

# Aluminum Electrolytic Capacitors



**HTRT Series**  
(High Temperature, Axial)

**MERITEK**

## FEATURES

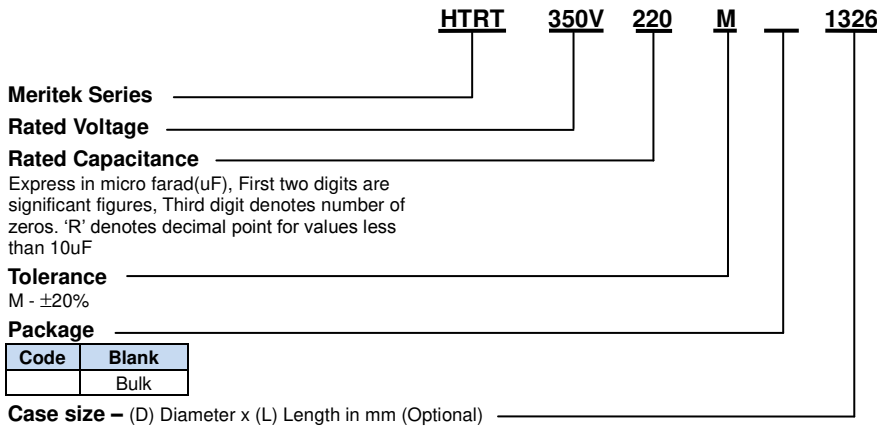
- Axial lead type of standard series for general purpose
- Guaranteed long life 1,000hrs, 105°C
- Expanded applications for automatic mounting
- Anti-solvent



## SPECIFICATIONS

| Item                                | Characteristics  |   |      |      |      |  |        |         |      |         |         |
|-------------------------------------|--|---|------|------|------|--|--------|---------|------|---------|---------|
| <b>Operating Temp Range</b>         | -40°C ~+105°C (6.3V~400V), -25°C ~+105°C (450V)  |   |      |      |      |  |        |         |      |         |         |
| <b>Rated Working Voltage</b>        | 6.3V~450V  |   |      |      |      |  |        |         |      |         |         |
| <b>Rated Capacitance</b>            | 0.47uF~22000uF   |   |      |      |      |  |        |         |      |         |         |
| <b>Capacitance Tolerance</b>        | ± 20%(M) @120Hz 20°C   |   |      |      |      |  |        |         |      |         |         |
| <b>Leakage Current</b>              | 6.3WV~100WV  |   |      |      |      | 160WV~450WV  |        |         |      |         |         |
|                                     | I=0.03CV, or 4 (uA), whichever is greater, after 1 minute application of rated voltage<br>I=0.01CV or 3 (uA), whichever is greater, after 2 minutes application of rated voltage           |   |      |      |      | CV≤1000: I=0.1CV+40(uA) or less after 1 minute application of rated voltage<br>CV>1000: I=0.04CV+100(uA) or less after 1 minute application of rated voltage |        |         |      |         |         |
| <b>Dissipation Factor ( tan δ )</b> | <b>Rated Voltage (V)</b>   | 6.3                                     | 10   | 16   | 25   | 35   | 50     | 63      | 100  | 160~350 | 400~450 |
|                                     | <b>tan δ (MAX)</b>   | 0.24                                    | 0.20 | 0.16 | 0.14 | 0.12   | 0.10   | 0.09    | 0.08 | 0.20    | 0.25    |
|                                     | For capacitance of more than 1000uF, add 0.02 for every increase of 1000uF (120Hz: 20°C)   |   |      |      |      |  |        |         |      |         |         |
| <b>Low Temperature Stability</b>    | Impedance Ratio (120Hz)  |   |      |      |      |  |        |         |      |         |         |
|                                     | <b>Rated Voltage (V)</b>   | 6.3                                     | 10   | 16   | 25   | 35   | 50~100 | 160~200 | 250  | 315~400 | 450     |
|                                     | <b>Z(-25°C)/Z(20°C)</b>  | 4                                       | 3    | 2    | 2    | 2  | 2      | 3       | 3    | 3       | 5       |
|                                     | <b>Z(-40°C)/Z(20°C)</b>  | 10                                      | 8    | 6    | 4    | 3  | 3      | 6       | 6    | 6       | -       |
| <b>Load Life</b>                    | After 1000 hours of application of rated voltage at 105°C, capacitors meet the characteristics requirements mentioned below  |   |      |      |      |  |        |         |      |         |         |
|                                     | <b>Capacitance Change</b>  | ≤ ±20% of initial value                 |      |      |      |  |        |         |      |         |         |
|                                     | <b>Dissipation Factor</b>  | 200% or less of initial specified value |      |      |      |  |        |         |      |         |         |
|                                     | <b>Leakage Current</b>   | ≤ initial specified value               |      |      |      |  |        |         |      |         |         |
| <b>Shelf Life</b>                   | After leaving capacitors under no load at 105°C, for 1000 hours and applying voltage according to JIS C-5102 4-3, they meet the specified value for load life characteristics listed above |   |      |      |      |  |        |         |      |         |         |
| <b>Applicable Standards</b>         | Characteristics W of JIS C-5141  |   |      |      |      |  |        |         |      |         |         |

