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FARAD manufactures a wide range of Film Capacitor for various application. Before making a choice , please refer to the pictures on inside-cover stipulated with specification profile. For more details , you can check every page according to **INDEX**.

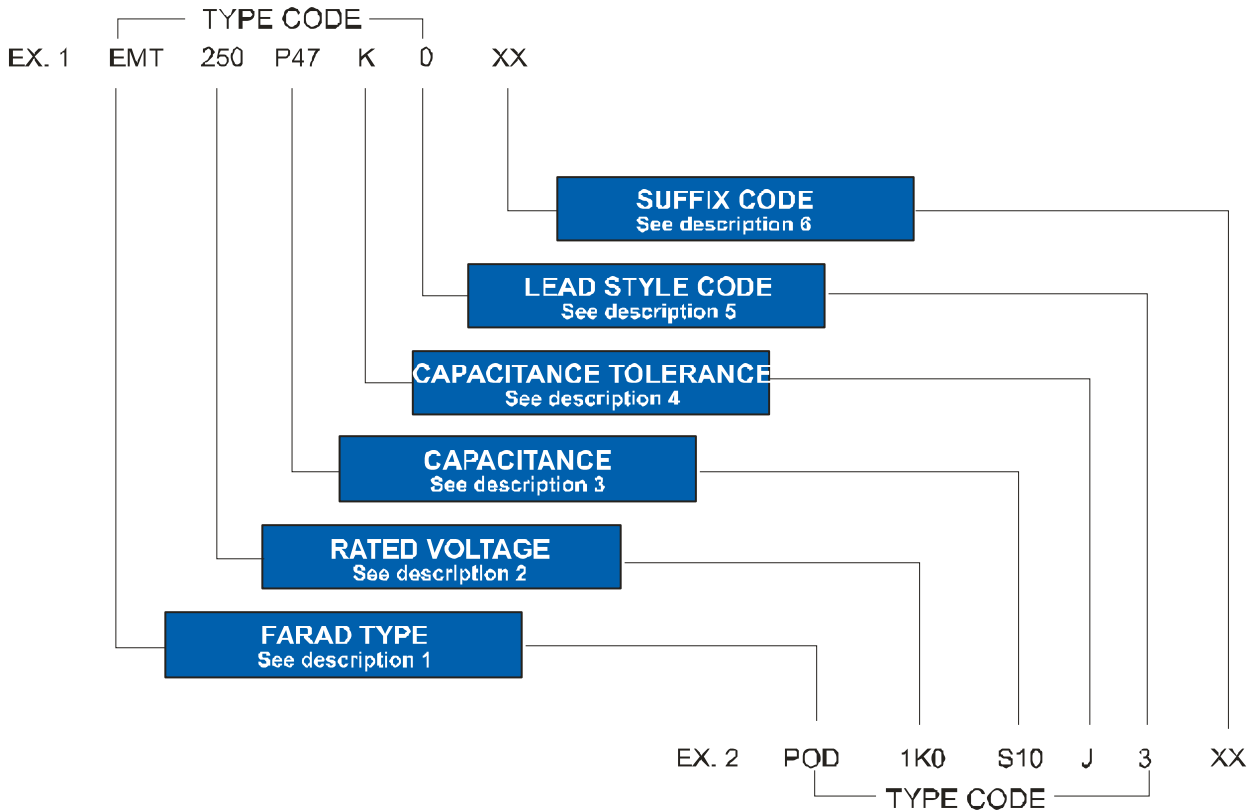
Those types listed in this catalog are our standard products. We are manufacturing customer-design film capacitors. **If you need anything not listed herein , please contact us.**



FARAD CAPACITOR REFERENCE DATA-1

INSTRUCTION FOR MANUFACTURE CODE

Manufacture code, including TYPE Code, is as follows.



DESCRIPTION

1. Symbols of Farad Type : (with three letters)

a) First code symbolizes dielectric used:

- "E"—Polyester Capacitor, as type : EOT,EMF,EMD,END, ..., etc.
- "P"—Polypropylene Capacitor as type : POT,PMD,PPD, ... , etc.
- "C"—RC compound construction as type : CRD,CRK, etc.
- "M"—Polyester Capacitor,miniature pitch as type : MND, etc.

b) The second code symbolizes construction features:

- "M"—Metallized film dielectric material.
- "N"—Metallized film dielectric material,miniature size.
- "W"—Wax impregnated for pulse application.
- "D"—Double-side metallized electrodes.
- "O"—Film-foil construction capacitor
- "A"—Hibrid electrode constructon.
- "X"—Across-Line capacitor.

c) The third code symbolizes the shape and appearance:

- | | | | |
|---------------------|--------------------|-------------------------|----------------------------|
| T: Tubular/JIS 0.8 | D: Dipped/JIS 93 | Q: Tubular,Inductive. | Z: Tubular,Coated. |
| R: Round / JIS 16 | F: Flat Oval/JIS 9 | P: Flat Oval,Inductive. | G: Round,Inductive,Coated. |
| L: Inductive/JIS 9¢ | K: Encased/JIS 9¢ | C: Round , Inductive. | |

2.Symbols of Rated Voltage:(with three digits)

- | | | |
|--------------------|--------------------|----------------------|
| 063: 63VDC/JIS 1J | 400: 400VDC/JIS 2G | 1K0: 1,000VDC/JIS 3A |
| 100: 100VDC/JIS 2A | 450: 450VDC/JIS 2W | 1K6: 1,600VDC/JIS 3C |
| 250: 250VDC/JIS 2E | 630: 630VDC/JIS 2J | 2A5: 250VAC |

3. Symbols of capacitance in Mfd: (with three digits)

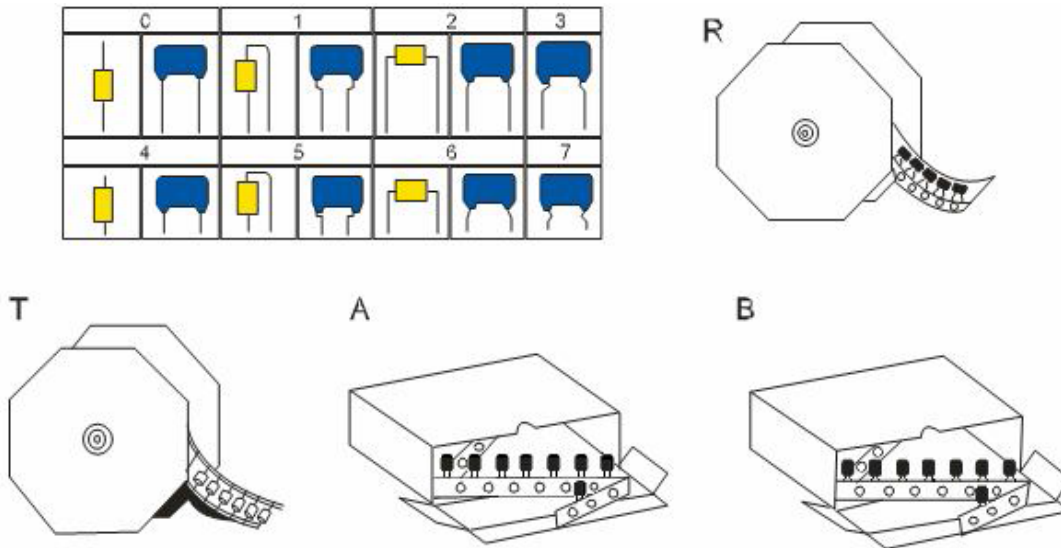
- A: Indicates tens. EX: 12Mfd=A12, 10Mfd=A10.(Mfd: Micro-Farad)
- W(Word): Indicates unit. EX: 1.5Mfd=W15
- P(Point): Digits following the decimal point. EX: 0.22Mfd=P22
- S(Single Zero): Digits following the decimal point followed by one zero. EX: 0.015Mfd=S15
- D(Double Zeroes): Digits following the decimal point followed by two zeroes. EX: 0.0047Mfd=D47
- T(Triple Zeroes): Digits following the decimal point followed by three zeroes. EX: 0.00068Mfd=T68

4. Symbols of capacitance Tolerance: Same as JIS and EIA Standard.

Symbols	B	C	D	F	G	H	I	J	K	M	N	V	Z
Tolerance percentage	±0.1	±0.25	±0.5	±1.0	±2.0	±2.5	±3.0	±5.0	±10	±20	±30	+20 -10	+80 -20

5. Lead Style Code:

- | | | |
|-----------------------------------|----------------------------|-------------------------------------|
| 0 straight long leads/non-forming | 4 non-forming with cut | R: taped and reeled with forming |
| 1 inward forming without cut | 5 inward forming with cut | T: taped and reeled without forming |
| 2 outward forming without cut | 6 outward forming with cut | A: ammo packing without forming |
| 3 kink without cut | 7 kink and cut | B: ammo packing with forming |



6. Suffix Code:

Those are the codes for internal identification purpose.



FARAD CAPACITOR REFERENCE DATA-2

Farad capacitors are produced by fully automatic machines making the capacitors be highly reliable and precise. They are well controlled in each manufacturing process using techniques proven to be effective over many years. All capacitors are 100% tested basing on each production lot.

Unless otherwise specified , we apply MIL-STD-105E , Level II sampling plan. AQL 0.4% for major electrical characteristics and 1.5% for minor characteristics before shipping.

***CAPACITANCE:** Measured at 1 KHz at 20±3°C.

***INSULATION RESISTANCE:** Measurement shall be taken at 20±3°C after applying a voltage as follows for 60±5 sec.

Rated Voltage (Vr)	Test Voltage
Vr < 100 VDC	10 VDC
100 ≤ Vr < 500 VDC	100 VDC
500 VDC ≤ Vr	500 VDC

***A.C. APPLICATION:** The peak value of the superimposed AC plus DC voltage should not exceed the rated DC voltage. Please refer to relative characteristic on de-rated curves. (see Data—4 and 5)

***TEMPERATURE COEFFICIENT:** (Refer to operating temperature range or within–40°C to +85°C.)

Polyester : 400 ± 200 PPM/°C

Polypropylene : - 220 ± 110 PPM/°C

***LONG TERM STABILITY:** Capacitance shall change no more than ±2% for Polyester and ±0.5% for Polypropylene after being stored for two years at temperature +20 to +40°C and R.H. 40 to 60%.

***LIFE TEST:** 1000 hours at 85°C with 125% rated DC voltage applied.

Test criteria:

	ΔC/C	D.F.	I.R.
Polyester	≤±5%	≤1.2%	≥0.5×I.R. min.
Polypropylene	≤±3%	≤0.2%	≥0.5×I.R. min.

***FLAME RETARDANT:**

Flame retardant tape upon request ; case , epoxy comply with UL 94 V-O.

***LEAD MATERIAL:**

Tinned copper clad steel wire meets requirements of IEC 384-1 , IEC 68-2-20 , Solderability Test.

***PULL TEST:**

Refer to IEC 384-1 para. 4.13(IEC 68-2-21 Test Ua) test required.

***BEND TEST:**

Refer to IEC 384-1 para 4.13(IEC 68-2-21 Test Ub) test required.

***VIBRATION TEST:**

Refer to IEC 384-1 P4.17 . Capacitor is mounted in apparatus and then subjected to a simple harmonic motion with 0.03" amplitude. The entire frequency range , from 10 to 55 Hz , applied for a period of 2 hours in each of 3 mutually perpendicular planes (total 6 hours). After the test , capacitor shall show no evidence of physical damage and electrical performance shall not be degraded.




FARAD CAPACITOR REFERENCE DATA-2

*HUMIDITY TEST:

Refer to IEC 384-1 4.22 . Capacitors are subjected to an environmental test chamber at R.H. 90 to 95 %, 40°C for 240 hours. After the test , capacitor shall be conditioned at room temperature for 2 hours and meet the following criteria:

- (1) Capacitance change shall be less than 5% for polyester , 3% for polypropylene.
- (2) Dissipation factor shall be less than 1.2% for polyester , 0.2% for polypropylene.
- (3) Insulation resistance shall be over 50% of the minimum requirement.

*MARKING:

Capacitors are legibly and permanently marked with capacitance , tolerance , rated voltage and manufacturer's name "FARAD", or trade mark :  , or symbol : "F" , "F" .

*PACKING:

Please refer to related pictures on inside back cover.

- (1)Bulk
 - Small inner cardboard box / PVC bag.
 - with label packed in one standard export carton .
- (2)Axial Tape and Reel
 - 4 boxed reels packed in one standard export carton .
- (3)Radial Tape and Reel (inductive and non-inductive)
 - (a) 6 boxed reels packed in one standard export carton .
 - (b) 6 ammo boxed reels packed in one standard export carton .

