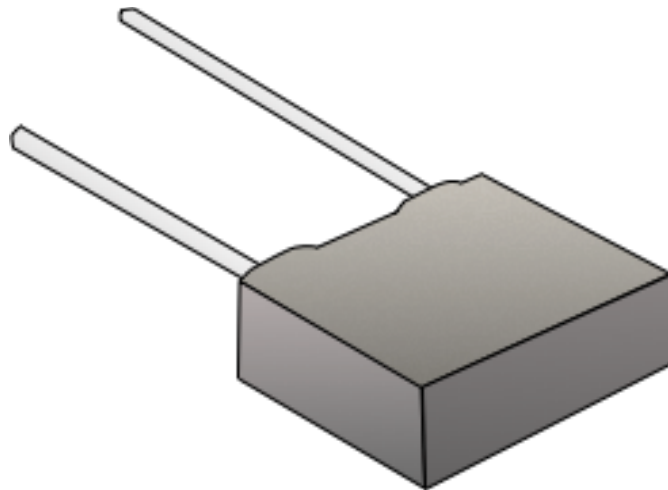


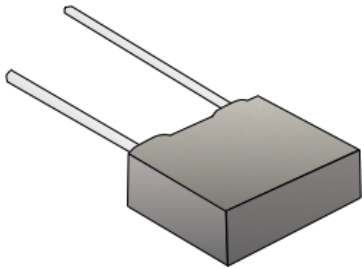
# MPER Radial Leaded Film Capacitors



**DuraCap International, Inc**  
P.O. Box 1579 Woodstock, Ontario  
N4S 0A7 Canada

**Phone:** (519) 539-4891  
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## MPER – Metallized Polyester / Radial Leads



- Radial Leaded (10 mm to 27.5mm)
- Non Inductively Wound
- Lead Material Tinned Copper Clad Steel
- Flame Retardant Case Meets UL94V-0
- Epoxy Encapsulant Meets UL94V-0
- Non-Polar

Excellent choice for general purpose applications such as bypass, decoupling, smoothing, and some timing, energy storage/discharge and arc suppression.

### General Specifications

**Operating Temperature:**  
-55°C to +125°C with voltage derating above 85°C

**Voltage Range:**  
63 VDC to 1000 VDC

**Capacitance Range:**  
0.0022µF to 10µF

**Capacitance Tolerance:**  
±5%, ±10%, ±20%

**CECC Approval:**  
Detail Specification 30401-009

### Total Self Inductance

Pitch (mm)	10	15	22.5	27.5
L (nH)	9	10	18	18

**Dielectric Withstand Voltage:**  
1.6 x Rated Voltage for 2 sec at +25°C ±5°C

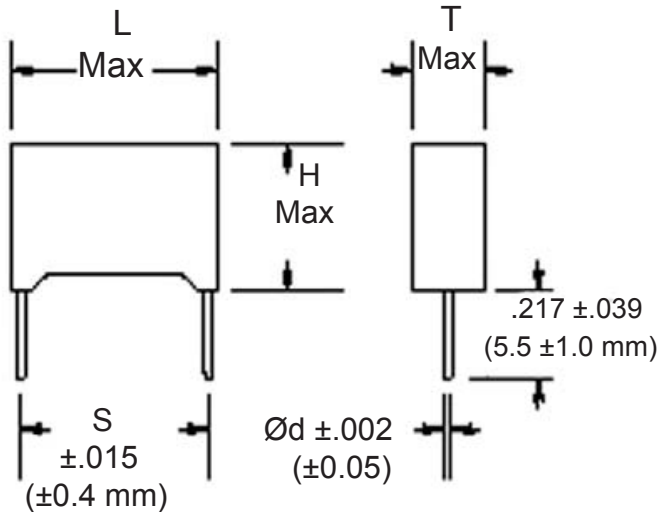
**Dissipation Factor (DF):**  
 $tg\delta \times 10^{-4}$  at +25°C ±5°C

### Maximum Pulse Rise Time (dv/dt)

Vn	Pitch (mm)			
	10	15	22.5	27.5
63	3	1.5	1	1
100/160	6/8	3	2	1
250	11	7	4	3
400	20	10	5.5	5
630	30	15	8	7
1000	60	25	15	10

If the working voltage (V) is less than the nominal voltage (Vn), the capacitor can work at higher dv/dt. In this case, the maximum value allowed is obtained by multiplying the above value (See table dv/dt) with the ratio Vn/V.