## PART NUMBER SYSTEM



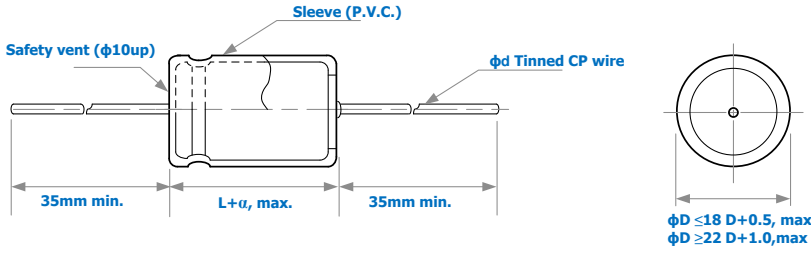
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**HTRT Series**  
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## DIMENSIONS (mm)



| φD |           | 5~12.5 | 16~18 | 22~25 |
|----|-----------|--------|-------|-------|
| d  |           | 0.6    | 0.8   | 0.8   |
| α  | 6.3~100WV | 1.0    |       | 2.0   |
|    | 160WV~    | 2.0    |       | -     |

## RIPPLE CURRENT COEFFICIENTS

| W.V.           | 6.3~100 |         |            | 160~450 |
|----------------|---------|---------|------------|---------|
| Cap(uF)        | ~47     | 100~470 | 1000~22000 | 1~100   |
| Frequency (Hz) | 50      | 0.75    | 0.80       | 0.85    |
|                | 120     | 1       | 1          | 1       |
|                | 300     | 1.35    | 1.23       | 1.10    |
|                | 1k      | 1.57    | 1.34       | 1.13    |
|                | 10k~    | 2.00    | 1.50       | 1.15    |
| Temperature    | ~ +70°C |         |            | +105°C  |
| Multiplier     | 1.27    |         |            | 1.0     |