*LABEL FORM:

	POLYPROPYLENE FILM CAPACITOR				Commodity Description
Product Type	Type:	POD	Q'ty. :	250 pcs	Quantity
Rated Cap.	Cap.:	.0033 Mfd	Tol. :	±5 %	Cap. Tolerance
Rated Voltage	Vr.:	1000 VDC	T.V. :	2500 VDC	Test Voltage
Manufacturer P/N	Mfg. P/N:	POD1K0D33J500		DATE : 20110818	Manufacture Date
Customer P/N	C. P/N:	10-21480-03	Inspector :		Inspector Signature
Packing Signature	Packing:				



GENERAL TECHNICAL INFORMATION:

1. Operating Voltage

1.1 VDC application

Rated voltage is the maximum voltage which can be applied continuously to the capacitor in the rated temperature.

A voltage which is higher than the rated voltage being applied on the capacitor may puncture the dielectric film and then may cause the capacitor being short circuit.

Metallized capacitors bear self-healing properties. When the application of voltage is higher than rated voltage, the capacitor may not be short circuit immediately. However, what may occur is a progressive drop in IR with a risk of smoke or fire.

1.2 VAC application (Sinusoidal wave 50/60 Hz)

A film capacitor is a nonpolar one and can be used in AC application. When a DC marked capacitor is used as an AC capacitor, The peak voltage shall be less than the rated voltage. Because heat is generated in AC application, please do not apply a AC voltage higher than that specified for each individual series.

1.3 Pulse application (polypropylene capacitor)

The dielectric strength of film capacitor is diminished with the rising frequency. The rated voltage of the capacitor shall be derated when it is in high frequency application. In the case of high frequency application please contact with our Technical Service people.

1.4 Derating of rated voltage for higher operating temperature.

When a capacitor is in an application where the temperature is higher than rated temperature, it is necessary to have the voltage derated for preventing the dielectric film from being damaged. Please see the derating requirement specified for each individual series.

GENERAL TECHNICAL INFORMATION:**2. Permissible Current**

When a capacitor is used in VAC application at high frequency, internal heating of the capacitor may follow with a possible risk of smoke or fire. Internal heating is caused by the current flowing through internal resistance of the capacitor. If the heating is excessive, the capacitor shall be deteriorated and thereby may cause a short or open circuit of the capacitor, even catch fire in the worst.

The heating of the capacitor is caused by two different types of current.

2.1 R.M.S. current (effective current) generated by the periodic wave-form voltage. This current will cause the entire body of the capacitor to be heated up.

2.2 Peak current caused by a pulse

When a high current pulse flows through the capacitor in a very short time (few micro seconds), a localized heating of the ends of the capacitor might take place due to the resistance of the contacts between the lead and the end spray, or between the end spray and electrodes of the capacitor. These conditions usually occur mainly in the circuits such as switching, snubber, fly-back and S-correction.

The pulse rise time (dv/dt) defines the capability of a capacitor to withstand high peak current due to fast voltage change. The peak current is defined as the following formula:

$$I_p = C \times dv/dt \quad \text{where } I_p \text{ in A, } C \text{ in } \mu\text{f, } dv/dt \text{ in V}/\mu\text{s}$$

The data of pulse rise time (dv/dt) refers to the pulses equaling to the rated voltage. When a capacitor is used at a voltage lower than rated voltage, the permissible pulse rise time may be increased as the following formula.

$$dv/dt \text{ (max)} = (V_r/V_o) * dv/dt \text{ (specified)}$$

where V_r is rated voltage, V_o is operating voltage

2.3 The maximum values of dv/dt in this catalogue must not be exceeded in application for preventing a dangerous overheating of the capacitor. If there is any concerned in application, please kindly contact with our Technical Service people.

2.4 If a capacitor is subjected to a r.m.s current or pulse current which is higher than that specified, the current which is caused by a bad functioning of any other equipment, we strongly suggest that a protection device shall be used.



GENERAL TECHNICAL INFORMATION:

3. Corona (Ionization)

The phenomenon of corona is the ionization of air trapped inside the capacitor. The air may come from

- a. the air contained inside the dielectric
- b. the air present in between the different layers of the film which form the capacitor
- c. the air present near the ends of the capacitor

When the intensity of the electric field that is formed in a capacitor exceeds the dielectric rigidity of the air, the molecular of the air may be ionized that could damage the dielectric of the capacitor and/or the metallization itself and thereby this phenomenon causes a drop in the capacitance and in case of a persistent ionization, it may rise the capacitor to a short circuit or fire.

The voltage of corona is regarded to start (CSV, corona start voltage) from 250 VAC for a sinusoidal wave or 700 Vp-p (peak to peak) for other wave-form.

For a proper application of a capacitor, please make sure that the capacitor shall be used at the voltage which is lower than CSV.

Please contact with our Technical Service people for more information.

4. Operating Temperature

When a capacitor is in VAC or pulse application, the current flows through the capacitor may make it be heated up. If the capacitor heats up too much, it may be deteriorated thereby causing a short circuit or fire.

It is essential that the operating temperature described for each series in the catalogue shall be followed.

When a capacitor is used at a temperature higher the maximum operating temperature, the dissipation factor (DF) shall increase and thereby heat is generated by the capacitor itself. Temperature exceeding the maximum allowable temperature, dielectric of the capacitor may be damaged. In such case, it may cause the capacitor to be short circuit or to increase the risk of fire or smoke.

In the case of concerning other components or parts of the circuit generating heat and the heat causing localized heating of the capacitor to a temperature higher than maximum operating temperature, we suggest that the hottest point of the capacitor shall be checked and proper prevention shall be added.



FARAD CAPACITOR REFERENCE DATA-3

GENERAL TECHNICAL INFORMATION:

5. Hum (Buzz)

The hum is the noise generated when in VAC or pulse application. It is produced in the capacitor due to mechanical vibration of the film caused by the coulomb force which exists between the opposite polarity. A louder hum is generated when the applied voltage waveform is in distortion, and/or contains higher frequency component. Hum does not deteriorate the characteristics of the capacitor.

6. Across-the -line and interference suppression application

A capacitor which is in Across-the -line and interference suppression application may be subjected to a main power source voltage on permanent basis and to the surges which are caused by lighting or power commutation. For such application, it is recommended that the safety approved capacitors shall be used.

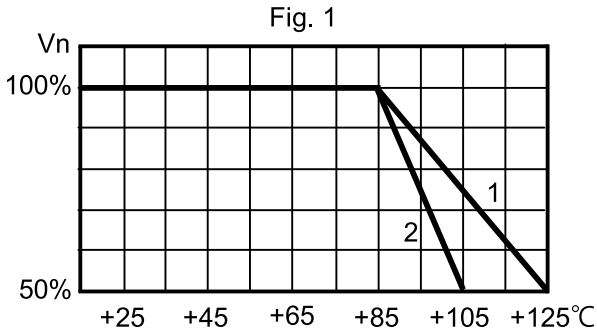
X2 class capacitor is used for across-the -line and interference suppression application, It is important to make sure that there is no peak pulse higher than 600 V for the capacitors rated 275 VAC. Otherwise, it is recommended to add a surge suppressor (e.g. varistor) in parallel to the capacitor.

7. General Precaution

1. The capacitors shall be avoided rapid charging and discharging, especially for the metallized capacitor. A rapid charging or discharging will deteriorate the capacitor. We suggest that the capacitor shall be charged or discharged through a resistor with a resistance higher than 1000 ohms.
2. The capacitor shall be avoid being mechanical shock.
3. When solvent is used to clean the capacitor, inactive material, such as alcohol, shall be used.

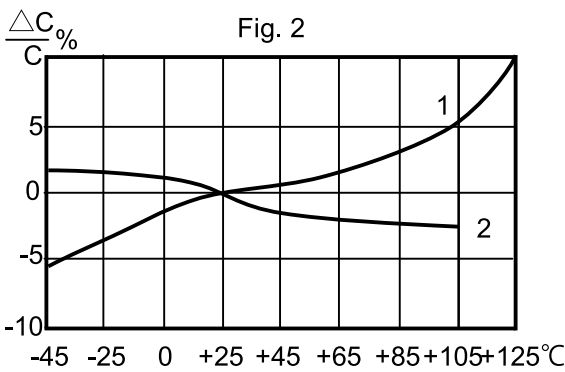
8. Please contact our Technical Service people for more information.

TEMPERATURE CHARACTERISTICS(TYPICAL)

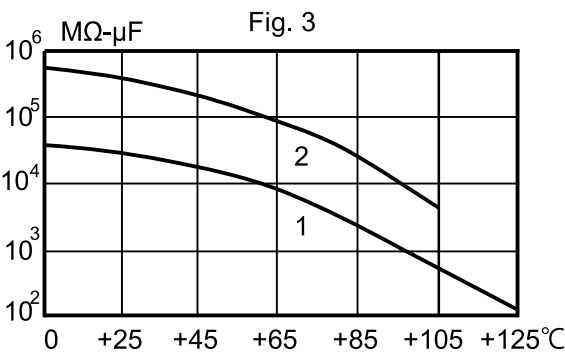
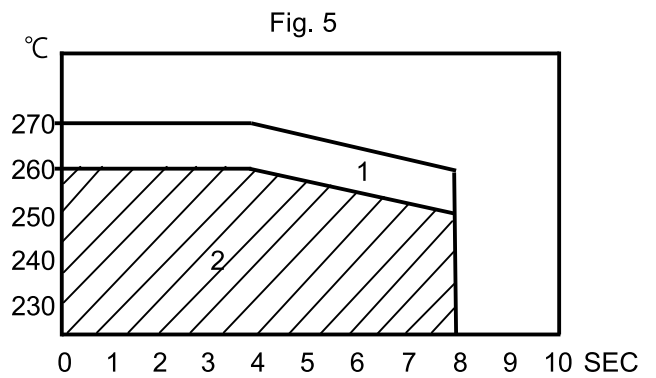


Curve 1 : Polyester dielectric.

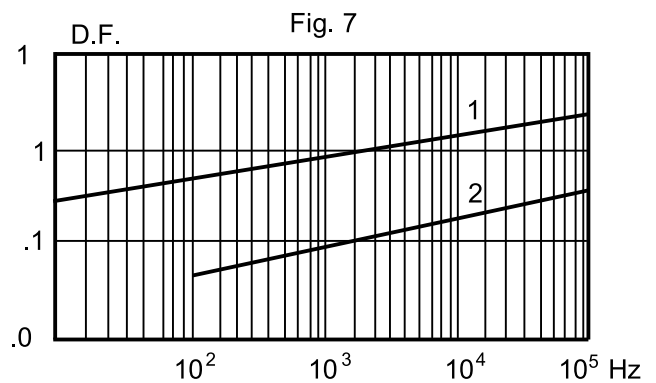
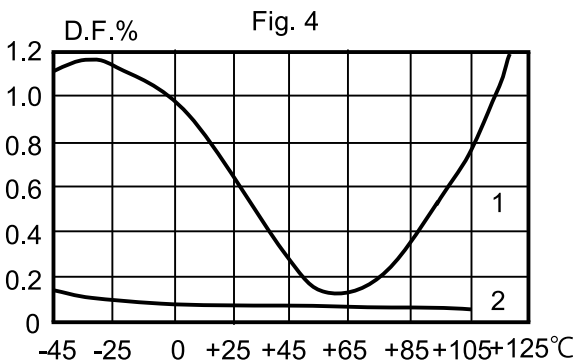
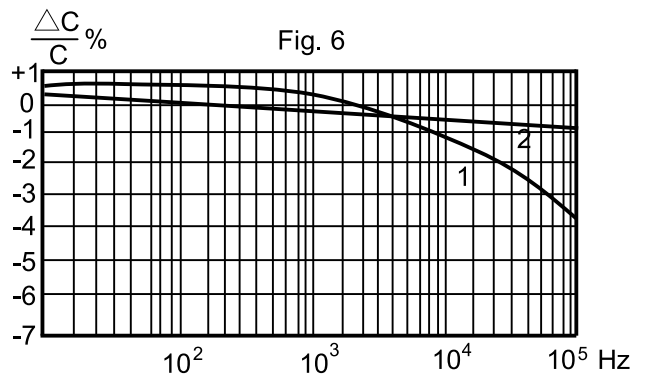
Curve 2 : Polypropylene dielectric.



