SPECIFICATION :

20190920

METALLIZED POLYPROPYLENE FILM CAPACITOR ---------- MPR Type
Capacitors for AC Application

- Temperature Range : Minimum Limit temperature : -25℃.
  Maximum Limit temperature : +75℃.
- Rated Voltage : 250 , 400, 450V.AC/60Hz
- Capacitance Range : 0.1uF to 2.2uF.
- Capacitance Tolerance : J (±5%) ; K (±10%) ; M (±20%)
- Withstand Voltage : (a). Between terminals: 1.5 x rated voltage for 10 sec.
  (b). Between terminals and case : 2 x rated voltage for
  1 ~ 5 sec.
  This test occasional self-healing breakdown are allowed.
- Dissipation Factor : ≦0.1% at 200V.AC , 60Hz and 20℃.
  (tan δ%) or ≦ 0.1% at 1KHz and 20℃.
- Insulation Resistance : (a). Between terminals :
  ≧ 10 x 1000 MΩ. for C ≦1.0uF.
  ≧ 10 x 1000 MΩ.uF for C >1.0uF.
  (b). Between terminals and case : ≧ 10 x 1000 MΩ.
  Meassured at 100V.DC 60sec. and 20℃
- Dry Heat Resistance : In accordance with IEC 68-2-2 test Ba.
  Conditions
  Test temperature : Maximum Limit temperature.
  Test duration : 16hrs.
  Test criteria
  (a). Appearance : No visible damage and no leakage.
  (b). Capacitance change : ≦ +0% ; -5% of the initial value.
  (c). Insulation resistance : ≧ 10% of initial specified value.
- Cold Resistance : In accordance with IEC 68-2-1 test Aa.
  Conditions
  Test temperature : Minimum Limit temperature.
  Test duration : 2hrs.
  Test criteria

(a). Appearance : No visible damage.
(b). Capacitance change : ≦ +3% ; -0% of the initial value.

- Humidity Resistance :

In accordance with IEC 68-2-3 test Ca.
Conditions
Test temperature : + 40 ℃.
Relative humidity : 90 to 95 %.
Test duration : 21 day.
Test voltage : (a). Without voltage
(b). With rated voltage.
Test criteria
(a). Capacitance change : ≦ ±4% of the initial value.
(b). Dissipation factor : ≦0.05% of increased value.
(c). Insulation resistance : ≧50% of initial specified value.

- Endurance :

Place the capacitor in the thermostaic oven in accordance with the condition of following :
Test temperature : Maximum limit temperature.
Test voltage : 1.2 x rated voltage.
Test duration : 1000 ±12 hrs.
Test criteria
(a). Appearance : No visible damage and no leakage.
(b). Capacitance change : ≦ ±4% of the initial value.
(c). Dissipation factor : ≦0.05% of increased value.
(d). Insulation resistance : ≧50% of initial specified value.

- Solderability :

In accordance with IEC 68-2-20 test Ta.
Method 1 (only for wire terminals).
Conditions
Solder bath temperature : 260 ±5 ℃.
Solder time : 2 ±0.5 sec.
Capacitor body may lie on printed circuit board.
Method 2 (only for tag terminals).
Conditions
Solder bath temperature : 350 ±5 ℃.
Solder time : 10 ±2 sec.
Test criteria
No damage and good tinning.

- Soldering Heat Resistance :

In accordance with IEC 68-2-20 test Tb.
Method 1A (only for wire terminals).
Conditions

Solder bath temperature : 260 ±5 ℃.
Solder time : 5 ±1 sec.
Capacitor body may lie on printed circuit board.
Method 2A (only for tag terminals).
Conditions
Solder bath temperature : 350 ±10 ℃.
Solder time : 10 ±2 sec.
Test criteria
(a). Appearance : No damage.
(b). Capacitance change : ≦ ±3% of the initial value.

