 |
| White                | = 9 |

| 3 <sup>rd</sup> Band |                                     |
|----------------------|-------------------------------------|
| Black                | = Multiply by 1 ( $10^0$ )          |
| Brown                | = Multiply by 10 ( $10^1$ )         |
| Red                  | = Multiply by 100 ( $10^2$ )        |
| Orange               | = Multiply by 1,000 ( $10^3$ )      |
| Yellow               | = Multiply by 10,000 ( $10^4$ )     |
| Green                | = Multiply by 100,000 ( $10^5$ )    |
| Blue                 | = Multiply by 1,000,000 ( $10^6$ )  |
| Violet               | = Multiply by 10,000,000 ( $10^7$ ) |
| Gold                 | = Multiply by 0.1 ( $10^{-1}$ )     |
| Silver               | = Multiply by 0.01 ( $10^{-2}$ )    |

## Five Band Color Code (Available for MFR 1% & FRN Products)



1 2 3 4 5

| 5 <sup>th</sup> Band |          |
|----------------------|----------|
| Violet               | = ±0.1%  |
| Blue                 | = ±0.25% |
| Green                | = ±0.5%  |
| Brown                | = ±1%    |

| 1 <sup>st</sup> Band |     |
|----------------------|-----|
| Black                | = 0 |
| Brown                | = 1 |
| Red                  | = 2 |
| Orange               | = 3 |
| Yellow               | = 4 |
| Green                | = 5 |
| Blue                 | = 6 |
| Violet               | = 7 |
| Grey                 | = 8 |
| White                | = 9 |

| 2 <sup>nd</sup> Band |     |
|----------------------|-----|
| Black                | = 0 |
| Brown                | = 1 |
| Red                  | = 2 |
| Orange               | = 3 |
| Yellow               | = 4 |
| Green                | = 5 |
| Blue                 | = 6 |
| Violet               | = 7 |
| Grey                 | = 8 |
| White                | = 9 |

| 3 <sup>rd</sup> Band |     |
|----------------------|-----|
| Black                | = 0 |
| Brown                | = 1 |
| Red                  | = 2 |
| Orange               | = 3 |
| Yellow               | = 4 |
| Green                | = 5 |
| Blue                 | = 6 |
| Violet               | = 7 |
| Grey                 | = 8 |
| White                | = 9 |

| 4 <sup>th</sup> Band |                                  |
|----------------------|----------------------------------|
| Black                | = Multiply by 1 (100)            |
| Brown                | = Multiply by 10 (101)           |
| Red                  | = Multiply by 100 (102)          |
| Orange               | = Multiply by 1,000 (103)        |
| Yellow               | = Multiply by 10,000 (104)       |
| Green                | = Multiply by 100,000 (105)      |
| Blue                 | = Multiply by 1,000,000 (106)    |
| Violet               | = Multiply by 10,000,000 (107)   |
| Gold                 | = Multiply by 0.1 ( $10^{-1}$ )  |
| Silver               | = Multiply by 0.01 ( $10^{-2}$ ) |