

AC & PULSE METALLISED POLYPROPYLENE FILM CAPACITORS (MPP/MPP) – A.C Application

MAIN APPLICATION: SMPS, Motor control circuits, Deflection circuit in T.V sets (fly back) and monitors Electronic ballast, Snubber and SCR commutating circuits & application with High voltage and High Current.

CONSTRUCTION: Series constructed, Low inductive wound cell of metallised polypropylene film as Electrodes coated with flame retardant epoxy resin or enclosed in a flame retardant box.

CLIMATIC CATEGORY: 40/100/56

APPLICABLE SPECIFICATION: IEC 384-17.

CAPACITANCE VALUE & RATED VOLTAGE: Refer dimension chart

CAPACITANCE TOLERANCE: ±5%, ±10%

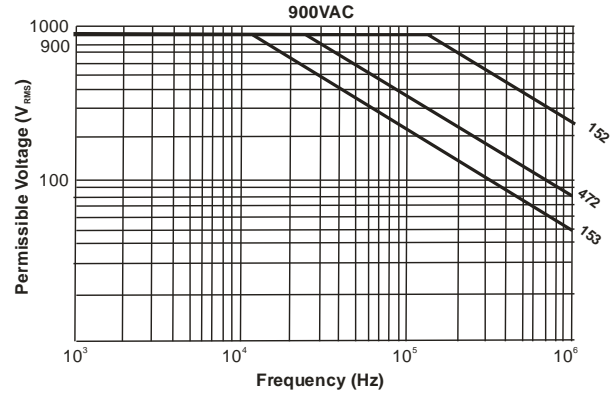
RATED TEMPERATURE (AC): 85° C

MAX. APPLICATION TEMPERATURE: 100° C

VOLTAGE PROOF: Between terminals: 1.6 times of rated voltage for 2 seconds.

INSULATION RESISTANCE

Between leads for $C_R \leq 0.33 \mu\text{fd}$ $\geq 100,000 \text{ M } \Omega$
Between connected terminals and case $> 100,000 \text{ M } \Omega$



TAN δ

Frequency (kHz) $C_R < 0.1 \text{ mfd}$ $0.1 \text{ mfd} < C_R \leq 1 \text{ mfd}$

| | | |
|--------|-------|-------|
| At 1 | 0.04% | 0.05% |
| At 10 | 0.06% | 0.08% |
| At 100 | 0.25% | - |

LIFE TEST CONDITIONS (AC)

Loaded at 1.25 times of rated AC voltage at 85° C or 1.25 times of category voltage at 100° C for 1000 hours. Category voltage is 80% of the rated voltage at 100 °C.

Criteria after the test:

Uc/c: $\leq 5\%$ of initial value.

Increase of Tan δ : ≤ 0.0015

Insulation resistance: $\geq 50\%$ of the value mentioned in IR chart.

Ordering code and packing units:AC and pulse polypropylene film capacitor (MPP/MPP Box Type)