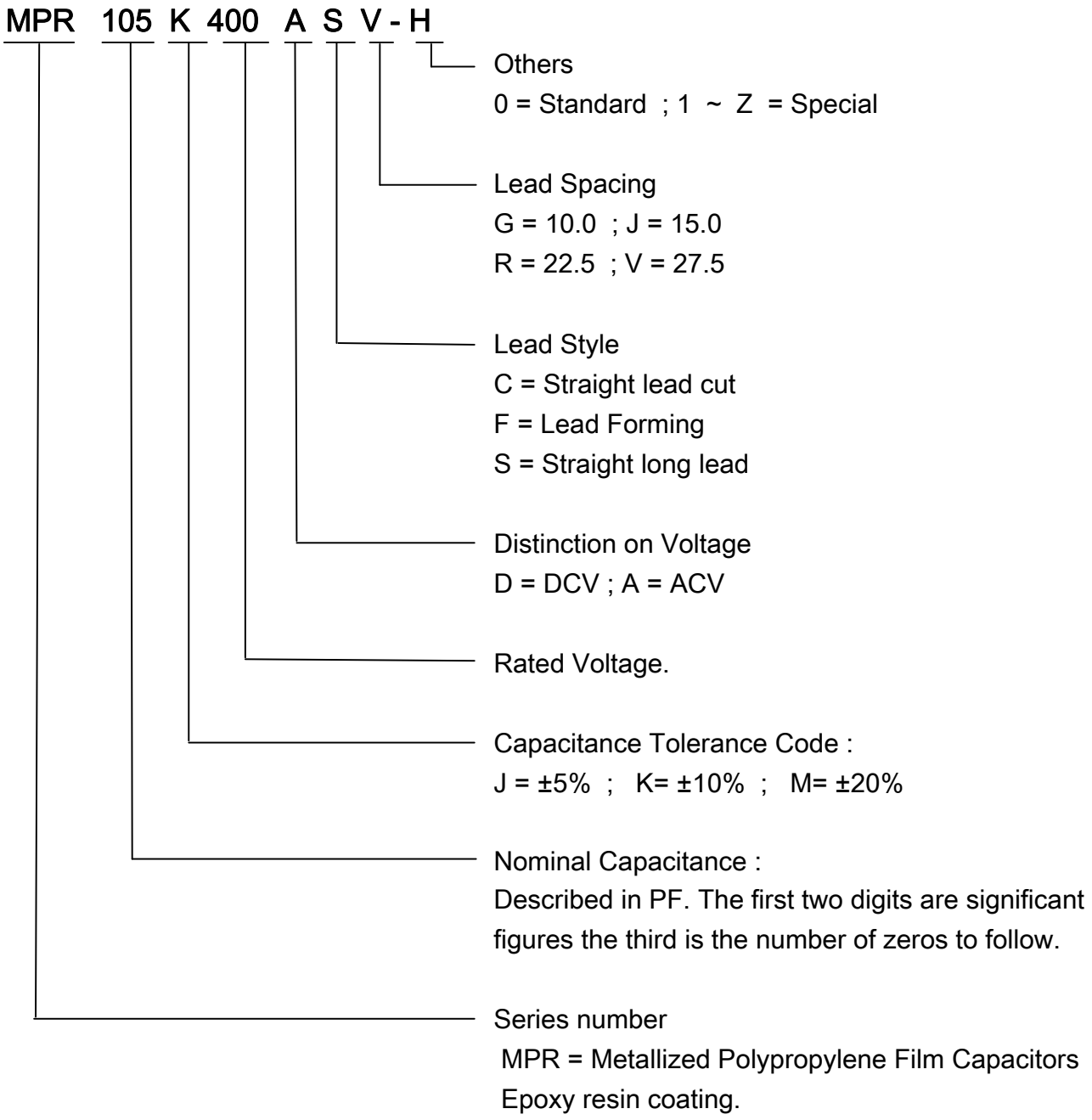
- Vibration Resistance : In accordance with IEC 68-2-6 test Fc.
  Conditions
  Frequence range : 10 to 55Hz.
  Conforming to max. : 10g.
  Test duration : 6hrs.
  Test criteria
  (a). Appearance : No damage.
  (b). Capacitance change : ≦ ±2% of the initial value.