SOLDERING TEMPERATURE VS TIME

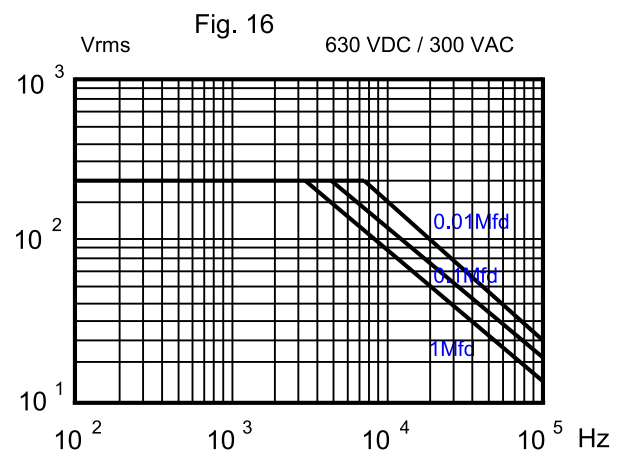
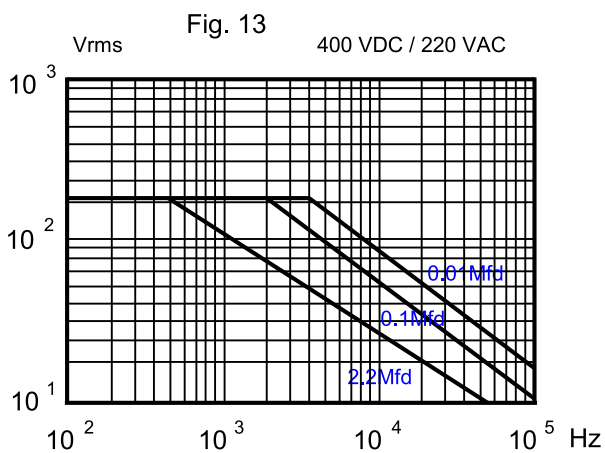
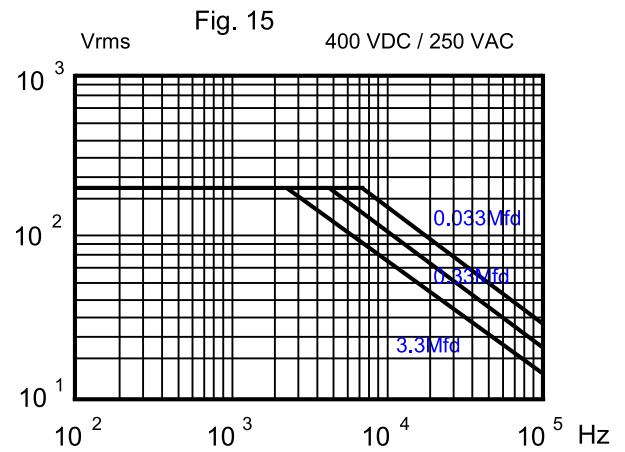
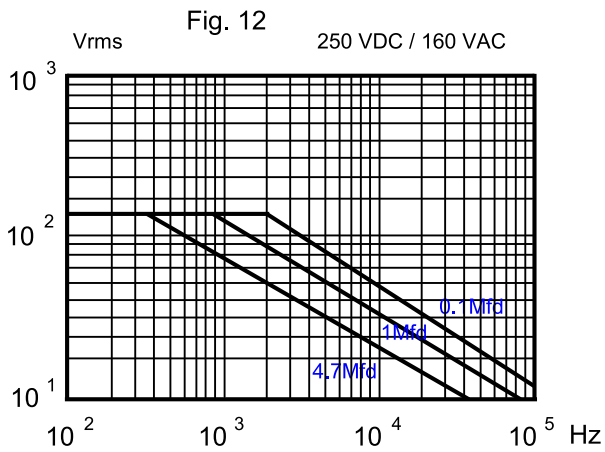
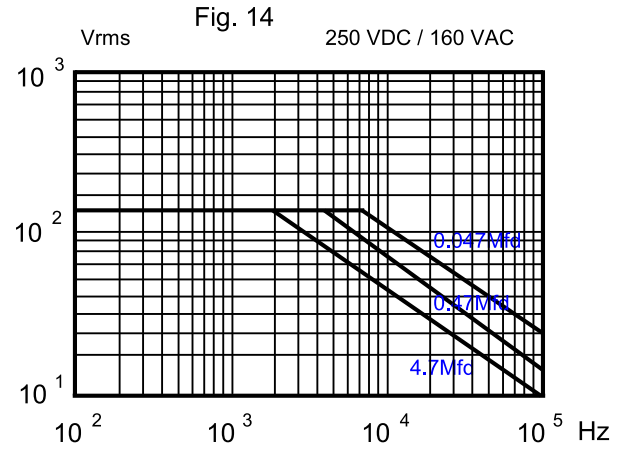
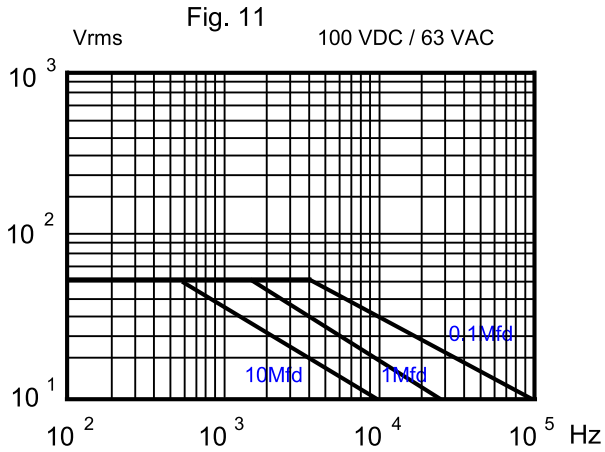


FREQUENCY CHARACTERISTICS(TYPICAL)

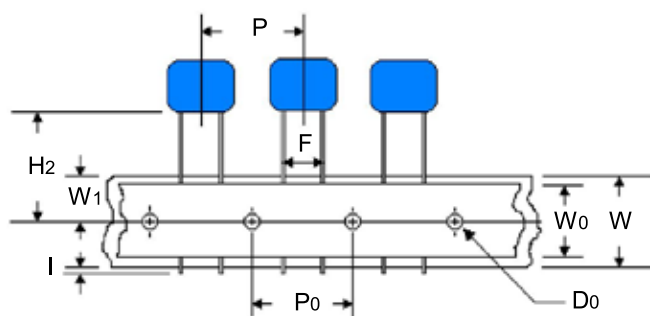


*Fig. 11 to 13 : Polyester dielectric.

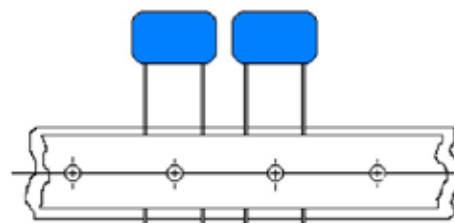
*Fig. 14 to 16 : Polypropylene dielectric.



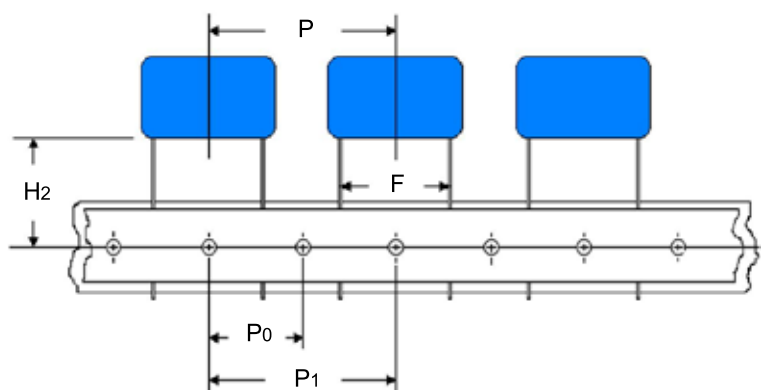
STRAIGHT LEAD TAPING



SINGLE PITCH FOR LEAD SPACE 5 mm



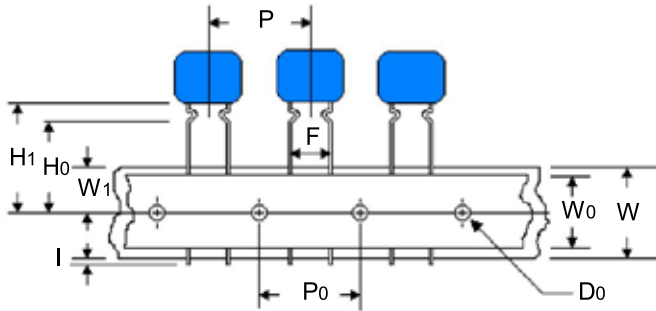
SINGLE PITCH FOR LEAD SPACE 7.5 & 10 mm



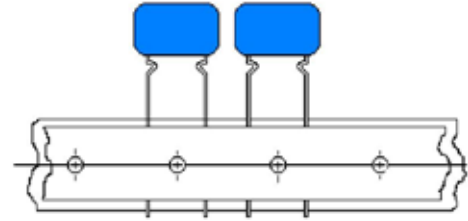
DOUBLE PITCH FOR LEAD SPACE 10 , 15 & 20 mm

DIMENSIONS (mm)		
CODE	SINGLE PITCH	DOUBLE PITCH
P	12.7 ± 1.0	25.4 ± 1.0
P0	12.7 ± 0.2	12.7 ± 0.2
P1		25.4 ± 0.2
F	(5 , 7.5 , 10) ± 0.8	(10 , 15 , 20) ± 0.8
W	18.0 ± 0.5	18.0 ± 0.5
W0	12.5 min.	12.5 min.
W1	9.0 ± 0.5	9.0 ± 0.5
H0	16.0 ± 0.5	16.0 ± 0.5
H1	20.0 ± 0.75	20.0 ± 0.75
H2	18.0 ~ 20.0	18.0 ~ 20.0
I	2.0 max.	2.0 max.
D0	4.0 ± 0.2	4.0 ± 0.2

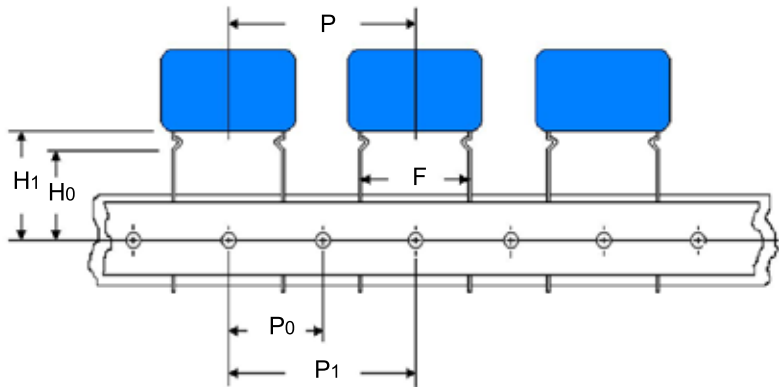
CRIMPED LEAD TAPING



SINGLE PITCH FOR LEAD SPACE 5 mm



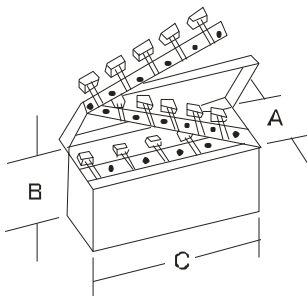
SINGLE PITCH FOR LEAD SPACE 7.5 & 10 mm



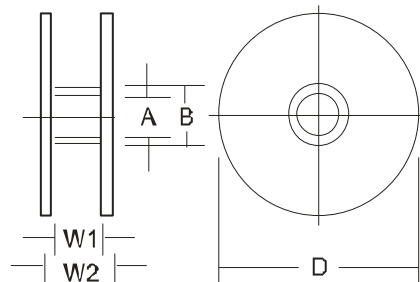
DOUBLE PITCH FOR LEAD SPACE 10 , 15 & 20 mm

PACKING

Ammo Packing



Reel Packing



Dimensions mm(inch)

EIA Std.

A. 55max. (2.17max.)
 B. 335max. (13.19max.)
 C. 335max. (13.19max.)

Farad Spec.

52mm
 260mm
 330mm

EIA Std.

A. 14-30 (0.55-1.18)
 B. 80 min (3.15min)
 D. 360 max. (14.17max.)

Farad Spec.