| Rated voltage | Rated Cap.(mfd) | Maximum Dimensions(mm) | | | | | | Dv/dt V/μs | Weight in gm | Ordering code | Packing | |
|---------------|-----------------|------------------------|------|------|---------|--------|------------|------------|--------------|---------------|---------|------|
| | | W | H | L | d ±0.02 | S ±0.5 | F 0.8/-0.2 | | | | Ammo | Bulk |
| 500vac | 0.001 | 4 | 9 | 13 | 0.6 | 10 | 10 | 4000 | 0.5 | 67 102 +07*^ | 2000 | 1100 |
| | 0.0012 | 4 | 9 | 13 | 0.6 | 10 | 10 | 4000 | 0.6 | 67 122 +07*^ | 2000 | 1100 |
| | 0.0015 | 4 | 9 | 13 | 0.6 | 10 | 10 | 4000 | 0.6 | 67 152 +07*^ | 2000 | 1100 |
| | 0.0018 | 4 | 9 | 13 | 0.6 | 10 | 10 | 4000 | 0.6 | 67 182 +07*^ | 2000 | 1100 |
| | 0.0022 | 5 | 11 | 13 | 0.6 | 10 | 10 | 4000 | 0.6 | 67 222 +07*^ | 2000 | 1100 |
| | 0.0027 | 5 | 11 | 13 | 0.6 | 10 | 10 | 4000 | 0.9 | 67 272 +07*^ | 2000 | 1100 |
| | 0.0033 | 6 | 12 | 13 | 0.6 | 10 | 10 | 4000 | 0.9 | 67 332 +07*^ | 2000 | 1100 |
| | 0.0039 | 6 | 12 | 13 | 0.6 | 10 | 10 | 4000 | 0.9 | 67 392 +07*^ | 2000 | 1100 |
| | 0.0047 | 6 | 12 | 13 | 0.6 | 10 | 10 | 4000 | 0.9 | 67 472 +07*^ | 2000 | 1100 |
| | 0.0015 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 152 +07*^ | 1100 | 1000 |
| | 0.0018 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 182 +07*^ | 1100 | 1000 |
| | 0.0022 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 222 +07*^ | 1100 | 1000 |
| | 0.0027 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 272 +07*^ | 1100 | 1000 |
| | 0.0033 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 332 +07*^ | 1100 | 1000 |
| | 0.0039 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 392 +07*^ | 1100 | 1000 |
| | 0.0047 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 472 +07*^ | 1100 | 1000 |
| | 0.0056 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 2500 | 1.1 | 67 562 +07*^ | 1100 | 1000 |
| | 0.0068 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 2500 | 1.5 | 67 682 +07*^ | 1100 | 1000 |
| | 0.0082 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 2500 | 1.5 | 67 822 +07*^ | 1100 | 1000 |
| | 0.01 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 2500 | 1.5 | 67 103 +07*^ | 1100 | 1000 |
| | 0.012 | 7.5 | 13.5 | 18 | 0.8 | 15 | 15 | 2500 | 2 | 67 123 +07*^ | 900 | 1000 |
| | 0.015 | 7.5 | 13.5 | 18 | 0.8 | 15 | 15 | 2500 | 2 | 67 153 +07*^ | 900 | 1000 |
| | 0.018 | 8.5 | 14.5 | 18 | 0.8 | 15 | 15 | 2500 | 2.6 | 67 183 +07*^ | 700 | 1000 |
| | 0.022 | 10 | 16 | 18 | 0.8 | 15 | 15 | 2500 | 2.8 | 67 223 +07*^ | 700 | 1000 |
| | 0.027 | 10 | 16 | 18 | 0.8 | 15 | 15 | 2500 | 2.8 | 67 273 +07*^ | 700 | 1000 |
| | 0.018 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 2.8 | 67 183 +07*^ | 650 | 400 |
| | 0.022 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 2.8 | 67 223 +07*^ | 650 | 400 |
| | 0.027 | 7 | 16 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 3.5 | 67 273 +07*^ | 650 | 400 |
| | 0.033 | 7 | 16 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 3.5 | 67 333 +07*^ | 650 | 400 |
| | 0.039 | 8.5 | 17 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 4.5 | 67 393 +07*^ | 500 | 400 |
| | 0.047 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 5.4 | 67 473 +07*^ | - | 200 |
| | 0.056 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 1200 | 5.4 | 67 563 +07*^ | - | 200 |
| 700vac | 0.001 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 0.9 | 67 102 +09*^ | 1100 | 1000 |
| | 0.0012 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 0.9 | 67 122 +09*^ | 1100 | 1000 |
| | 0.0015 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 0.9 | 67 152 +09*^ | 1100 | 1000 |
| | 0.0018 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 0.9 | 67 182 +09*^ | 1100 | 1000 |
| | 0.0022 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 0.9 | 67 222 +09*^ | 1100 | 1000 |
| | 0.0027 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 1.1 | 67 272 +09*^ | 1100 | 1000 |
| | 0.0033 | 5 | 10.8 | 18 | 0.8 | 15 | 15 | 5000 | 1.1 | 67 332 +09*^ | 1100 | 1000 |
| | 0.0039 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 5000 | 1.5 | 67 392 +09*^ | 1100 | 1000 |

