

# MMT SERIES — STACKED METALLIZED POLYESTER

## Electrical Specifications

|                       |  |
|-----------------------|--|
| Temp. Range           | -40 to +85°C                                     |
| Rated Voltage         | 50V DC   |
| Capacitance           | 0.010 to 3.3μF (E-12)                            |
| Cap. Tolerance        | ±5% (J)  |
| tgδ                   | 0.01 max. (at 1KHz)                              |
| Insulation Resistance | C≤0.33μF 3,000 MΩ min.<br>C>0.33μF 1,000 ΩF min. |

## Life Test

|                                 |
|---------------------------------|
| 85°C WV x 140% 1000 hours       |
| Δc/c <±7%                       |
| tgδ <.011                       |
| IR ≤.33μF >1000MΩ >.33μF >300ΩF |

## Damp Heat

|                               |
|-------------------------------|
| 40°C 90-95% RH WV 1000 hours  |
| Δc/c ±7%                      |
| tgδ <.011                     |
| IR ≤.33μF >100MΩ >.33μF >30ΩF |

## Markings

|            |             |                         |
|------------|-------------|-------------------------|
| 103 to 334 | 104 (A)     | cap – date code         |
| >334       | 474 (N) (A) | cap<br>logo – date code |

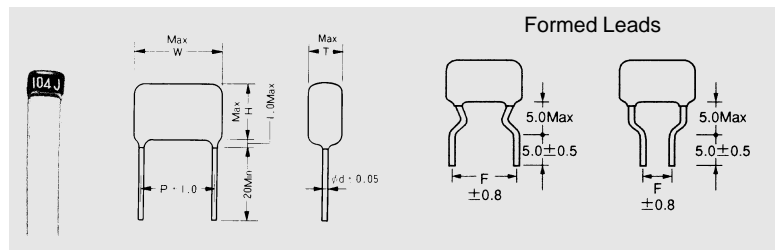
## Mechanical Characteristics

|                      |   |
|----------------------|---|
| Construction         | Stacked, Metallized Polyester Film, Epoxy Dipped      |
| Color                | Blue  |
| Packaging            | Taped or Bulk. See page 11 for taping specifications. |
| Part Number Sequence | See page 14.  |

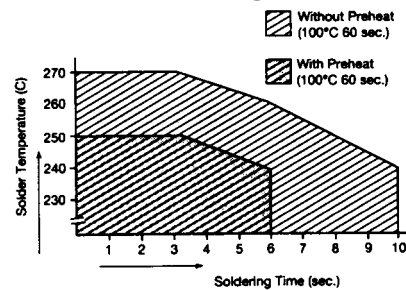
## Soldering Resistance

Because soldering allows for thermal conduction through the capacitor lead wires into the capacitor itself, extreme care should always be taken in maintaining the proper soldering parameters. The figures below give examples of recommended time/temperature soldering profiles for use with the MMT Series. When dipped twice in the solder bath, the second dipping must be after the capacitor surface temperature comes down to room temperature (around 30 min. by natural cooling).

## Drawings



## Soldering Conditions

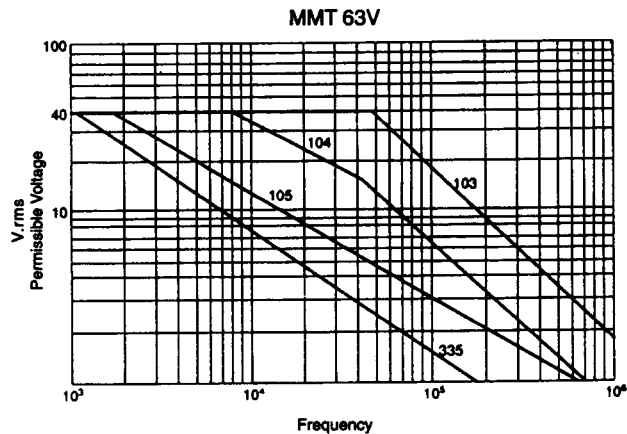
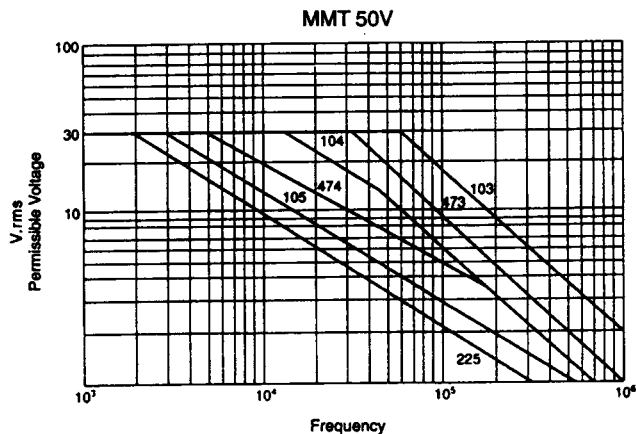