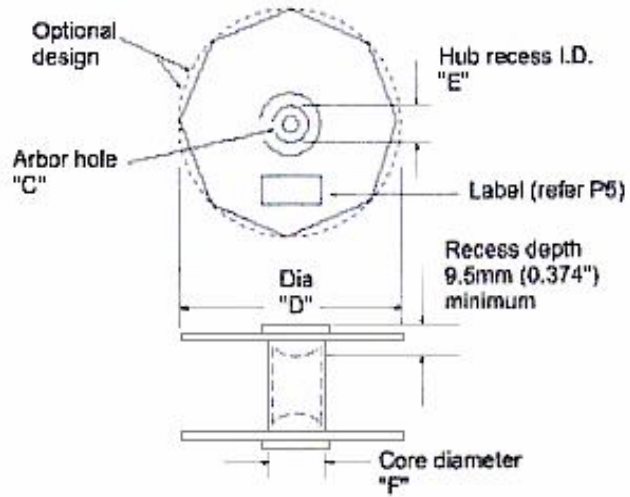
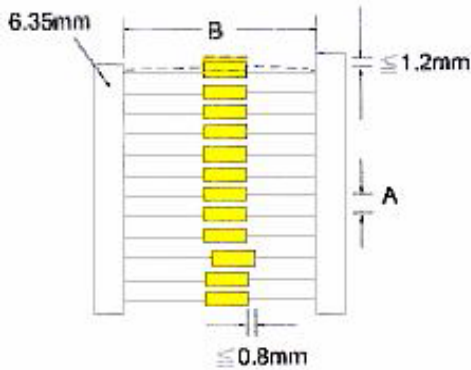
30mm
 80mm
 355mm

W1: $45 \pm \frac{5}{2}$ ($1.77 \pm \frac{0.197}{0.08}$) 45mm

W2: 55max. (2.17max.) 55mm

FARAD CAPACITOR REFERENCE DATA-7

TAPE & REEL OF AXIAL LEAD CAPACITORS FOR AUTOMATIC INSERTION
EIA STANDARD RS-296-D



CAPACITOR BODY DIAMETER	CAPACITOR PITCH "A"±0.5mm(0.020")
≤ 5 mm (≤ 0.197")	5 mm or 0.200"
5.01-10 mm (0.197-0.394")	10 mm or 0.400"
10.01-15 mm (0.394-0.591")	15 mm or 0.600"

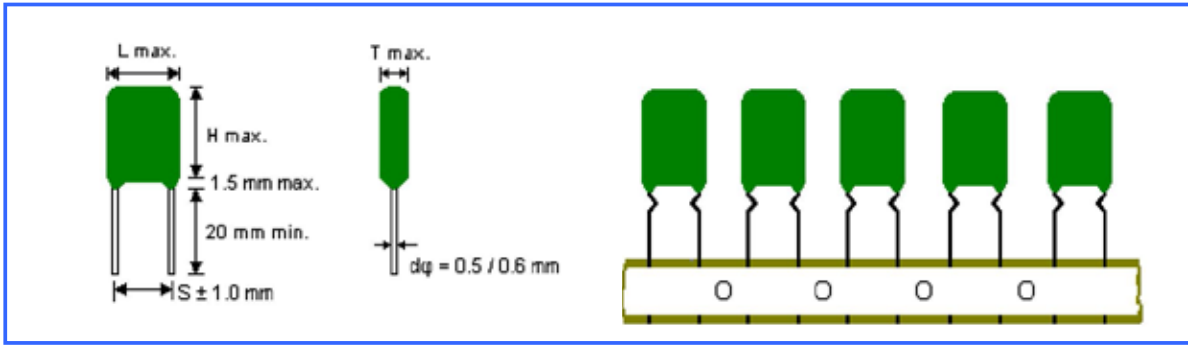
CAPACITOR BODY LENGTH	INSIDE TAPE SPACING "B"±1.5mm(0.059")
≤ 16.50mm (≤ 0.65")	52.4 mm or 2.062"
16.51-28.45mm (0.651-1.12")	63.5 mm or 2.500"
28.46-37.00mm (1.121-1.45")	73.0 mm or 2.874"

	C	D	E	F
EIA Std.	13.9-38.1mm (0.547-1.50")	76.2-355.6mm (3.0-14.0")	28.6-78.0mm (1.126-3.071")	34.5-92.0mm (1.374-3.626")
Farad Spec.	16.0mm(0.63")	355.0mm(13.97")	50.0mm(1.97")	60.0mm(2.36")

Capacitor Body Dia.	Pitch	Quantity Pcs / reel
≤ 5.0 mm	5 mm	4,000 max.
5.1-7.0 mm	10 mm	2,000 max.
7.1-9.5 mm	10 mm	1,000 max.

POLYESTER FILM CAPACITOR

INDUCTIVE, RADIAL LEAD WELDED CONSTRUCTION, EPOXY COATED



Mfd \ VDC	100			
	L	T	H	S
0.0010	6.0	3.5	10.5	3.5
0.0012	6.0	3.5	10.5	3.5
0.0015	6.0	3.5	10.5	3.5
0.0018	6.0	3.5	10.5	3.5
0.0022	6.0	3.5	10.5	3.5
0.0027	6.0	3.5	10.5	3.5
0.0033	6.0	3.5	10.5	3.5
0.0039	6.0	3.5	10.5	3.5
0.0047	6.0	3.5	10.5	3.5
0.0056	6.0	3.5	10.5	3.5
0.0068	6.0	3.5	10.5	3.5
0.0082	6.5	4.0	12.0	4.0
0.010	7.0	4.0	12.0	4.0
0.012	7.0	4.0	12.0	4.0
0.015	7.0	4.0	12.0	4.0
0.018	7.0	4.0	12.0	4.0
0.022	7.5	4.0	12.0	5.0
0.027	7.5	4.0	12.0	5.0
0.033	8.0	4.5	12.0	6.0
0.039	8.0	4.5	12.0	6.0
0.047	8.5	5.0	12.5	6.0
0.056	9.5	5.5	13.0	6.0
0.068	10.0	5.5	12.5	6.0
0.082	10.5	6.0	12.5	7.5
0.10	11.0	6.5	13.0	7.5
0.12	11.5	7.0	13.0	7.5
0.15	11.5	7.0	13.5	7.5
0.18	12.0	7.0	14.0	7.5
0.22	12.0	7.5	15.0	7.5
0.33	15.0	8.0	16.0	10.0
0.47	16.0	9.0	18.0	10.0

APPLICATION

Most suitable for PCB of commercial and industrial electronics at economic price.

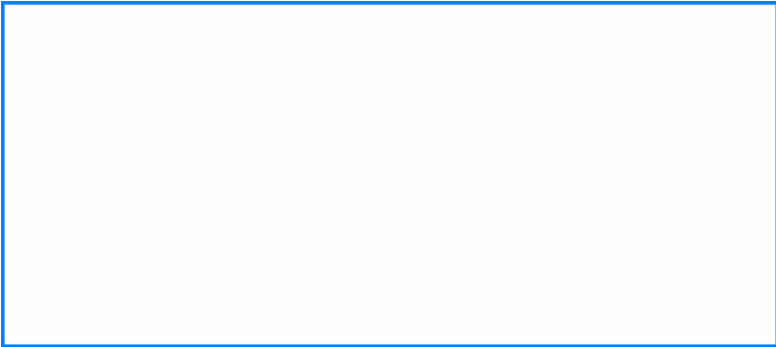
GENERAL SPECIFICATION

- OPERATING TEMPERATURE:**
- 40°C ~ + 85°C
- VOLTAGE RANGE:**
100 VDC.
- CAPACITANCE RANGE:**
0.001 ~ 0.47 Mfd.
- DIELECTRIC STRENGTH:**
200% of rated voltage for 2 sec.
- CAPACITANCE TOLERANCE:**
±5%
- INSULATION RESISTANCE:**
C < .33Mfd, R ≥ 15,000 Meg. Ohm at 20±3°C.
C ≥ .33Mfd, RC ≥ 5,000 Meg. Ohm × Mfd.
- DISSIPATION FACTOR:**
.75% max. at 1KHz 20±3°C.



POLYESTER FILM CAPACITOR

NON-INDUCTIVE, EXTENDED FOIL, EPOXY DIP COATED



FEATURES

- * Low dissipation factor.
- * Low self-inductance.
- * Suitable for using at $f < 20$ KHz.
- * Special rating is available upon request.

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C

Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

50, 100, 200, 400 and 600 VDC.

3. CAPACITANCE RANGE:

0.001 ~ 0.47 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

200% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33$ Mfd, $R \geq 15,000$ Meg. Ohm at 20±3°C.

$C \geq .33$ Mfd, $RC \geq 5,000$ Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

.75% max. at 1KHz 20±3°C.

APPLICATION

Widely used in T.V. , Radio , industrial and commercial equipments.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	7.5	10.0	15.0	22.5	27.5
50	4000	2000	1000		
100		4500	2100	1100	
200		6000	3000	1400	900
400		14400	7200	3000	2100
600		15000	7400	4000	3000

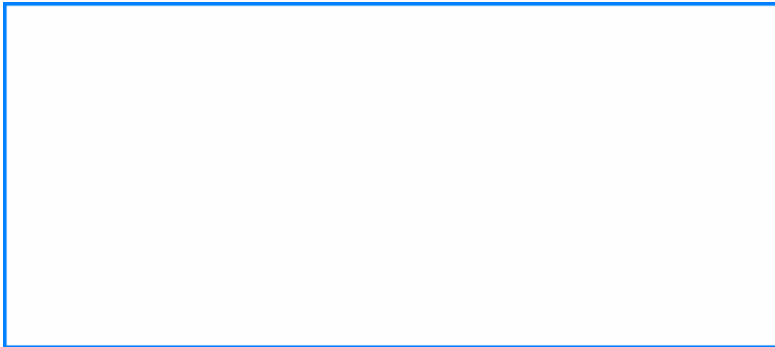
L	10.5	13.0	19.0	26.0	31.0
S	7.5	10.0	15.0	22.5	27.5
dφ	0.6	0.6	0.8	0.8	0.8

VDC \ Mfd	50			100			200			400			600		
	L	T	H	L	T	H	L	T	H	L	T	H	L	T	H
0.0010	10.5	5.0	8.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.0	9.5
0.0015	10.5	5.0	8.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.5	9.5
0.0022	10.5	5.0	8.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.5	9.0	13.0	6.0	9.5
0.0033	10.5	5.0	8.0	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.5	9.5	13.0	6.5	10.0
0.0047	10.5	5.0	8.5	13.0	5.0	9.0	13.0	5.0	9.0	13.0	6.0	10.0	13.0	7.5	11.5
0.0068	10.5	5.0	8.5	13.0	5.0	9.0	13.0	5.0	9.0	13.0	6.5	10.5	13.0	8.0	13.0
0.010	10.5	5.0	8.5	13.0	5.0	9.0	13.0	5.0	9.0	13.0	7.0	11.0	19.0	8.5	11.5
0.015	10.5	5.5	9.0	13.0	5.5	9.5	13.0	5.5	9.5	13.0	7.5	11.5	19.0	9.0	15.0
0.022	13.0	6.0	9.5	13.0	6.0	10.0	13.0	6.0	10.0	19.0	8.0	11.5	19.0	9.5	17.5
0.033	13.0	6.0	10.0	13.0	6.0	10.5	13.0	6.5	10.5	19.0	8.5	14.0	26.0	9.0	15.5
0.047	13.0	6.5	10.5	13.0	6.5	11.0	19.0	7.0	11.0	19.0	9.5	15.5	26.0	10.0	16.5
0.068	13.0	7.0	11.5	13.0	7.0	12.0	19.0	7.5	11.5	26.0	9.0	15.5	31.0	10.0	17.0
0.10	13.0	7.5	12.0	19.0	7.5	12.0	19.0	8.0	13.0	26.0	10.5	17.5	31.0	12.0	19.0
0.15	13.0	8.5	13.5	19.0	8.0	15.0	19.0	8.0	16.0	31.0	11.0	19.0			
0.22	19.0	8.5	15.0	26.0	7.5	15.0	26.0	9.0	16.5	31.0	13.0	22.0			
0.33	19.0	10.0	16.5	26.0	8.5	16.0	31.0	10.0	18.5						
0.47	19.0	12.5	18.5	26.0	10.0	17.5	31.0	12.5	22.0						



METALLIZED POLYESTER CAPACITOR

NON-INDUCTIVE, MINIATURE SIZE, EPOXY DIP COATED, HIGH MOISTURE RESISTANCE



FEATURES

- * Special metallized polyester film is used for small size construction.
- * Self-healing property.
- * Coated with flame retardant epoxy.

GENERAL SPECIFICATION

APPLICATION

This type capacitor can be used in blocking, by passing, filtering, timing, interference suppression, low pulse applications (< 20 KHz).

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C
Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 10.0 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33\text{Mfd}$, $R \geq 9,000$ Meg. Ohm at $20 \pm 3^\circ\text{C}$.
 $C \geq .33\text{Mfd}$, $RC \geq 3,000$ Meg. Ohm \times Mfd.