| | | | | | | | | | | | | |
|--------|--------|-----|------|------|-----|------|------|------|-----|--------------|------|------|
| | 0.0047 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 5000 | 1.5 | 67 472 +09*^ | 1100 | 1000 |
| | 0.0056 | 6 | 11.9 | 18 | 0.8 | 15 | 15 | 5000 | 1.5 | 67 562 +09*^ | 1100 | 1000 |
| | 0.0068 | 7.5 | 13.5 | 18 | 0.8 | 15 | 15 | 5000 | 2 | 67 682 +09*^ | 900 | 1000 |
| | 0.0082 | 7.5 | 13.5 | 18 | 0.8 | 15 | 15 | 5000 | 2 | 67 822 +09*^ | 900 | 1000 |
| | 0.01 | 8.5 | 14.5 | 18 | 0.8 | 15 | 15 | 5000 | 2.6 | 67 103 +09*^ | 700 | 1000 |
| | 0.012 | 10 | 16 | 18 | 0.8 | 15 | 15 | 5000 | 2.8 | 67 123 +09*^ | 700 | 1000 |
| | 0.015 | 10 | 16 | 18 | 0.8 | 15 | 15 | 5000 | 2.8 | 67 153 +09*^ | 700 | 1000 |
| | 0.0082 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 67 822 +09*^ | 650 | 400 |
| | 0.01 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 67 103 +09*^ | 650 | 400 |
| | 0.012 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 67 123 +09*^ | 650 | 400 |
| | 0.015 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 67 153 +09*^ | 650 | 400 |
| | 0.018 | 7 | 16 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 3.5 | 67 183 +09*^ | 650 | 400 |
| | 0.022 | 8.5 | 17 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 4.5 | 67 223 +09*^ | 500 | 400 |
| | 0.027 | 8.5 | 17 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 4.5 | 67 273 +09*^ | 500 | 400 |
| | 0.033 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 5.4 | 67 333 +09*^ | - | 200 |
| | 0.039 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 3000 | 5.4 | 67 393 +09*^ | - | 200 |
| 900VAC | 0.001 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 102 +11*^ | 650 | 400 |
| | 0.0012 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 122 +11*^ | 650 | 400 |
| | 0.0015 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 152 +11*^ | 650 | 400 |
| | 0.0018 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 182 +11*^ | 650 | 400 |
| | 0.0022 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 222 +11*^ | 650 | 400 |
| | 0.0027 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 272 +11*^ | 650 | 400 |
| | 0.0033 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 332 +11*^ | 650 | 400 |
| | 0.0039 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 392 +11*^ | 650 | 400 |
| | 0.0047 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 472 +11*^ | 650 | 400 |
| | 0.0056 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 562 +11*^ | 650 | 400 |
| | 0.0068 | 6 | 15 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 67 682 +11*^ | 650 | 400 |
| | 0.0082 | 7 | 16 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 3.5 | 67 822 +11*^ | 650 | 400 |
| | 0.01 | 7 | 16 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 3.5 | 67 103 +11*^ | 650 | 400 |
| | 0.012 | 8.5 | 17 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 4.5 | 67 123 +11*^ | 500 | 400 |
| | 0.015 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 5.4 | 67 153 +11*^ | - | 200 |
| | 0.018 | 10 | 18.5 | 26.5 | 0.8 | 22.5 | 22.5 | 2500 | 5.4 | 67 183 +11*^ | - | 200 |