### Capacitor Outline Drawing



### Test Method and Performance

Insulation Performance	
<b>Test Conditions</b> Temperature Voltage Charge Time Voltage Charge	25 °C ± 5°C 1 minute 50 Vdc for Vn < 100 Vdc 100 Vdc for Vn ≥ 100 Vdc
<b>Performance</b> For Vn > 100 Vdc For Vn ≤ 100 Vdc	≥ 30,000 MΩ for ≤ 0.33µF ≥ 10,000 MΩ x µF for C > 0.33µF ≥ 10,000 MΩ for C ≤ 0.1µF ≥ 1,000 MΩ x µF for ≤ 0.1µF
Damp Heat Test	
<b>Test Conditions</b> Temperature Relative Humidity Test Duration	+40°C 95% 21 days
<b>Performance</b> Capacitance Change ΔC/C DF Change Δtgδ Insulation Resistance	≤ ± 5% ≤ 50 x 10 <sup>-4</sup> at 1 kHz ≥ 50% of limit value
Life Test	
<b>Test Conditions</b> Temperature Test Duration Voltage Applied	+85°C 1000 hrs 1.25 x Vn
<b>Performance</b> Capacitance Change ΔC/C DF Change Δtgδ Insulation Resistance	≤ ±5% ≤ 30 x 10 <sup>-4</sup> at 10 kHz for C ≤ 1.0 µF ≤ 20 x 10 <sup>-4</sup> at 1 kHz for C > 1.0 µF ≥ 50% of limit value
Soldering	
<b>Test Conditions</b> Soldering Temperature Soldering Duration	260°C ± 5°C 10 sec ± 1 sec
<b>Performance</b> Capacitance Change ΔC/C DF Change Δtgδ	≤ ±2% ≤ 30 x 10 <sup>-4</sup> at 10 kHz for C ≤ 1.0 µF ≤ 20 x 10 <sup>-4</sup> at 1 kHz for C > 1µF
Long Term Stability (after two years)	
<b>Storage Performance</b> Capacitance Change ΔC/C	≤ ± 2%
<b>Corona (Partial Discharge Inception Voltage)</b>	200 VAC for 100 VDC, 200 VDC 250 VAC for 400, 630 VDC 300 VAC for 1000

# MPER Case Code Reference Chart

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First Letter	Second Letter	mm			
		Length	Thickness	Height	Lead Diameter
A	A	7.2	2.5	6.5	0.5
	B	7.2	3.5	7.5	0.5
	C	7.2	4.5	9.5	0.6
	D	7.2	5.0	10.0	0.6
	D	7.2	6.0	11.0	0.6
B	A	10.5	3.5	7.0	0.6
	B	10.5	4.0	9.0	0.6
	C	10.5	5.0	11.0	0.6
	D	10.5	6.0	12.0	0.6
C	A	13.0	4.0	9.5	0.8
	B	13.0	5.0	11.0	0.8
	C	13.0	6.0	12.0	0.8
D	A	18.0	5.0	11.0	0.8
	B	18.0	6.0	12.0	0.8
	C	18.0	6.0	12.5	0.8
	D	18.0	7.5	13.5	0.8
	E	18.0	7.5	14.0	0.8
	F	18.0	10.0	16.0	0.8
E	A	26.5	6.0	15.0	0.8
	B	26.5	7.0	16.5	0.8
	C	26.5	8.5	17.0	0.8
	D	26.5	10.0	19.0	0.8
	E	26.5	13.0	23.0	0.8
F	A	32.0	11.0	20.0	0.8
	B	32.0	13.0	22.5	0.8
	C	32.0	15.0	30.0	0.8
G	A	37.0	18.0	33.0	0.8