## Dimensions (mm)

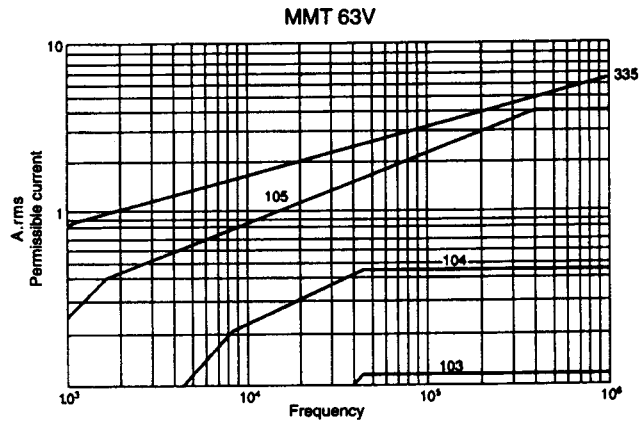
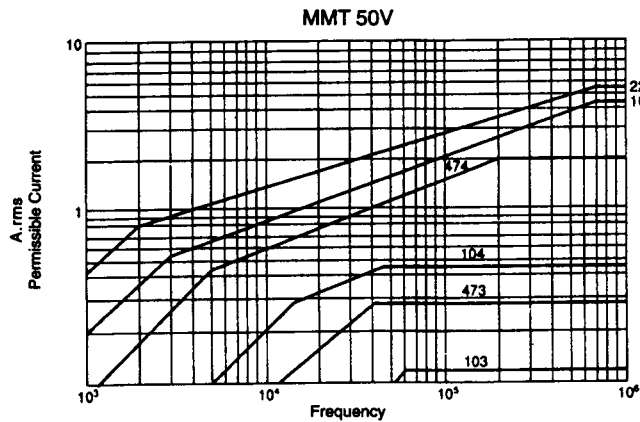
| Series<br>MMT (E-12) | WV<br>Cap(μF) | MMT 50 V. DC |      |     |     |     |     | MMT 63 V. DC |      |     |     |     |     |
|----------------------|---------------|--------------|------|-----|-----|-----|-----|--------------|------|-----|-----|-----|-----|
|                      |               | W            | H    | T   | P   | F   | Ød  | W            | H    | T   | P   | F   | Ød  |
| 103                  | 0.010         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 123                  | 0.012         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 153                  | 0.015         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 183                  | 0.018         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 223                  | 0.022         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 273                  | 0.027         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 333                  | 0.033         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 393                  | 0.039         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 473                  | 0.047         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 563                  | 0.056         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 683                  | 0.068         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 823                  | 0.082         | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 104                  | 0.10          | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 124                  | 0.12          | 7.3          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 | 8.0          | 5.0  | 3.2 | 5.0 | 5.0 | 0.5 |
| 154                  | 0.15          | 7.3          | 5.5  | 3.5 | 5.0 | 5.0 | 0.5 | 8.0          | 5.5  | 3.5 | 5.0 | 5.0 | 0.5 |
| 184                  | 0.18          | 7.3          | 5.5  | 4.0 | 5.0 | 5.0 | 0.5 | 8.0          | 5.5  | 3.5 | 5.0 | 5.0 | 0.5 |