7. DISSIPATION FACTOR:

1.0% max. at 1KHz $20 \pm 3^\circ\text{C}$.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	10.0	15.0	22.5	27.5
250	11.0	7.0	4.0	3.0
400	20.0	10.0	5.5	5.0
630	30.0	15.0	8.0	7.0

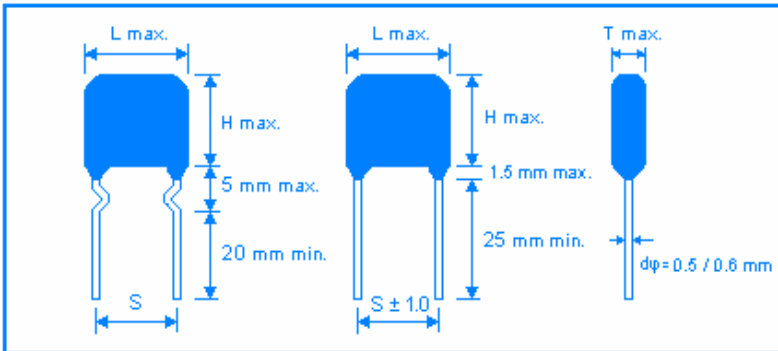
L	12.5	18.0	26.0	31.0
S	10.0	15.0	22.5	27.5
dφ	0.6	0.8	0.8	0.8

VDC \ Mfd	250			400			630		
	L	T	H	L	T	H	L	T	H
0.010							12.5	5.0	8.5
0.015							12.5	5.5	8.5
0.018							12.5	5.5	10.0
0.022							12.5	5.5	10.5
0.033							12.5	6.5	11.0
0.047				12.5	5.5	8.5	12.5	7.5	12.0
0.056				12.5	5.5	9.5	18.0	6.0	11.0
0.068				12.5	6.0	10.0	18.0	6.5	11.5
0.082				12.5	6.5	10.5	18.0	7.0	12.0
0.10				12.5	7.0	11.0	18.0	7.0	13.5
0.15				18.0	5.5	12.0	18.0	8.0	16.0
0.18	12.5	5.0	10.5	18.0	5.5	12.5	18.0	8.5	16.0
0.22	12.5	6.5	10.5	18.0	6.5	13.0	18.0	9.5	17.5
0.33	12.5	6.5	12.0	18.0	7.5	14.0	26.0	8.5	18.0
0.47	18.0	6.0	12.5	18.0	8.5	16.5	26.0	10.5	19.0
0.56	18.0	6.5	13.0	26.0	7.0	15.0	26.0	11.0	20.5
0.68	18.0	7.0	13.5	26.0	7.5	17.0	26.0	12.0	22.0
0.82	18.0	7.0	15.0	26.0	8.0	17.5	31.0	12.0	20.5
1.0	18.0	8.0	16.0	26.0	8.5	18.5	31.0	13.5	22.0
1.5	18.0	9.5	17.5	31.0	9.5	19.0	31.0	16.5	25.0
1.8	26.0	7.5	15.5	31.0	11.0	20.5	31.0	17.0	27.0
2.2	26.0	9.0	17.5	31.0	11.5	21.5	31.0	20.0	29.0
2.7	26.0	10.5	17.5						
3.3	26.0	11.0	19.5						
4.7	26.0	12.5	22.5						
5.6	31.0	13.0	21.5						
6.8	31.0	14.0	22.5						
8.2	31.0	15.5	24.0						
10.0	31.0	16.0	26.5						



METALLIZED POLYESTER CAPACITOR

NON-INDUCTIVE, EPOXY DIP COATED, MINIATURE SIZE



Maximum pulse rise time
(dv/dt) V / μsec

VDC \ S	5.0	7.5
63	25	20
100	30	25
250	35	30

L	7.5	10.5
S	5.0	7.5

VDC \ Mfd	63			100			250		
	L	T	H	L	T	H	L	T	H
0.0082	7.5	3.5	7.5	7.5	3.5	7.5	7.5	3.5	7.5
0.010	7.5	3.5	7.5	7.5	3.5	7.5	7.5	3.5	7.5
0.015	7.5	3.5	7.5	7.5	3.5	7.5	7.5	3.5	7.5
0.018	7.5	3.5	7.5	7.5	3.5	7.5	7.5	3.5	7.5
0.022	7.5	3.5	7.5	7.5	3.5	7.5	10.5	4.5	8.5
0.033	7.5	3.5	7.5	7.5	3.5	7.5	10.5	5.0	8.5
0.047	7.5	3.5	7.5	7.5	3.5	7.5	10.5	5.0	8.5
0.056	7.5	3.5	7.5	7.5	3.5	7.5	10.5	5.0	8.5
0.068	7.5	3.5	7.5	7.5	4.0	7.5	10.5	5.0	8.5
0.082	7.5	3.5	7.5	7.5	4.0	8.0	10.5	5.5	9.5
0.10	7.5	3.5	7.5	7.5	4.5	8.5	10.5	6.0	10.0
0.15	7.5	4.0	8.0	10.5	5.0	9.5	10.5	6.5	10.5
0.18	7.5	4.5	8.5	10.5	5.5	9.5			
0.22	7.5	4.5	8.5	10.5	5.5	10.0			
0.33	7.5	5.5	9.5	10.5	6.0	10.5			
0.47	7.5	6.0	11.5	10.5	6.0	10.5			
0.56	7.5	5.5	10.0	10.5	6.0	10.5			
0.68	10.5	5.5	9.5						
0.82	10.5	5.5	10.0						
1.0	10.5	5.5	10.5						

APPLICATION

Used in blocking, by passing, filtering, timing, and energy reservoir application.

FEATURES

- * Low inductive wound cell of metallized film.
- * Self-healing property.
- * Coated with flame retardant epoxy.

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C

Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

63, 100, and 250 VDC.

3. CAPACITANCE RANGE:

0.0082 ~ 1.0 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5% and ±10%.

6. INSULATION RESISTANCE:

C < .33 Mfd, R ≥ 4,500 Meg. Ohm at 20±3°C.

C ≥ .33 Mfd, RC ≥ 1,500 Meg. Ohm × Mfd.

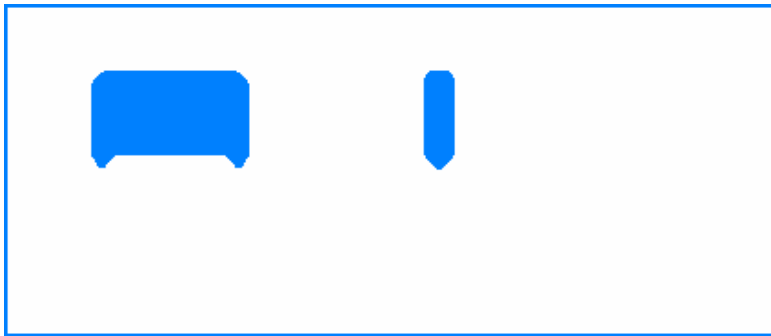
7. DISSIPATION FACTOR:

1.0% max. at 1KHz 20±3°C.



METALLIZED POLYESTER CAPACITOR , SPECIAL

NON-INDUCTIVE, MINIATURE SIZE, EPOXY DIP COATED, HIGH MOISTURE RESISTANCE



APPLICATION

This type capacitor is suitable to be used for PFC (Power Factor Correction) purpose in appliances such as Electronic Lighting, UPS, Inverter, Switching Mode Power Supply.

FEATURES

- * This series is using special metallized polyester film, which makes the capacitor in small size.
- * Self-healing property.
- * Coated with flame retardant epoxy.

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C
Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

450, 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 3.3 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

C < .33Mfd, R ≥ 9,000 Meg. Ohm at 20±3°C.
C ≥ .33Mfd, RC ≥ 3,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

1.0% max. at 1KHz 20±3°C.

Maximum pulse rise time
(dv/dt) V / μsec

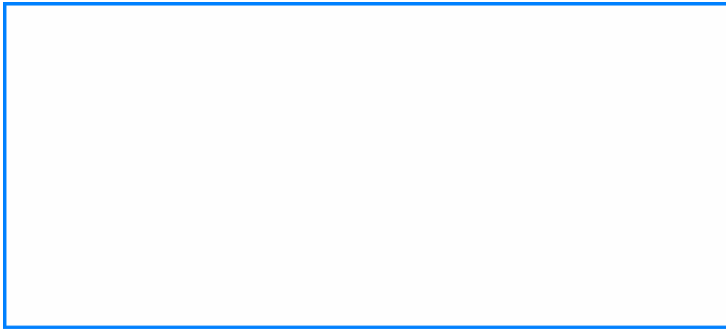
VDC \ S	10.0	15.0	22.5
450	120	100	60
630	150	120	80

VDC \ Mfd	450					630				
	L	T	H	S	dφ	L	T	H	S	dφ
0.010						12.5	6.0	9.0	10.0	0.6
0.012						12.5	6.0	9.0	10.0	0.6
0.015						12.5	6.0	9.0	10.0	0.6
0.018						12.5	6.0	9.0	10.0	0.6
0.022						12.5	6.0	9.0	10.0	0.6
0.027						12.5	6.0	10.0	10.0	0.6
0.033						12.5	6.0	10.0	10.0	0.6
0.039						12.5	6.0	10.0	10.0	0.6
0.047						12.5	6.0	10.0	10.0	0.6
0.056						12.5	6.5	10.5	10.0	0.6
0.068						12.5	6.5	11.5	10.0	0.6
0.082						12.5	7.0	12.0	10.0	0.6
0.10	12.5	5.0	9.0	10.0	0.6	12.5	6.0	14.0	10.0	0.6
0.12	12.5	5.0	9.0	10.0	0.6	12.5	6.5	14.5	10.0	0.6
0.15	12.5	5.5	9.5	10.0	0.6	12.5	8.0	14.0	10.0	0.6
0.18	12.5	6.0	10.0	10.0	0.6	12.5	8.5	15.0	10.0	0.6
0.22	12.5	6.5	10.5	10.0	0.6	12.5	9.0	16.0	10.0	0.6
0.22						17.5	7.0	13.5	15.0	0.8
0.27	12.5	6.0	12.5	10.0	0.6	17.5	7.5	14.5	15.0	0.8
0.33	12.5	6.5	13.0	10.0	0.6	17.5	8.0	15.0	15.0	0.8
0.39	12.5	6.5	14.0	10.0	0.6	17.5	8.0	16.5	15.0	0.8
0.47	12.5	7.0	14.5	10.0	0.6	17.5	9.0	17.5	15.0	0.8
0.56	12.5	8.0	15.5	10.0	0.6	17.5	9.5	19.5	15.0	0.8
0.68	12.5	8.0	17.0	10.0	0.8	17.5	10.5	20.5	15.0	0.8
0.82	12.5	9.0	18.0	10.0	0.8	25.5	9.0	19.0	22.5	0.8
1.0	12.5	9.5	19.5	10.0	0.8	25.5	10.0	20.0	22.5	0.8
0.47	17.5	6.0	12.0	15.0	0.6					
0.56	17.5	6.0	13.5	15.0	0.6					
0.68	17.5	6.5	14.0	15.0	0.8					
0.82	17.5	7.0	15.5	15.0	0.8					
1.0	17.5	7.5	16.0	15.0	0.8					
1.2	17.5	8.5	17.0	15.0	0.8	25.5	11.0	21.0	22.5	0.8
1.5	17.5	9.5	18.5	15.0	0.8	25.5	12.5	23.0	22.5	0.8
1.8	17.5	11.0	19.0	15.0	0.8	25.5	13.5	24.0	22.5	0.8
2.2	17.5	12.0	20.0	15.0	0.8	25.5	15.0	25.0	22.5	0.8
1.5	25.5	8.0	16.5	22.5	0.8					
1.8	25.5	8.5	17.0	22.5	0.8					
2.2	25.5	9.0	19.5	22.5	0.8					
2.7	25.5	10.0	20.5	22.5	0.8					
3.3	25.5	11.0	21.5	22.5	0.8					



POLYPROPYLENE FILM CAPACITOR

NON-INDUCTIVE, EXTENDED FOIL, EPOXY DIP COATED



FEATURES

- * Very low dissipation factor, suitable for high frequency application.
- * Negative temperature coefficient.
- * High reliability and high insulation resistance.

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

100, 250, 400, 630 and 1000 VDC.

3. CAPACITANCE RANGE:

0.001 ~ 0.47 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

200% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33$ Mfd, $R \geq 30,000$ Meg. Ohm at 20±3°C
 $C \geq .33$ Mfd, $RC \geq 10,000$ Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz 20±3°C.