- Tensile Strength Terminals : In accordance with IEC 68-2-6 test Ua.
  Conditions
  Load force and holding times :

Sectional area (mm x mm) or (Dia mm)	Load force Kg(N)	Holding times (sec)
≧ 0.07 to ≦ 0.2 (≧ 0.3 to ≦ 0.5)	0.5(5)	10
> 0.2 to ≦ 0.5 (> 0.5 to ≦ 0.8)	1.0(10)	10
> 0.5 to ≦ 1.0 (> 0.8 to ≦ 1.2)	2.5(25)	20
> 1.0 (> 1.2)	4.5(45)	20

Test criteria
No wire (tang) breakage and no damage of capacitor.

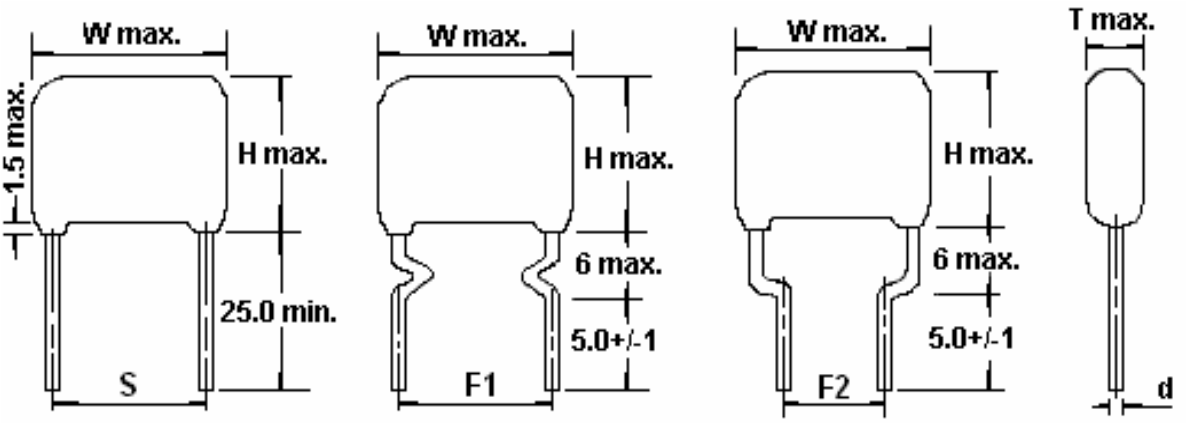
- Catalog Number System



Outline Drawing (unit : m / m)

Pitch Dimensions (mm)

W	13.0	19.0	26.0	32.0
S	10.0	15.0	22.5	27.5
F1	10.0	15.0	22.5	27.5
F2	5.0	10.0	17.5	22.5



±1.5 (S ; F1 ; F2 ≧20)

±1.0 (S ; F1 ; F2 <20)