| 224                  | 0.22          | 7.3          | 5.5  | 4.3 | 5.0 | 5.0 | 0.5 | 8.0          | 5.5  | 3.8 | 5.0 | 5.0 | 0.5 |
| 274                  | 0.27          | 7.3          | 6.5  | 4.3 | 5.0 | 5.0 | 0.5 | 8.0          | 6.5  | 4.3 | 5.0 | 5.0 | 0.5 |
| 334                  | 0.33          | 7.3          | 6.5  | 4.8 | 5.0 | 5.0 | 0.5 | 8.0          | 6.5  | 4.5 | 5.0 | 5.0 | 0.5 |
| 394                  | 0.39          | 7.3          | 7.0  | 5.0 | 5.0 | 5.0 | 0.5 | 8.0          | 7.0  | 5.0 | 5.0 | 5.0 | 0.5 |
| 474                  | 0.47          | 7.3          | 8.0  | 5.5 | 5.0 | 5.0 | 0.5 | 8.0          | 8.0  | 5.0 | 5.0 | 5.0 | 0.5 |
| 564                  | 0.56          | 7.3          | 8.0  | 5.8 | 5.0 | 5.0 | 0.5 | 8.0          | 10.0 | 4.3 | 5.0 | 5.0 | 0.5 |
| 684                  | 0.68          | 7.3          | 8.0  | 6.5 | 5.0 | 5.0 | 0.5 | 8.0          | 10.0 | 4.5 | 5.0 | 5.0 | 0.5 |
| 824                  | 0.82          | 7.3          | 9.5  | 6.5 | 5.0 | 5.0 | 0.5 | 8.0          | 11.0 | 5.0 | 5.0 | 5.0 | 0.5 |
| 105                  | 1.0           | 7.3          | 9.5  | 7.5 | 5.0 | 5.0 | 0.5 | 8.0          | 11.0 | 5.3 | 5.0 | 5.0 | 0.5 |
| 125                  | 1.2           | 10.0         | 9.5  | 5.5 | 7.5 | 5.0 | 0.5 | 11.0         | 10.0 | 4.7 | 7.5 | 5.0 | 0.5 |
| 155                  | 1.5           | 10.0         | 9.5  | 6.5 | 7.5 | 5.0 | 0.5 | 11.0         | 11.0 | 5.0 | 7.5 | 5.0 | 0.5 |
| 185                  | 1.8           | 10.0         | 11.0 | 6.5 | 7.5 | 5.0 | 0.5 | 11.0         | 11.0 | 5.5 | 7.5 | 5.0 | 0.5 |
| 225                  | 2.2           | 10.0         | 11.0 | 7.0 | 7.5 | 5.0 | 0.5 | 11.0         | 12.0 | 6.0 | 7.5 | 5.0 | 0.5 |
| 275                  | 2.7           | 10.0         | 13.5 | 7.0 | 7.5 | 5.0 | 0.5 | 11.0         | 13.5 | 6.5 | 7.5 | 5.0 | 0.5 |
| 335                  | 3.3           | 10.0         | 13.5 | 8.0 | 7.5 | 5.0 | 0.5 | 11.0         | 13.5 | 7.0 | 7.5 | 5.0 | 0.5 |

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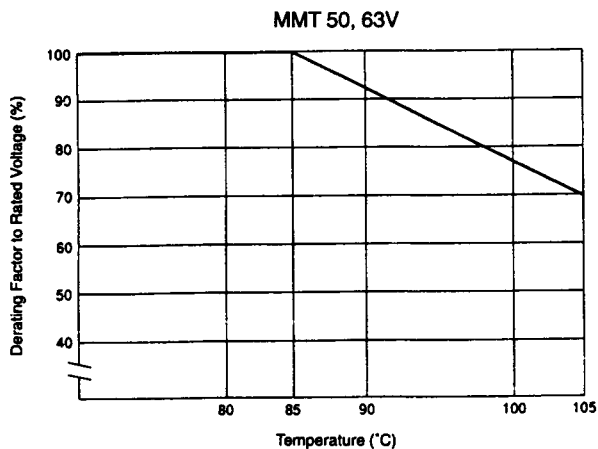
## Voltage derating vs. frequency



## Permissible current vs. frequency



## Voltage derating vs. temperature



PEAK CURRENT RATINGS  
SEE PAGE 8