APPLICATION

* High frequency tuning, yoke coupling, voltage retrace in T.V. and monitor circuit.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	10.0	15.0	20.0	27.5	30.0	35.0
100	4500	2100	1100			
250	6000	3000	1400	900		
400	14400	7200	3000	2100		
630	15000	7400	4000	3000		
1000	15000	9000	5800	3700	3500	

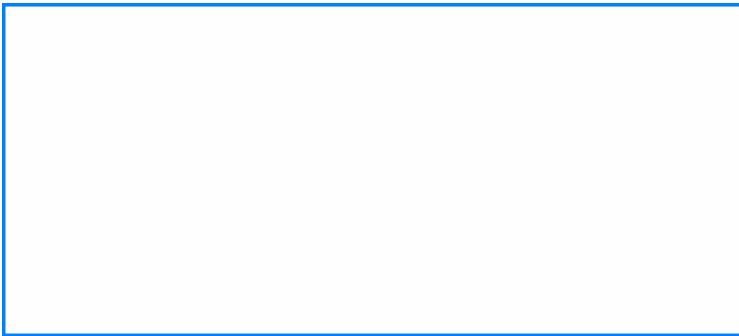
L	13.0	19.0	24.0	31.0	35.0	40.0
S	10.0	15.0	20.0	27.5	30.0	35.0
dφ	0.6	0.8	0.8	0.8	0.8	0.8

VDC \ Mfd	100			250			400			630			1000		
	L	T	H	L	T	H	L	T	H	L	T	H	L	T	H
0.0010	13.0	6.0	9.0	13.0	6.0	9.0	13.0	6.0	9.0	13.0	6.0	10.0	13.0	7.5	12.0
0.0022	13.0	6.0	9.0	13.0	6.0	9.0	13.0	6.0	9.0	13.0	7.0	10.0	13.0	8.5	13.5
0.0033	13.0	6.0	9.5	13.0	6.5	9.5	13.0	7.0	10.0	13.0	7.5	11.5	19.0	8.5	13.5
0.0047	13.0	6.5	9.5	13.0	7.0	10.0	13.0	7.5	11.0	13.0	8.0	12.5	19.0	9.5	14.0
0.0068	13.0	7.0	10.0	13.0	7.5	10.5	13.0	8.0	11.5	13.0	9.0	14.0	19.0	10.5	16.0
0.010	13.0	7.5	10.5	13.0	7.5	11.0	13.0	8.5	12.0	19.0	9.0	14.0	24.0	10.0	16.0
0.022	13.0	8.0	11.0	13.0	8.5	12.0	19.0	8.5	13.0	19.0	11.5	17.0	24.0	12.0	18.5
0.033	19.0	8.0	12.0	19.0	8.5	13.0	19.0	9.0	13.5	24.0	11.0	17.0	31.0	12.5	19.0
0.047	19.0	8.5	13.0	19.0	9.0	13.5	24.0	10.0	15.0	24.0	12.0	17.0	31.0	14.0	21.5
0.068	19.0	9.5	15.0	19.0	10.0	15.5	24.0	11.0	16.0	31.0	12.5	18.0	35.0	14.0	24.0
0.082	24.0	10.0	16.0	24.0	11.5	17.0	31.0	11.0	17.0	31.0	13.0	19.0	35.0	15.0	26.5
0.10	24.0	11.0	17.0	24.0	12.5	18.0	31.0	12.0	18.0	31.0	14.0	21.0	35.0	17.0	28.0
0.22	24.0	13.0	19.0	24.0	14.5	20.0	31.0	15.0	21.5						
0.33	31.0	14.0	21.0	31.0	15.0	22.0	40.0	15.5	22.0						
0.39	31.0	15.0	22.0	31.0	16.0	23.0	40.0	16.5	25.0						
0.47	31.0	16.0	23.0	31.0	17.0	24.0	40.0	17.5	27.0						



METALLIZED POLYPROPYLENE CAPACITOR

NON-INDUCTIVE, EPOXY DIPPED



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 4.7 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33 \text{ Mfd}$, $R \geq 30,000 \text{ Meg. Ohm}$ at $20 \pm 3^\circ\text{C}$.
 $C \geq .33 \text{ Mfd}$, $RC \geq 10,000 \text{ Meg. Ohm} \times \text{Mfd}$.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz $20 \pm 3^\circ\text{C}$.

APPLICATION

High frequency pulse and thyristor circuits, noise suppressor, B+ filter in all commercial and industrial equipments.

FEATURES

- * High reliability and excellent self-healing characteristics.
- * Low losses and low ESR.
- * Coated with flame retardant epoxy.

Maximum pulse rise time (dv/dt) V / μsec

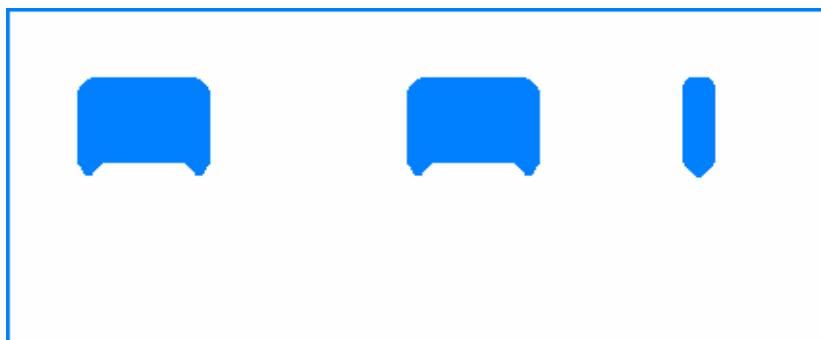
VDC \ S	10.0	15.0	22.5	27.5
250	11.0	7.0	4.0	3.0
400	20.0	10.0	5.5	5.0
630	30.0	15.0	8.0	7.0

L	13.0	18.0	26.0	31.0
S	10.0	15.0	22.5	27.5
dφ	0.6	0.8	0.8	0.8

VDC \ Mfd	250			400			630		
	L	T	H	L	T	H	L	T	H
0.010	13.0	5.0	9.0	13.0	5.0	9.0	13.0	5.5	9.5
0.015	13.0	5.0	9.0	13.0	5.0	9.0	13.0	6.5	10.5
0.022	13.0	5.0	9.0	13.0	5.5	9.5	13.0	7.0	11.5
0.033	13.0	5.5	9.0	13.0	6.5	11.0	18.0	7.0	11.5
0.047	13.0	5.5	9.5	13.0	7.5	12.5	18.0	8.0	13.0
0.068	13.0	6.0	10.5	18.0	6.0	11.0	18.0	9.0	15.5
0.10	13.0	7.0	11.0	18.0	7.5	13.5	26.0	8.0	15.0
0.15	18.0	6.5	10.5	26.0	7.0	13.5	26.0	9.5	17.0
0.22	18.0	7.0	12.5	26.0	8.0	15.0	31.0	10.0	17.0
0.33	18.0	8.0	13.5	26.0	10.0	17.0	31.0	12.5	19.5
0.47	26.0	7.5	14.0	31.0	10.0	17.0	31.0	15.0	22.5
0.68	26.0	8.5	15.5	31.0	12.0	19.0	31.0	17.5	26.5
1.0	26.0	10.5	17.0	31.0	14.0	22.5			
1.5	31.0	11.0	18.0	31.0	17.0	25.5			
2.2	31.0	13.5	21.0						
2.7	31.0	15.0	22.5						
3.3	31.0	16.0	24.0						
4.7	31.0	19.0	28.0						

METALLIZED POLYPROPYLENE CAPACITOR , SPECIAL

NON-INDUCTIVE, LOW SELF INDUCTANCE, EPOXY DIPPED



APPLICATION

This type capacitor is suitable to be used for PFC (Power Factor Correction) purpose in appliances such as Electronic Lighting, inverter, UPS, Switching Mode Power Supply

FEATURES

- * This series is using special metallized polypropylene film, which makes the capacitor in small size.
- * Good self-healing property.
- * Coated with flame retardant epoxy.
- * Avoid fatal short circuit.

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

450, 630 VDC.

3. CAPACITANCE RANGE:

0.15 ~ 3.3 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33$ Mfd, $R \geq 30,000$ Meg. Ohm at $20 \pm 3^\circ\text{C}$.
 $C \geq .33$ Mfd, $RC \geq 10,000$ Meg. Ohm \times Mfd.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz $20 \pm 3^\circ\text{C}$.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	15.0	20.0	22.5	27.5
450	120	90	80	60
630	140	110	100	80

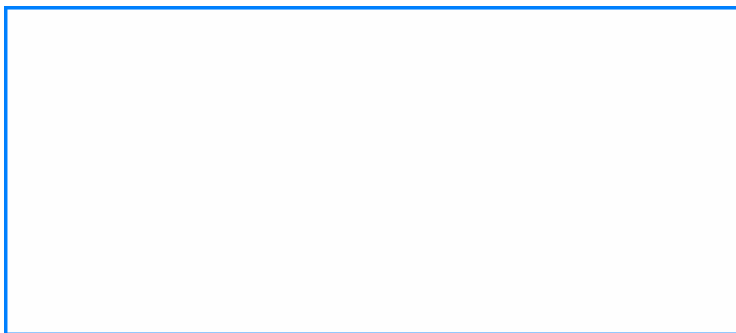
L	18.0	23.0	26.0	31.0
S	15.0	20.0	22.5	27.5
dφ	0.8	0.8	0.8	0.8

VDC \ Mfd	450VDC/220VAC			630VDC/275VAC		
	L	T	H	L	T	H
0.15	18.0	5.5	9.5	18.0	7.5	13.0
0.22	18.0	6.0	11.5	18.0	8.5	14.5
0.22				23.0	7.5	13.0
0.33	18.0	7.0	12.5	18.0	10.5	16.0
0.33				23.0	8.0	15.5
0.47	18.0	8.0	13.5	23.0	9.5	17.0
0.47	23.0	7.0	12.5	26.0	8.5	17.5
0.56	18.0	9.0	14.5	23.0	10.0	18.5
0.56	23.0	7.5	13.0	26.0	9.5	18.5
0.68	18.0	10.0	15.5	23.0	11.0	20.0
0.68	23.0	8.0	13.5	26.0	11.0	19.5
0.82	18.0	10.5	16.5	23.0	12.5	21.0
0.82	23.0	9.0	14.5	26.0	12.0	20.5
1.0	18.0	11.5	18.0	26.0	12.5	23.0
1.0	23.0	9.5	16.5	31.0	11.0	21.5
1.5	23.0	11.5	18.5	31.0	14.0	24.5
1.5	26.0	11.5	20.0			
2.2	23.0	13.0	21.5	31.0	17.5	27.5
2.2	26.0	14.5	23.0			
2.2	31.0	12.5	21.0			
3.3	31.0	16.0	24.0			



METALLIZED POLYPROPYLENE CAPACITOR

METALLIZED FILM, EXTENDED FOIL, EPOXY DIP, PULSE APPLICATION



APPLICATION

* High frequency tuning, yoke coupling, voltage retrace in T.V. and monitor circuit, electronic ballasts.

GENERAL SPECIFICATION

FEATURES

- * Very low dissipation factor, suitable for high frequency application.
- * Negative temperature coefficient.
- * High reliability and high insulation resistance.
- * Miniture size
- * Very high dv/dt value

Maximum pulse rise time (dv/dt) V / μ sec

VDC \ S	15.0	20.0	22.5	27.5
1200	12000	8500	7000	4500
1600	14000	11000	9000	5500
2000	17000	14000	12000	7000

L	18.5	23.0	26.0	31.0
S	15.0	20.0	22.5	27.5
dφ	0.8	0.8	0.8	0.8

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

1200, 1600 and 2000 VDC.

3. CAPACITANCE RANGE:

0.001 ~ 0.033 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

30,000 Meg. Ohm min. at 20±3°C.

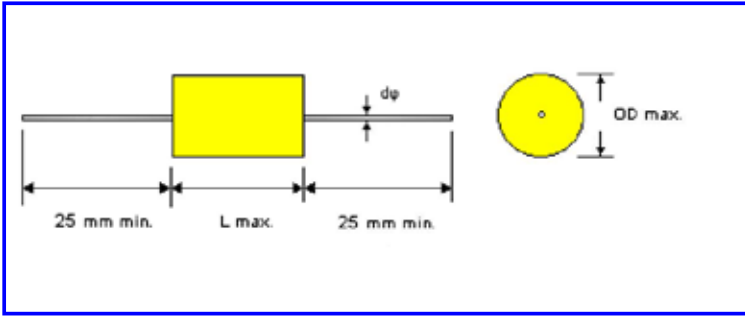
7. DISSIPATION FACTOR:

0.1% max. at 1KHz 20±3°C.