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Cap ( $\mu$ F)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	$\phi$ d	
<b>50 VDC; 30 VAC</b>						
0.1000	7.2	2.5	6.5	5	0.5	MPER104*0050AAP1
0.1500	7.2	2.5	6.5	5	0.5	MPER154*0050AAP1
0.2200	7.2	3.5	7.5	5	0.5	MPER224*0050ABP1
0.3300	7.2	3.5	7.5	5	0.5	MPER334*0050ABP1
0.4700	7.2	3.5	7.5	5	0.5	MPER474*0050ABP1
0.6800	7.2	6.0	11.0	5	0.6	MPER684*0050AEP1
0.8200	7.2	6.0	11.0	5	0.6	MPER824*0050AEP1
1.0000	7.2	6.0	11.0	5	0.6	MPER105*0050AEP1

<b>63 VDC; 40 VAC</b>						
0.0470	7.2	2.5	6.5	5.0	0.5	MPER473*0063AAP1
0.0560	7.2	2.5	6.5	5.0	0.5	MPER563*0063AAP1
0.0680	7.2	2.5	6.5	5.0	0.5	MPER683*0063AAP1
0.0680	10.5	3.5	7.0	7.5	0.6	MPER683*0063BAP2
0.0820	7.2	2.5	6.5	5.0	0.5	MPER823*0063AAP1
0.1000	7.2	2.5	6.5	5.0	0.5	MPER104*0063AAP1
0.1000	10.5	3.5	7.0	7.5	0.6	MPER104*0063BAP2
0.1500	7.2	3.5	7.5	5.0	0.5	MPER154*0063ABP1
0.1500	10.5	3.5	7.0	7.5	0.6	MPER154*0063BAP2
0.1800	7.2	3.5	7.5	5.0	0.5	MPER184*0063ABP1
0.2200	7.2	3.5	7.5	5.0	0.5	MPER224*0063ABP1
0.2200	10.5	3.5	7.0	7.5	0.6	MPER224*0063BAP2
0.2200	13.0	5.0	11.0	10.0	0.8	MPER224*0063CBP3
0.2700	7.2	2.5	6.5	5.0	0.5	MPER274*0063AAP1
0.2700	10.5	3.5	7.0	7.5	0.6	MPER274*0063BAP2

Cap (µF)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	ød	
0.2700	13.0	5.0	11.0	10.0	0.8	MPER274*0063CBP3
0.3300	7.2	3.5	7.5	5.0	0.5	MPER334*0063ABP1
0.3300	10.5	3.5	7.0	7.5	0.6	MPER334*0063BAP2
0.3300	13.0	6.0	12.0	10.0	0.8	MPER334*0063CCP3
0.3900	13.0	6.0	12.0	10.0	0.8	MPER394*0063CCP3
0.4700	7.2	3.5	7.5	5.0	0.5	MPER474*0063ABP1
0.4700	10.5	4.0	9.0	7.5	0.6	MPER474*0063BBP2
0.4700	13.0	6.0	12.0	10.0	0.8	MPER474*0063CCP3
0.5600	13.0	5.0	11.0	10.0	0.8	MPER564*0063CBP3
0.6800	7.2	4.5	9.5	5.0	0.6	MPER684*0063ACP1
0.6800	10.5	5.0	11.0	7.5	0.6	MPER684*0063BCP2
0.6800	13.0	5.0	11.0	10.0	0.8	MPER684*0063CBP3
0.6800	18.0	6.0	12.0	15.0	0.8	MPER684*0063DBP4
0.8200	13.0	6.0	12.0	10.0	0.8	MPER824*0063CCP3
0.8200	18.0	7.5	13.5	15.0	0.8	MPER824*0063DDP4
1.0000	7.2	6.0	11.0	5.0	0.6	MPER105*0063AEP1
1.0000	10.5	5.0	11.0	7.5	0.6	MPER105*0063BCP2
1.0000	18.0	7.5	13.5	15.0	0.8	MPER105*0063DDP4
1.5000	18.0	6.0	12.5	15.0	0.8	MPER155*0063DCP4
2.2000	18.0	7.5	14.0	15.0	0.8	MPER225*0063DEP4
3.3000	18.0	10.0	16.0	15.0	0.8	MPER335*0063DFP4
4.7000	26.5	8.5	17.0	22.5	0.8	MPER475*0063ECP6
6.8000	26.5	10.0	19.0	22.5	0.8	MPER685*0063EDP6
10.0000	26.5	13.0	23.0	22.5	0.8	MPER106*0063EEP6