* The dv/dt test is carried out for 2 times above value

Ordering code and packing units:AC and pulse polypropylene film capacitor (MPP/MPP Dip Type)

| Rated voltage | Rated Cap.(mfd) | Maximum Dimensions(mm) | | | | | | Dv/dt V / μ s | Weight in gm | Ordering code | Packing Ammo | Bulk |
|---------------|-----------------|------------------------|------|----|------------|-----------|----------|----------------------|-----------------|---------------|-----------------|------|
| | | W | H | L | d | S | F | | | | | |
| | | | | | ± 0.02 | ± 0.5 | 0.8/-0.2 | | | | | |
| 500vac | 0.001 | 4.5 | 9.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.5 | 62 102 +07*^ | 2000 | 1100 |
| | 0.0012 | 4.5 | 9.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.6 | 62 122 +07*^ | 2000 | 1100 |
| | 0.0015 | 4.5 | 9.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.6 | 62 152 +07*^ | 2000 | 1100 |
| | 0.0018 | 4.5 | 9.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.6 | 62 182 +07*^ | 2000 | 1100 |
| | 0.0022 | 5.5 | 11.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.6 | 62 222 +07*^ | 2000 | 1100 |
| | 0.0027 | 5.5 | 11.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.9 | 62 272 +07*^ | 2000 | 1100 |
| | 0.0033 | 6.5 | 12.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.9 | 62 332 +07*^ | 2000 | 1100 |
| | 0.0039 | 6.5 | 12.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.9 | 62 392 +07*^ | 2000 | 1100 |
| | 0.0047 | 6.5 | 12.5 | 14 | 0.6 | 10 | 10 | 4000 | 0.9 | 62 472 +07*^ | 2000 | 1100 |
| | 0.0015 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 152 +07*^ | 1100 | 1000 |
| | 0.0018 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 182 +07*^ | 1100 | 1000 |
| | 0.0022 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 222 +07*^ | 1100 | 1000 |
| | 0.0027 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 272 +07*^ | 1100 | 1000 |
| | 0.0033 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 332 +07*^ | 1100 | 1000 |
| | 0.0039 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 392 +07*^ | 1100 | 1000 |
| | 0.0047 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 472 +07*^ | 1100 | 1000 |
| | 0.0056 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.1 | 62 562 +07*^ | 1100 | 1000 |
| | 0.0068 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.5 | 62 682 +07*^ | 1100 | 1000 |
| | 0.0082 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.5 | 62 822 +07*^ | 1100 | 1000 |
| | 0.01 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 2500 | 1.5 | 62 103 +07*^ | 1100 | 1000 |
| | 0.012 | 8 | 14 | 19 | 0.8 | 15 | 15 | 2500 | 2 | 62 123 +07*^ | 900 | 1000 |
| | 0.015 | 8 | 14 | 19 | 0.8 | 15 | 15 | 2500 | 2 | 62 153 +07*^ | 900 | 1000 |
| | 0.018 | 9 | 15 | 19 | 0.8 | 15 | 15 | 2500 | 2.6 | 62 183 +07*^ | 700 | 1000 |
| | 0.022 | 10.5 | 16.5 | 19 | 0.8 | 15 | 15 | 2500 | 2.8 | 62 223 +07*^ | 700 | 1000 |
| | 0.027 | 10.5 | 16.5 | 19 | 0.8 | 15 | 15 | 2500 | 2.8 | 62 273 +07*^ | 700 | 1000 |
| | 0.018 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 2.8 | 62 183 +07*^ | 650 | 400 |
| | 0.022 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 2.8 | 62 223 +07*^ | 650 | 400 |
| | 0.027 | 7.5 | 16.5 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 3.5 | 62 273 +07*^ | 650 | 400 |
| | 0.033 | 7.5 | 16.5 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 3.5 | 62 333 +07*^ | 650 | 400 |
| | 0.039 | 9 | 17.5 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 4.5 | 62 393 +07*^ | 500 | 400 |
| | 0.047 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 5.4 | 62 473 +07*^ | - | 200 |
| | 0.056 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 1200 | 5.4 | 62 563 +07*^ | - | 200 |
| 700vac | 0.001 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 0.9 | 62 102 +09*^ | 1100 | 1000 |
| | 0.0012 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 0.9 | 62 122 +09*^ | 1100 | 1000 |
| | 0.0015 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 0.9 | 62 152 +09*^ | 1100 | 1000 |
| | 0.0018 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 0.9 | 62 182 +09*^ | 1100 | 1000 |
| | 0.0022 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 0.9 | 62 222 +09*^ | 1100 | 1000 |
| | 0.0027 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 1.1 | 62 272 +09*^ | 1100 | 1000 |
| | 0.0033 | 5.5 | 11.5 | 19 | 0.8 | 15 | 15 | 5000 | 1.1 | 62 332 +09*^ | 1100 | 1000 |