VDC \ MFD	1200			1600			2000		
	L	T	H	L	T	H	L	T	H
0.0010	18.5	6.0	11.0	18.5	6.0	11.0	18.5	7.5	12.5
0.0012	18.5	6.5	11.5	18.5	6.5	11.5	18.5	8.0	13.0
0.0015	18.5	6.5	12.5	18.5	6.5	12.5	18.5	9.0	14.0
0.0018	18.5	7.0	13.0	18.5	7.0	13.0	18.5	9.5	16.0
0.0022	18.5	7.0	13.5	18.5	7.0	13.5	23.0	7.0	12.0
0.0027	18.5	7.0	15.0	18.5	7.0	15.0	23.0	7.5	13.0
0.0033	18.5	9.5	15.5	18.5	9.5	15.5	23.0	8.5	13.5
0.0039	18.5	9.5	16.0	18.5	9.5	16.0	23.0	9.0	14.0
0.0047	18.5	9.5	17.0	18.5	9.5	17.0	23.0	9.0	16.0
0.0056	23.0	7.0	12.0	23.0	7.0	12.0	23.0	10.0	16.5
0.0068	23.0	7.5	13.0	23.0	7.5	13.0	23.0	11.0	17.5
0.0082	23.0	7.5	14.0	23.0	7.5	14.0	23.0	12.5	19.0
0.010	23.0	9.5	15.5	23.0	9.5	15.5	26.0	11.5	19.5
0.012	23.0	10.0	16.5	23.0	10.0	16.5	26.0	12.5	20.5
0.015	23.0	11.0	17.5	23.0	11.0	17.5	26.0	14.0	23.0
0.018	23.0	11.5	19.0	23.0	11.5	19.0	31.0	11.5	19.0
0.022	26.0	13.0	21.5	26.0	13.0	21.5	31.0	12.5	21.0
0.027	26.0	13.5	22.5	26.0	13.5	22.5	31.0	13.5	23.0
0.033	26.0	16.0	24.0	26.0	16.0	24.0	31.0	15.0	25.0

POLYESTER FILM CAPACITOR

NON-INDUCTIVE, EXTENDED FOIL, WRAP AND FILL



APPLICATION

Used in telecommunication, instrument as signal coupling and decoupling, timing, delay and oscillator circuits.

FEATURES

- * Excellent electrical characteristics and high reliability.
- * Miniature size and light weight.
- * Tape and reel package for auto-insertion is available.

OD	dφ
up to 8.0 mm	0.6 mm
over 8.0 mm	0.8 mm

Maximum pulse rise time (dv/dt) V / μsec

VDC \ L	11.5	14.0	16.0	19.0	23.0	27.0	32.0	37.0	39.0
100	6300	6300	3200	2100	1600	1600	840		840
200	7500	7500	3700		1900	1900	1500		
400	14400	14400	14400	7200	6500	3600	2400	2400	
600		15000	15000	9000	7000		3700		
1000			15000	9000	7000		3700	3700	

VDC \ Mfd	100		200		400		600		1000	
	OD	L	OD	L	OD	L	OD	L	OD	L
0.0010	4.5	11.5	4.5	11.5	4.5	11.5	5.0	14.0	6.5	16.0
0.0015	4.5	11.5	4.5	11.5	4.5	11.5	5.0	14.0	7.0	16.0
0.0022	4.5	11.5	4.5	11.5	4.5	11.5	5.0	14.0	6.5	19.0
0.0033	4.5	11.5	4.5	11.5	5.0	14.0	5.5	16.0	7.0	19.0
0.0047	5.0	11.5	5.0	11.5	6.0	14.0	6.5	16.0	8.0	19.0
0.0068	5.0	11.5	5.0	11.5	6.0	16.0	6.5	19.0	8.0	23.0
0.010	5.0	11.5	5.0	11.5	7.0	16.0	7.5	19.0	9.0	23.0
0.015	5.5	11.5	5.5	11.5	7.0	19.0	7.5	23.0	10.0	23.0
0.022	6.0	14.0	6.5	14.0	8.0	19.0	8.5	23.0	11.5	23.0
0.033	6.5	14.0	7.0	14.0	8.0	23.0	10.0	23.0	11.5	32.0
0.047	6.5	16.0	7.0	16.0	9.0	23.0	10.0	32.0	13.0	32.0
0.068	7.5	16.0	8.0	16.0	9.5	27.0	11.5	32.0	14.0	37.0
0.10	8.5	19.0	7.5	23.0	11.0	27.0	13.5	32.0		
0.15	8.5	23.0	9.0	23.0	12.5	32.0				
0.22	9.5	27.0	10.5	27.0	14.0	37.0				
0.33	10.5	32.0	11.5	32.0						
0.47	12.5	32.0	13.5	32.0						
0.68	14.5	32.0								
1.0	17.0	39.0								

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C

Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

100, 200, 400, 600 and 1000 VDC.

3. CAPACITANCE RANGE:

0.001 ~ 1.0 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

200% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33\text{Mfd}$, $R \geq 15,000$ Meg. Ohm at $20 \pm 3^\circ\text{C}$.

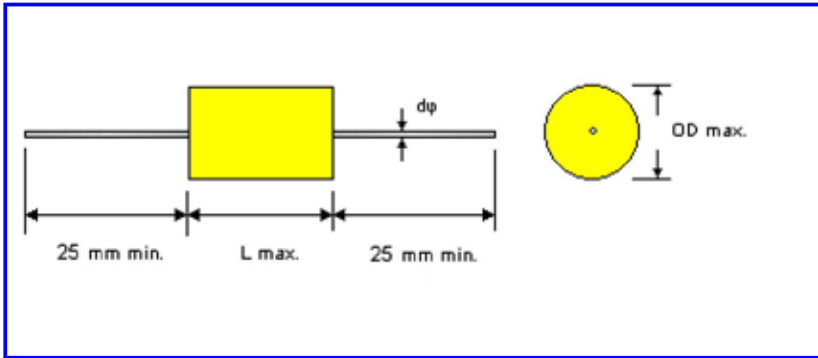
$C \geq .33\text{Mfd}$, $RC \geq 5,000$ Meg. Ohm \times Mfd.

7. DISSIPATION FACTOR:

.75% max. at 1KHz $20 \pm 3^\circ\text{C}$.

METALLIZED POLYESTER CAPACITOR

NON-INDUCTIVE, WRAP & FILL WITH POLYESTER TAPE & EPOXY RESIN



APPLICATION

Analog computer reference and low frequency tuned circuit. For communication and electronic industries.

FEATURES

- * High reliability.
- * Miniature size and light weight.
- * Self-healing property.
- * Tape and reel package for auto-insertion is available.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ L	10.5	14.0	19.0	25.0	32.0	37.0	43.0	47.0
100	7.0	5.0	3.0	2.0	1.0	0.9	0.8	0.7
250	13.0	10.0	7.0	4.0	2.5	1.5	1.0	0.8
400		13.5	10.0	6.5	4.0	3.0	1.5	1.0
630		20.0	15.0	10.0	6.0	4.5	3.0	1.8

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C

Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

100, 250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.010 ~ 30.0 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

C < .33 Mfd, R ≥ 15,000 Meg. Ohm at 20±3°C.

C ≥ .33 Mfd, RC ≥ 5,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

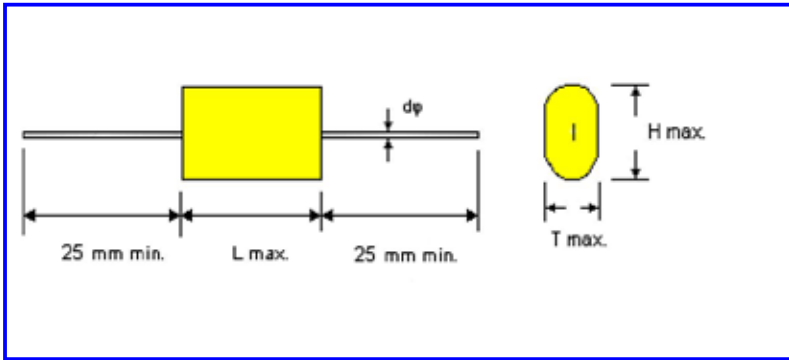
1.0% max. at 1KHz 20±3°C.

VDC \ Mfd	100		250		400		630	
	OD	L	OD	L	OD	L	OD	L
0.010	5.0	10.5	5.0	10.5	5.5	14.0	6.0	14.0
0.015	5.0	10.5	5.0	10.5	5.5	14.0	6.5	14.0
0.022	5.0	10.5	5.0	10.5	5.5	14.0	7.0	14.0
0.033	5.0	10.5	5.0	10.5	6.0	14.0	6.5	19.0
0.047	5.5	10.5	5.5	14.0	7.0	14.0	7.5	19.0
0.068	5.5	10.5	5.5	14.0	6.5	19.0	8.5	19.0
0.10	6.0	10.5	6.0	14.0	7.5	19.0	9.5	25.0
0.15	6.0	14.0	7.0	14.0	8.5	19.0	10.5	25.0
0.22	6.5	14.0	7.0	19.0	8.5	25.0	10.5	32.0
0.33	7.5	14.0	8.0	19.0	10.0	25.0	11.5	32.0
0.47	7.0	19.0	9.5	19.0	11.0	32.0	14.0	32.0
0.68	8.0	19.0	9.5	25.0	13.0	32.0	17.0	32.0
0.82	8.5	19.0	10.0	25.0	14.5	32.0	19.5	32.0
1.0	9.5	19.0	10.5	25.0	15.5	32.0	20.5	32.0
1.2	10.0	19.0	12.5	25.0	16.5	32.0	23.0	32.0
1.5	9.5	25.0	11.5	32.0	17.5	32.0	19.5	47.0
2.2	11.5	25.0	13.5	32.0	18.5	37.0		
3.3	13.5	25.0	16.5	32.0	21.5	43.0		
4.7	14.0	32.0	18.0	37.0	25.5	43.0		
5.6	15.0	32.0	20.0	37.0				
6.8	17.0	32.0	19.5	43.0				
8.2	18.0	32.0	20.5	47.0				
10.0	19.5	32.0	22.5	47.0				
12.0	20.5	37.0						
15.0	21.0	47.0						
18.0	21.0	47.0						
20.0	21.0	47.0						
22.0	23.0	47.0						
30.0	26.5	47.0						

OD	dφ
up to 8.0 mm	0.6 mm
over 8.0 mm	0.8 mm

METALLIZED POLYESTER CAPACITOR

AXIAL LEAD, WRAP & FILL, FLAT OVAL SHAPE



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:
 - 40°C ~ + 125°C
 Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:
 100, 250, 400 and 630 VDC.

3. CAPACITANCE RANGE:
 0.1 ~ 18.0 Mfd.
 (other rating upon request)

4. DIELECTRIC STRENGTH:
 160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:
 ±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:
 C < .33Mfd, R ≥ 15,000 Meg. Ohm at 20±3°C.
 C ≥ .33Mfd, RC ≥ 5,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:
 1.0% max. at 1 KHz 20±3°C.

APPLICATION

* Widely used in communication and industrial equipments as coupling, by-passing and blocking.

FEATURES

- * High reliability, high capacitance, high moisture resistance, and excellent electrical characteristics.
- * Self-healing property.

Maximum pulse rise time (dv/dt) V / μsec

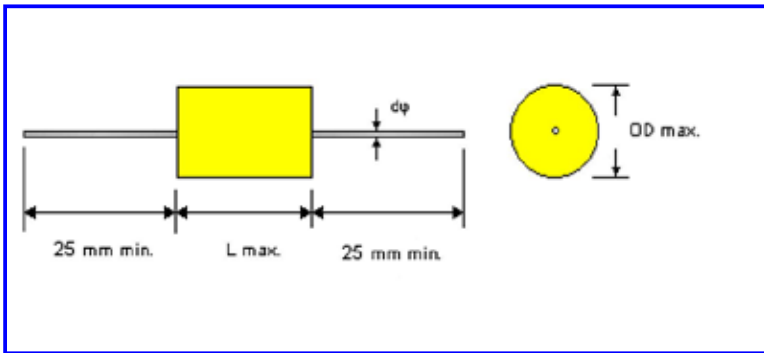
VDC \ L	14.0	19.0	25.0	32.0	37.0	43.0	47.0
100	5.0	3.0	2.0	1.0	0.9	0.8	0.7
250	10.0	7.0	4.0	2.5	1.5	1.0	0.8
400	13.5	10.0	6.5	4.0	3.0	1.5	1.0
630	20.0	15.0	10.0	6.0	4.5	3.0	1.8

L	14.0	19.0	25.0	32.0	37.0	43.0	47.0
dφ	0.6	0.6	0.8	0.8	0.8	0.8	1.0

VDC \ Mfd	100			250			400			630		
	L	T	H	L	T	H	L	T	H	L	T	H
0.10	14.0	4.5	8.0	14.0	4.5	8.0	19.0	5.0	10.0	25.0	6.5	11.5
0.15	14.0	4.5	8.0	14.0	5.0	9.0	19.0	6.5	11.0	25.0	8.0	13.0
0.22	14.0	5.0	8.5	19.0	5.0	9.0	25.0	6.5	12.0	25.0	9.0	15.0
0.33	19.0	4.5	8.0	19.0	5.5	10.5	25.0	7.5	13.5	32.0	9.0	15.0
0.47	19.0	5.0	9.0	25.0	5.5	11.0	32.0	7.5	14.5	32.0	12.0	17.0
0.68	19.0	5.5	10.5	25.0	6.5	12.5	32.0	9.0	16.0	32.0	15.0	20.5
1.0	19.0	6.0	12.0	25.0	7.5	13.5	32.0	10.5	18.5	47.0	14.0	20.0
1.5	25.0	7.0	12.5	32.0	8.5	15.0	37.0	12.0	22.0	47.0	16.5	23.5
2.2	25.0	8.0	14.0	32.0	10.0	16.5	43.0	13.5	23.5	47.0	17.5	27.0
3.3	25.0	10.0	16.5	37.0	10.5	20.5	47.0	15.0	23.5	47.0	21.0	34.0
4.7	32.0	10.0	18.0	43.0	11.0	21.0	47.0	18.0	27.0			
6.8	32.0	11.0	21.0	47.0	14.0	23.0	47.0	22.0	34.0			
10.0	37.0	13.0	24.0	47.0	15.5	27.0						
12.0	43.0	13.5	26.0	47.0	17.5	31.0						
15.0	47.0	15.0	28.0									
18.0	47.0	18.0	31.0									

POLYPROPYLENE FILM CAPACITOR

NON-INDUCTIVE, EXTENDED FOIL, WRAP AND FILL



APPLICATION

* Used in communication and industrial electronics as precision timing and oscillation circuit, signal coupling, by passing circuit.