### 100 VDC; 63 VAC

	7.2	2.5	6.5	5.0	0.5	MPER102*0 P0AAA
0.0015	7.2	2.5	6.5	5.0	0.5	MPER152*0100AAP1
0.0022	7.2	2.5	6.5	5.0	0.5	MPER222*0100AAP1
0.0027	7.2	2.5	6.5	5.0	0.5	MPER272*0100AAP1
0.0033	7.2	2.5	6.5	5.0	0.5	MPER332*0100AAP1
0.0039	7.2	2.5	6.5	5.0	0.5	MPER392*0100AAP1
0.0047	7.2	2.5	6.5	5.0	0.5	MPER472*0100AAP1
0.0056	7.2	2.5	6.5	5.0	0.5	MPER562*0100AAP1
0.0068	7.2	2.5	6.5	5.0	0.5	MPER682*0100AAP1
0.0082	7.2	2.5	6.5	5.0	0.5	MPER822*0100AAP1

Cap ( $\mu$ F)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	$\phi$ d	
0.0100	7.2	2.5	6.5	5.0	0.5	MPER103*0100AAP1
0.0150	7.2	2.5	6.5	5.0	0.5	MPER153*0100AAP1
0.0180	7.2	2.5	6.5	5.0	0.5	MPER183*0100AAP1
0.0220	7.2	2.5	6.5	5.0	0.5	MPER223*0100AAP1
0.0270	7.2	2.5	6.5	5.0	0.5	MPER273*0100AAP1
0.0330	7.2	2.5	6.5	5.0	0.5	MPER333*0100AAP1
0.0330	10.5	3.5	7.0	7.5	0.6	MPER333*0100BAP2
0.0390	7.2	2.5	6.5	5.0	0.5	MPER393*0100AAP1
0.0470	7.2	2.5	6.5	5.0	0.5	MPER473*0100AAP1
0.0470	10.5	3.5	7.0	7.5	0.6	MPER473*0100BAP2
0.0680	7.2	2.5	6.5	5.0	0.5	MPER683*0100AAP1
0.0680	10.5	3.5	7.0	7.5	0.6	MPER683*0100BAP2
0.1000	7.2	2.5	6.5	5.0	0.5	MPER104*0100AAP1
0.1000	10.5	3.5	7.0	7.5	0.6	MPER104*0100BAP2
0.1200	10.5	4.0	9.0	7.5	0.6	MPER124*0100BBP2
0.1500	7.2	4.5	9.5	5.0	0.6	MPER154*0100ACP1
0.1500	10.5	4.0	9.0	7.5	0.6	MPER154*0100BBP2
0.2200	7.2	5.0	10.0	5.0	0.6	MPER224*0100ADP1
0.2200	10.5	5.0	11.0	7.5	0.6	MPER224*0100BCP2
0.3300	10.5	5.0	11.0	7.5	0.6	MPER334*0100BCP2