| | | | | | | | | | | | | |
|--------|--------|------|------|----|-----|------|------|------|-----|--------------|------|------|
| | 0.0039 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 5000 | 1.5 | 62 392 +09*^ | 1100 | 1000 |
| | 0.0047 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 5000 | 1.5 | 62 472 +09*^ | 1100 | 1000 |
| | 0.0056 | 6.5 | 12.5 | 19 | 0.8 | 15 | 15 | 5000 | 1.5 | 62 562 +09*^ | 1100 | 1000 |
| | 0.0068 | 8 | 14 | 19 | 0.8 | 15 | 15 | 5000 | 2 | 62 682 +09*^ | 900 | 1000 |
| | 0.0082 | 8 | 14 | 19 | 0.8 | 15 | 15 | 5000 | 2 | 62 822 +09*^ | 900 | 1000 |
| | 0.01 | 9 | 15 | 19 | 0.8 | 15 | 15 | 5000 | 2.6 | 62 103 +09*^ | 700 | 1000 |
| | 0.012 | 10.5 | 16.5 | 19 | 0.8 | 15 | 15 | 5000 | 2.8 | 62 123 +09*^ | 700 | 1000 |
| | 0.015 | 10.5 | 16.5 | 19 | 0.8 | 15 | 15 | 5000 | 2.8 | 62 153 +09*^ | 700 | 1000 |
| | 0.0082 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 62 822 +09*^ | 650 | 400 |
| | 0.01 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 62 103 +09*^ | 650 | 400 |
| | 0.012 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 62 123 +09*^ | 650 | 400 |
| | 0.015 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 2.8 | 6 153 +09*^ | 650 | 400 |
| | 0.018 | 7.5 | 16.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 3.5 | 62 183 +09*^ | 650 | 400 |
| | 0.022 | 9 | 17.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 4.5 | 62 223 +09*^ | 500 | 400 |
| | 0.027 | 9 | 17.5 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 4.5 | 62 273 +09*^ | 500 | 400 |
| | 0.033 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 5.4 | 62 333 +09*^ | - | 200 |
| | 0.039 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 3000 | 5.4 | 62 393 +09*^ | - | 200 |
| 900VAC | 0.001 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 102 +11*^ | 650 | 400 |
| | 0.0012 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 122 +11*^ | 650 | 400 |
| | 0.0015 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 152 +11*^ | 650 | 400 |
| | 0.0018 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 182 +11*^ | 650 | 400 |
| | 0.0022 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 222 +11*^ | 650 | 400 |
| | 0.0027 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 272 +11*^ | 650 | 400 |
| | 0.0033 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 332 +11*^ | 650 | 400 |
| | 0.0039 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 392 +11*^ | 650 | 400 |
| | 0.0047 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 472 +11*^ | 650 | 400 |
| | 0.0056 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 562 +11*^ | 650 | 400 |
| | 0.0068 | 6.5 | 15.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 2.8 | 62 682 +11*^ | 650 | 400 |
| | 0.0082 | 7.5 | 16.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 3.5 | 62 822 +11*^ | 650 | 400 |
| | 0.01 | 7.5 | 16.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 3.5 | 62 103 +11*^ | 650 | 400 |
| | 0.012 | 9 | 17.5 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 4.5 | 62 123 +11*^ | 500 | 400 |
| | 0.015 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 5.4 | 62 153 +11*^ | - | 200 |
| | 0.018 | 10.5 | 19 | 27 | 0.8 | 22.5 | 22.5 | 2500 | 5.4 | 62 183 +11*^ | - | 200 |

* The dv/dt test is carried out for 2 times above value