## CASE SIZE & MAX RIPPLE CURRENT

Case size : DxL (mm)  
Max. ripple current : mA(rms) 105°C 120Hz

| Cap. (uF) | V | 6.3     |      | 10       |      | 16       |      | 25       |      | 35       |      | 50       |      | 63       |      | 100      |      |
|-----------|---|---------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
|           |   | Item    | DxL  | R.C.     | DxL  | R.C.     | DxL  | R.C.     | DxL  | R.C.     | DxL  | R.C.     | DxL  | R.C.     | DxL  | R.C.     | DxL  |
| 0.47      |   |         |      |          |      |          |      |          |      |          |      | 5x12.5   | 5    |          |      | 5x12.5   | 10   |
| 1.0       |   |         |      |          |      |          |      |          |      |          |      | 5x12.5   | 10   |          |      | 5x12.5   | 21   |
| 2.2       |   |         |      |          |      |          |      |          |      |          |      | 5x12.5   | 23   |          |      | 5x12.5   | 27   |
| 3.3       |   |         |      |          |      |          |      |          |      |          |      | 5x12.5   | 30   |          |      | 5x12.5   | 35   |
| 4.7       |   |         |      |          |      |          |      |          |      |          |      | 5x12.5   | 36   | 5x12.5   | 38   | 5x12.5   | 40   |
| 10        |   |         |      |          |      |          |      | 5x12.5   | 40   | 5x12.5   | 45   | 5x12.5   | 50   | 5x12.5   | 55   | 6.3x12.5 | 65   |
| 22        |   |         |      |          |      | 5x12.5   | 60   | 5x12.5   | 65   | 5x12.5   | 70   | 6.3x12.5 | 85   | 6.3x12.5 | 90   | 8x16     | 115  |
| 33        |   |         |      | 5x12.5   | 70   | 5x12.5   | 75   | 5x12.5   | 80   | 6.3x12.5 | 95   | 6.3x16   | 115  | 6.3x16   | 125  | 8x16     | 145  |
| 47        |   |         |      | 5x12.5   | 80   | 5x12.5   | 90   | 6.3x12.5 | 105  | 6.3x16   | 125  | 6.3x16   | 140  | 8x16     | 160  | 8x20     | 190  |
| 100       |   | 5x12.5  | 110  | 6.3x12.5 | 130  | 6.3x12.5 | 145  | 6.3x16   | 170  | 8x16     | 200  | 8x16     | 220  | 8x20     | 260  | 10x26    | 340  |
| 220       |   | 6.3x16  | 200  | 6.3x16   | 220  | 8x16     | 260  | 8x16     | 280  | 8x20     | 340  | 10x21    | 410  | 10x26    | 480  | 12.5x26  | 560  |
| 330       |   | 6.3x16  | 250  | 8x16     | 300  | 8x16     | 320  | 8x20     | 380  | 10x21    | 460  | 10x26    | 560  | 12.5x26  | 640  | 12.5x31  | 740  |
| 470       |   | 8x16    | 330  | 8x16     | 350  | 8x20     | 430  | 10x26    | 560  | 10x26    | 610  | 13x26    | 730  | 12.5x31  | 830  | 16x31    | 960  |
| 1000      |   | 10x21   | 600  | 10x21    | 640  | 10x26    | 770  | 12.5x26  | 900  | 12.5x31  | 1050 | 16x31    | 1250 | 16x31    | 1320 | 22x41    | 1700 |
| 2200      |   | 12.5x26 | 1020 | 12.5x26  | 1090 | 12.5x31  | 1280 | 16x31    | 1470 | 16x31    | 1570 | 18x41    | 1920 | 22x41    | 2150 | 25x51    | 2590 |
| 3300      |   | 12.5x26 | 1200 | 12.5x31  | 1380 | 16x31    | 1610 | 16x41    | 1910 | 16x41    | 2020 | 22x41    | 2340 | 22x51    | 2450 |          |      |
| 4700      |   | 16x31   | 1630 | 16x31    | 1720 | 16x41    | 2060 | 18x41    | 2170 | 22x41    | 2460 | 22x51    | 2630 | 25x61    | 3180 |          |      |
| 6800      |   | 16x31   | 1830 | 16x41    | 2160 | 18x41    | 2290 | 22x41    | 2560 | 22x51    | 2700 | 25x61    | 3310 |          |      |          |      |
| 10000     |   | 16x41   | 2290 | 16x41    | 2390 | 22x41    | 2680 | 22x51    | 2800 | 25x61    | 3400 |          |      |          |      |          |      |
| 15000     |   | 22x41   | 2630 | 22x41    | 2750 | 22x51    | 2890 | 25x61    | 3480 |          |      |          |      |          |      |          |      |
| 22000     |   | 22x51   | 2830 | 22x51    | 2940 | 25x61    | 3570 |          |      |          |      |          |      |          |      |          |      |

| Cap. (uF) | V | 160      |     | 200      |     | 250     |     | 315     |     | 350     |     | 400     |     | 450     |     |
|-----------|---|----------|-----|----------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
|           |   | Item     | DxL | R.C.     | DxL | R.C.    | DxL | R.C.    | DxL | R.C.    | DxL | R.C.    | DxL | R.C.    | DxL |
| 1.0       |   | 6.3x12.5 | 13  | 6.3x12.5 | 13  | 6.3x16  | 15  | 6.3x16  | 15  | 6.3x16  | 15  | 8x16    | 16  | 8x16    | 16  |
| 2.2       |   | 6.3x16   | 23  | 6.3x16   | 23  | 8x16    | 27  | 8x16    | 27  | 8x16    | 27  | 8x20    | 27  | 10x21   | 31  |
| 3.3       |   | 8x16     | 33  | 8x16     | 33  | 8x16    | 33  | 8x20    | 37  | 8x20    | 37  | 10x21   | 38  | 10x21   | 38  |
| 4.7       |   | 8x16     | 39  | 8x16     | 45  | 8x20    | 45  | 8x20    | 45  | 10x21   | 50  | 10x21   | 45  | 10x26   | 50  |
| 10        |   | 8x20     | 60  | 10x21    | 70  | 10x21   | 70  | 10x26   | 80  | 12.5x26 | 90  | 12.5x26 | 85  | 12.5x26 | 85  |
| 22        |   | 10x26    | 120 | 12.5x26  | 140 | 12.5x26 | 140 | 12.5x31 | 150 | 12.5x31 | 150 | 16x31   | 150 | 16x31   | 150 |
| 33        |   | 12.5x26  | 170 | 12.5x26  | 190 | 12.5x31 | 190 | 16x31   | 210 | 16x31   | 210 | 16x41   | 220 | 18x41   | 230 |
| 47        |   | 12.5x31  | 220 | 12.5x31  | 250 | 16x31   | 250 | 16x31   | 250 | 16x41   | 290 | 18x41   | 280 |         |     |
| 100       |   | 16x41    | 420 | 16x41    | 420 | 16x41   | 420 |         |     |         |     |         |     |         |     |