### 250 VDC; 160 VAC

0.0033	7.2	2.5	6.5	5.0	0.5	MPER332*0250AAP1
0.0047	7.2	2.5	6.5	5.0	0.5	MPER472*0250AAP1
0.0068	7.2	2.5	6.5	5.0	0.5	MPER682*0250AAP1
0.0100	7.2	2.5	6.5	5.0	0.5	MPER103*0250AAP1
0.0100	10.5	3.5	7.0	7.5	0.6	MPER103*0250BAP2
0.0150	7.2	2.5	6.5	5.0	0.5	MPER153*0250AAP1
0.0150	10.5	3.5	7.0	7.5	0.6	MPER153*0250BAP2
0.0180	10.5	3.5	7.0	7.5	0.6	MPER183*0250BAP2
0.0220	7.2	3.5	7.5	5.0	0.5	MPER223*0250ABP1
0.0220	10.5	3.5	7.0	7.5	0.6	MPER223*0250BAP2
0.0270	10.5	4.0	9.0	7.5	0.6	MPER273*0250BBP2
0.0330	7.2	3.5	7.5	5.0	0.5	MPER333*0250ABP1
0.0330	10.5	4.0	9.0	7.5	0.6	MPER333*0250BBP2
0.0390	10.5	4.0	9.0	7.5	0.6	MPER393*0250BBP2



Cap (µF)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	ød	
0.0390	13.0	5.0	11.0	10.0	0.8	MPER393*0400CBP3
0.0470	13.0	6.0	12.0	10.0	0.8	MPER473*0400CCP3
0.0470	18.0	5.0	11.0	15.0	0.8	MPER473*0400DAP4
0.0560	18.0	5.0	11.0	15.0	0.8	MPER563*0400DAP4
0.0680	18.0	5.0	11.0	15.0	0.8	MPER683*0400DAP4
0.0820	18.0	5.0	11.0	15.0	0.8	MPER823*0400DAP4
0.1000	18.0	6.0	12.0	15.0	0.8	MPER104*0400DBP4
0.1200	18.0	6.0	12.0	15.0	0.8	MPER124*0400DBP4
0.1500	18.0	7.5	13.5	15.0	0.8	MPER154*0400DDP4
0.1500	26.5	6.0	15.0	22.5	0.8	MPER154*0400EAP6
0.1800	26.5	6.0	15.0	22.5	0.8	MPER184*0400EAP6
0.2200	26.5	6.0	15.0	22.5	0.8	MPER224*0400EAP6
0.2700	26.5	7.0	16.5	22.5	0.8	MPER274*0400EBP6
0.3300	26.5	7.0	16.5	22.5	0.8	MPER334*0400EBP6
0.3900	26.5	8.5	17.0	22.5	0.8	MPER394*0400ECP6
0.4700	26.5	8.5	17.0	22.5	0.8	MPER474*0400ECP6
0.5600	26.5	10.0	19.0	22.5	0.8	MPER564*0400EDP6
0.6800	32.0	11.0	20.0	17.5	0.8	MPER684*0400FAP7
0.8200	32.0	11.0	20.0	17.5	0.8	MPER824*0400FAP7
1.0000	32.0	11.0	20.0	17.5	0.8	MPER105*0400FAP7
1.0000	32.0	13.0	22.5	17.5	0.8	MPER105*0400FBP7