Catalog Number	Capacitance (uF)	Rated Voltage (V.AC)	Dimensions in mm (max.) W x H x T x d
MPR104 x 250A x x - H	0.1		13.0 x 11.5 x 6.5 x 0.6
MPR124 x 250A x x - H	0.12		19.0 x 10.5 x 5.5 x 0.6
MPR154 x 250A x x - H	0.15		19.0 x 11.0 x 6.0 x 0.6
MPR184 x 250A x x - H	0.18		19.0 x 11.5 x 6.5 x 0.6
MPR224 x 250A x x - H	0.22		19.0 x 12.0 x 6.5 x 0.6
MPR274 x 250A x x - H	0.27		19.0 x 13.0 x 7.5 x 0.6
MPR334 x 250A x x - H	0.33		19.0 x 13.5 x 8.0 x 0.6
MPR394 x 250A x x - H	0.39	250	19.0 x 15.0 x 8.5 x 0.6
MPR474 x 250A x x - H	0.47		19.0 x 15.5 x 8.5 x 0.6
MPR564 x 250A x x - H	0.56		26.0 x 15.5 x 7.5 x 0.8
MPR684 x 250A x x - H	0.68		26.0 x 16.0 x 8.0 x 0.8
MPR824 x 250A x x - H	0.82		26.0 x 16.0 x 9.0 x 0.8
MPR105 x 250A x x - H	1.0		26.0 x 17.0 x 9.5 x 0.8
MPR125 x 250A x x - H	1.2		32.0 x 17.0 x 10.0 x 0.8
MPR155 x 250A x x - H	1.5		32.0 x 18.0 x 10.5 x 0.8
MPR185 x 250A x x - H	1.8		32.0 x 21.0 x 11.5 x 0.8
MPR205 x 250A x x - H	2.0		32.0 x 21.5 x 11.5 x 0.8
MPR225 x 250A x x - H	2.2		32.0 x 22.5 x 12.5 x 0.8

* See : Page 4

Catalog Number	Capacitance (uF)	Rated Voltage (V.AC)	Dimensions in mm (max.) W x H x T x d
MPR223 x 400A x x - H	0.022		13.0 x 11.5 x 6.5 x 0.6
MPR333 x 400A x x - H	0.033		13.0 x 12.0 x 7.5 x 0.6
MPR104 x 400A x x - H	0.10		19.0 x 13.5 x 7.5 x 0.6
MPR124 x 400A x x - H	0.12		19.0 x 13.5 x 8.0 x 0.6
MPR154 x 400A x x - H	0.15		19.0 x 14.5 x 8.5 x 0.6
MPR184 x 400A x x - H	0.18		26.0 x 14.5 x 7.0 x 0.8
MPR224 x 400A x x - H	0.22		26.0 x 15.0 x 7.5 x 0.8
MPR274 x 400A x x - H	0.27	400	26.0 x 16.0 x 8.5 x 0.8
MPR334 x 400A x x - H	0.33		26.0 x 16.5 x 9.5 x 0.8
MPR394 x 400A x x - H	0.39		26.0 x 17.5 x10.0 x 0.8
MPR474 x 400A x x - H	0.47		26.0 x 18.0 x10.5 x 0.8
MPR564 x 400A x x - H	0.56		32.0 x 18.5 x 11.0 x 0.8
MPR684 x 400A x x - H	0.68		32.0 x 19.5 x 12.0 x 0.8
MPR824 x 400A x x - H	0.82		32.0 x 22.0 x 12.0 x 0.8
MPR105 x 400A x x - H	1.0		32.0 x 23.5 x 14.0 x 0.8
MPR155 x 400A x x - H	1.5		32.0 x 27.0 x 17.0 x 0.8

* See : Page 4

Catalog Number	Capacitance (uF)	Rated Voltage (V.AC)	Dimensions in mm (max.) W x H x T x d
MPR104 x 450A x x - H	0.10		19.0 x 14.0 x 8.0 x 0.6
MPR154 x 450A x x - H	0.15		19.0 x 15.5 x 9.5 x 0.6
MPR224 x 450A x x - H	0.22		26.0 x 16.0 x 8.5 x 0.8
MPR334 x 450A x x - H	0.33	450	26.0 x 17.5 x10.0 x 0.8
MPR474 x 450A x x - H	0.47		26.0 x 21.0 x12.0 x 0.8
MPR684 x 450A x x - H	0.68		26.0 x 23.0 x15.0 x 0.8
MPR105 x 450A x x - H	1.0		32.0 x 23.0 x16.0 x 0.8

* See : Page 4