<b>630 VDC; 220 VAC</b>
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0.0010	10.5	3.5	7.0	7.5	0.6	MPER102*0630BAP2
0.0015	10.5	3.5	7.0	7.5	0.6	MPER152*0630BAP2
0.0022	10.5	3.5	7.0	7.5	0.6	MPER222*0630BAP2
0.0033	10.5	3.5	7.0	7.5	0.6	MPER332*0630BAP2
0.0039	13.0	4.0	9.5	10.0	0.8	MPER392*0630CAP3
0.0047	10.5	4.0	9.0	7.5	0.6	MPER472*0630BBP2
0.0047	13.0	4.0	9.5	10.0	0.8	MPER472*0630CAP3
0.0056	13.0	4.0	9.5	10.0	0.8	MPER562*0630CAP3
0.0068	10.5	4.0	9.0	7.5	0.6	MPER682*0630BBP2
0.0068	13.0	4.0	9.5	10.0	0.8	MPER682*0630CAP3
0.0082	13.0	4.0	9.5	10.0	0.8	MPER822*0630CAP3
0.0100	10.5	5.0	11.0	7.5	0.6	MPER103*0630BCP2
0.0100	13.0	4.0	9.5	10.0	0.8	MPER103*0630CAP3

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Cap (µF)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	ød	
0.0120	13.0	5.0	11.0	10.0	0.8	MPER123*0630CBP3
0.0150	10.5	6.0	12.0	7.5	0.6	MPER153*0630BDP2
0.0150	13.0	5.0	11.0	10.0	0.8	MPER153*0630CBP3
0.0180	13.0	5.0	11.0	10.0	0.8	MPER183*0630CBP3
0.0220	13.0	6.0	12.0	10.0	0.8	MPER223*0630CCP3
0.0270	18.0	5.0	11.0	15.0	0.8	MPER273*0630DAP4
0.0330	18.0	5.0	11.0	15.0	0.8	MPER333*0630DAP4
0.0390	18.0	6.0	12.0	15.0	0.8	MPER393*0630DBP4
0.0470	18.0	6.0	12.0	15.0	0.8	MPER473*0630DBP4
0.0560	18.0	6.0	12.0	15.0	0.8	MPER563*0630DBP4
0.0680	18.0	7.5	13.5	15.0	0.8	MPER683*0630DDP4
0.0680	26.5	6.0	15.0	22.5	0.8	MPER683*0630EAP6
0.0820	26.5	6.0	15.0	22.5	0.8	MPER823*0630EAP6
0.1000	26.5	6.0	15.0	22.5	0.8	MPER104*0630EAP6
0.1200	26.5	7.0	16.5	22.5	0.8	MPER124*0630EBP6
0.1500	26.5	7.0	16.5	22.5	0.8	MPER154*0630EBP6
0.1800	26.5	8.5	17.0	22.5	0.8	MPER184*0630ECP6
0.2200	26.5	8.5	17.0	22.5	0.8	MPER224*0630ECP6
0.2700	32.0	13.0	22.5	17.5	0.8	MPER274*0630FBP7
0.3300	32.0	11.0	20.0	17.5	0.8	MPER334*0630FAP7
0.3900	32.0	11.0	20.0	17.5	0.8	MPER394*0630FAP7
0.4700	32.0	13.0	22.5	17.5	0.8	MPER474*0630FBP7

### 1000 VDC; 250 VAC

0.0022	13.0	4.0	9.5	10.0	0.8	MPER222*1000CAP3
0.0027	13.0	4.0	9.5	10.0	0.8	MPER272*1000CAP3
0.0033	13.0	4.0	9.5	10.0	0.8	MPER332*1000CAP3
0.0039	13.0	5.0	11.0	10.0	0.8	MPER392*1000CBP3
0.0047	13.0	5.0	11.0	10.0	0.8	MPER472*1000CBP3
0.0056	13.0	5.0	11.0	10.0	0.8	MPER562*1000CBP3
0.0068	13.0	5.0	11.0	10.0	0.8	MPER682*1000CBP3
0.0082	13.0	5.0	11.0	10.0	0.8	MPER822*1000CBP3
0.0100	18.0	5.0	11.0	15.0	0.8	MPER103*1000DAP4
0.0120	18.0	5.0	11.0	15.0	0.8	MPER123*1000DAP4
0.0150	18.0	6.0	12.0	15.0	0.8	MPER153*1000DBP4
0.0180	18.0	6.0	12.0	15.0	0.8	MPER183*1000DBP4

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Cap ( $\mu$ F)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	$\phi$ d	
0.0220	18.0	6.0	12.0	15.0	0.8	MPER223*1000DBP4
0.0270	18.0	7.5	13.5	15.0	0.8	MPER273*1000DDP4
0.0330	26.5	6.0	15.0	22.5	0.8	MPER333*1000EAP6
0.0390	26.5	6.0	15.0	22.5	0.8	MPER393*1000EAP6
0.0470	26.5	6.0	15.0	22.5	0.8	MPER473*1000EAP6
0.0560	26.5	7.0	16.5	22.5	0.8	MPER563*1000EBP6
0.0680	26.5	7.0	16.5	22.5	0.8	MPER683*1000EBP6
0.0820	26.5	8.5	17.0	22.5	0.8	MPER823*1000ECP6
0.1000	26.5	8.5	17.0	22.5	0.8	MPER104*1000ECP6
0.1200	26.5	10.0	19.0	22.5	0.8	MPER124*1000EDP6
0.1500	32.0	11.0	20.0	17.5	0.8	MPER154*1000FAP7
0.1800	32.0	13.0	22.5	17.5	0.8	MPER184*1000FBP7
0.2200	32.0	13.0	22.5	17.5	0.8	MPER224*1000FBP7
0.0022	13.0	4.0	9.5	10.0	0.8	MPER222*1000CAP3
0.0027	13.0	4.0	9.5	10.0	0.8	MPER272*1000CAP3
0.0033	13.0	4.0	9.5	10.0	0.8	MPER332*1000CAP3
0.0039	13.0	5.0	11.0	10.0	0.8	MPER392*1000CBP3
0.0047	13.0	5.0	11.0	10.0	0.8	MPER472*1000CBP3
0.0056	13.0	5.0	11.0	10.0	0.8	MPER562*1000CBP3
0.0068	13.0	5.0	11.0	10.0	0.8	MPER682*1000CBP3
0.0082	13.0	5.0	11.0	10.0	0.8	MPER822*1000CBP3
0.0100	18.0	5.0	11.0	15.0	0.8	MPER103*1000DAP4
0.0120	18.0	5.0	11.0	15.0	0.8	MPER123*1000DAP4
0.0150	18.0	6.0	12.0	15.0	0.8	MPER153*1000DBP4
0.0180	18.0	6.0	12.0	15.0	0.8	MPER183*1000DBP4
0.0220	18.0	6.0	12.0	15.0	0.8	MPER223*1000DBP4
0.0270	18.0	7.5	13.5	15.0	0.8	MPER273*1000DDP4
0.0330	26.5	6.0	15.0	22.5	0.8	MPER333*1000EAP6
0.0390	26.5	6.0	15.0	22.5	0.8	MPER393*1000EAP6
0.0470	26.5	6.0	15.0	22.5	0.8	MPER473*1000EAP6
0.0560	26.5	7.0	16.5	22.5	0.8	MPER563*1000EBP6
0.0680	26.5	7.0	16.5	22.5	0.8	MPER683*1000EBP6
0.0820	26.5	8.5	17.0	22.5	0.8	MPER823*1000ECP6
0.1000	26.5	8.5	17.0	22.5	0.8	MPER104*1000ECP6
0.1200	26.5	10.0	19.0	22.5	0.8	MPER124*1000EDP6
0.1500	32.0	11.0	20.0	17.5	0.8	MPER154*1000FAP7

Cap ( $\mu$ F)	Size (mm)					Part Description
	D Diameter	L Length	T Thickness	S Spacing	$\phi$ d	
0.1800	32.0	13.0	22.5	17.5	0.8	MPER184*1000FBP7
0.2200	32.0	13.0	22.5	17.5	0.8	MPER224*1000FBP7