FEATURES

- * Excellent long term stability and high reliability.
- * Negative temperature coefficient can be used in critical circuits.
- * Tape and reel package is available for auto-insertion.

OD	dφ
up to 8.0 mm	0.6 mm
over 8.0 mm	0.8 mm

Maximum pulse rise time (dv/dt) V / μsec

VDC \ L	11.5	13.5	16.0	19.0	23.0	27.0	32.0	37.0
100	4500	4500	2100	2100	1100	900	900	
250	6000	6000	3000	3000	1400	1100	900	
400	14400	14400	7200	7200	3000	2100	2100	900
630		15000	7400	7400	4000	3000	3000	1000
1000				9000	5800	3700	3700	3000

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C

Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

100, 250, 400, 630 and 1000 VDC.

3. CAPACITANCE RANGE:

0.001 ~ 0.47 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

200% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

±1%, ±2% and ±3% available upon request.

6. INSULATION RESISTANCE:

C < .33 Mfd, R ≥ 30,000 Meg. Ohm at 20±3°C.

C ≥ .33 Mfd, RC ≥ 10,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

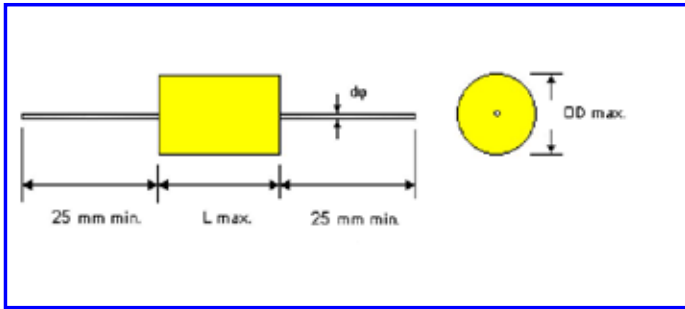
0.1% max. at 1KHz 20±3°C.

VDC \ Mfd	100		250		400		630		1000	
	OD	L	OD	L	OD	L	OD	L	OD	L
0.0010	5.0	11.5	5.0	11.5	5.0	11.5	5.0	13.5	7.5	19.0
0.0015	5.0	11.5	5.0	11.5	5.0	11.5	5.0	13.5	8.0	19.0
0.0022	5.0	11.5	5.0	11.5	5.0	11.5	6.0	13.5	8.8	19.0
0.0033	5.0	11.5	5.0	11.5	6.0	13.5	7.0	16.0	9.5	19.0
0.0047	5.5	11.5	5.5	11.5	6.5	13.5	7.5	16.0	10.5	19.0
0.0068	6.0	11.5	6.0	11.5	7.0	13.5	7.5	19.0	11.5	19.0
0.010	6.5	11.5	6.5	13.5	7.5	16.0	8.5	19.0	11.5	27.0
0.015	6.5	13.5	7.0	16.0	8.5	16.0	10.0	23.0	12.5	27.0
0.022	7.0	13.5	7.5	16.0	9.5	16.0	11.0	27.0	14.0	27.0
0.033	7.5	16.0	7.5	19.0	9.5	19.0	12.0	32.0	14.0	37.0
0.047	7.5	19.0	8.5	19.0	10.5	19.0	13.0	32.0	16.0	37.0
0.068	8.5	19.0	9.0	23.0	10.5	23.0	14.0	32.0		
0.10	9.5	23.0	10.5	23.0	13.0	27.0	15.5	37.0		
0.15	11.0	27.0	12.5	27.0	13.0	32.0				
0.22	12.5	32.0	13.5	32.0	15.0	32.0				
0.33	14.0	32.0	15.0	32.0	17.0	37.0				
0.47	15.0	32.0								



METALLIZED POLYPROPYLENE CAPACITOR

NON-INDUCTIVE, WRAP & FILL WITH POLYESTER TAPE & EPOXY RESIN



APPLICATION

* Widely used in communication and electronic industries as timing integrating and filter networks.

FEATURES

- * High reliability and excellent long term stability.
- * Low losses and excellent for high frequency application.
- * Miniature size and light weight.
- * Self-healing property.
- * Taped and reeled package is available for auto-insertion.

OD	dφ
up to 8.0 mm	0.6 mm
over 8.0 mm	0.8 mm

Maximum pulse rise time (dv/dt) V / μsec

VDC \ L	14.0	19.0	25.0	32.0	37.0	47.0
250	10.0	7.0	4.0	2.5	1.5	
400	13.5	10.0	6.5	4.0	3.0	
630	20.0	15.0	10.0	6.0	4.0	2.0

VDC \ Mfd	250		400		630	
	OD	L	OD	L	OD	L
0.010	5.0	14.0	5.5	14.0	6.5	14.0
0.015	5.5	14.0	6.0	14.0	7.0	14.0
0.022	6.0	14.0	7.0	14.0	8.0	14.0
0.033	6.0	14.0	7.5	14.0	8.0	19.0
0.047	6.5	14.0	8.0	14.0	9.0	19.0
0.068	7.5	14.0	8.0	19.0	9.0	25.0
0.10	8.0	14.0	8.5	19.0	11.0	25.0
0.15	8.5	14.0	8.5	19.0	12.0	25.0
0.22	9.0	19.0	9.5	25.0	13.0	32.0
0.33	9.0	25.0	11.5	25.0	15.0	32.0
0.47	10.5	25.0	12.0	32.0	17.0	32.0
0.68	12.5	25.0	14.0	32.0	18.5	37.0
1.0	12.5	32.0	16.5	32.0	19.0	47.0
1.5	14.5	32.0	18.5	37.0		
2.2	16.5	32.0	21.0	37.0		
3.3	16.5	37.0				
4.7	21.0	37.0				

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C

Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 4.7 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

±1%, ±2% and ±3% available upon request

6. INSULATION RESISTANCE:

C < .33 Mfd, R ≥ 30,000 Meg. Ohm at 20±3°C.

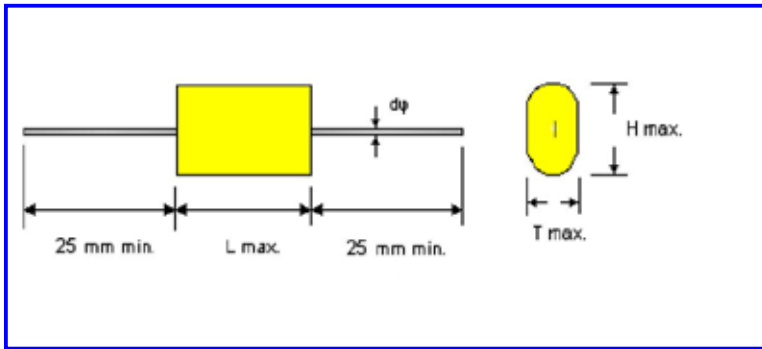
C ≥ .33 Mfd, RC ≥ 10,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz 20±3°C.

METALLIZED POLYPROPYLENE CAPACITOR

NON-INDUCTIVE, AXIAL LEAD, FLAT OVAL SHAPE



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C

Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.1 ~ 6.8 Mfd.

(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33$ Mfd, $R \geq 30,000$ Meg.Ohm at $20 \pm 3^\circ\text{C}$

$C \geq .33$ Mfd, $RC \geq 10,000$ Meg.Ohm \times Mfd.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz $20 \pm 3^\circ\text{C}$.

APPLICATION

Wave-form shaping, delay and timing circuit for communication and electronic industries.

FEATURES

- * High reliability and excellent long term stability.
- * Very low dissipation factor.
- * Suitable for high frequency application.
- * Self-healing property.

Maximum pulse rise time (dv/dt) V / μsec

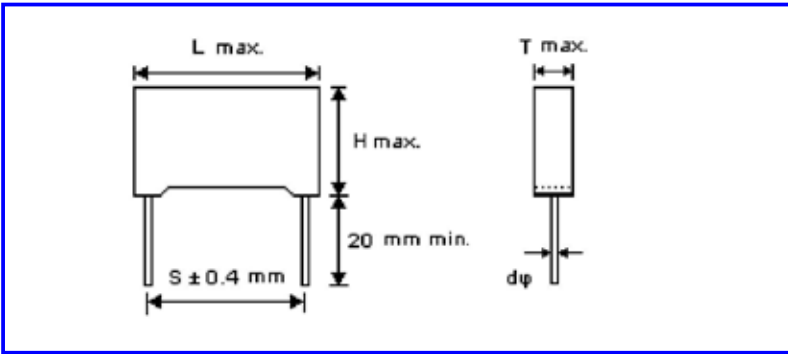
VDC \ L	14.0	19.0	25.0	32.0	37.0	47.0
250	10.0	7.0	4.0	2.5	1.5	0.8
400		10.0	6.5	4.0	3.0	1.0
630			10.0	6.0	4.0	2.0

L	14.0	19.0	25.0	32.0	37.0	47.0
dφ	0.6	0.6	0.8	0.8	0.8	1.0

VDC \ Mfd	250			400			630		
	L	T	H	L	T	H	L	T	H
0.10	14.0	5.5	10.0	19.0	6.5	11.5	25.0	8.0	13.0
0.15	19.0	6.0	10.5	19.0	8.0	13.5	25.0	9.0	15.0
0.22	19.0	7.0	10.5	25.0	8.0	14.0	32.0	9.0	15.5
0.33	19.0	8.0	12.5	25.0	9.5	16.0	32.0	11.5	19.5
0.47	25.0	8.0	13.5	32.0	9.5	16.0	32.0	14.0	23.0
0.68	25.0	9.5	15.5	32.0	11.0	19.0	37.0	15.0	24.0
1.0	25.0	11.0	17.5	32.0	12.0	21.0	47.0	16.0	25.0
1.5	32.0	11.0	17.5	37.0	13.0	22.0	47.0	20.0	29.0
2.2	32.0	12.5	20.0	37.0	16.0	25.0	47.0	24.0	34.0
3.3	37.0	13.0	22.0	47.0	16.0	28.0			
4.7	37.0	15.0	25.0	47.0	22.0	34.0			
6.8	47.0	16.5	26.5						

METALLIZED POLYESTER CAPACITOR

NON-INDUCTIVE, LOW SELF INDUCTANCE, FLAME RETARDANT ENCASED



FEATURES

- * Uniform shape and high density package.
- * Case impervious to known solvents.
- * Self-healing property.
- * Other lead spacing available on request.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	7.5	10.0	15.0	22.5	27.5
100	6.0	6.0	3.0	2.0	1.0
250	15.0	11.0	7.0	4.0	3.0
400		20.0	10.0	5.5	5.0
630		30.0	15.0	8.0	7.0

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C
Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE:

100, 250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 6.8 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

C < .33 Mfd, R ≥ 15,000 Meg. Ohm at 20±3°C.
C ≥ .33 Mfd, RC ≥ 5,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

1.0% max. at 1KHz 20±3°C.

VDC \ Mfd	100 VDC case code	250 VDC case code	400 VDC case code	630 VDC case code
0.010	B1	B1/C1	C1	C2
0.015	B1	B1/C1	C1	C2
0.022	B1	B2/C1	C1	C2
0.033	B1	B2/C1	C2	D1
0.047	B1	B2/C1	C3	D2
0.068	B2	C1	D1	D3
0.10	B2/C1	C2	D2	E1
0.15	B2/C1	D1	D3	E2
0.22	C2	D1	E1	E3
0.33	C3/D1	D2	E2	F1
0.47	D1	E1	E3	F1
0.68	D2	E2	F1	F2
1.0	D3	E3	F1	
1.5	E2	F1	F2	
2.2	E3	F1		
3.3	E4	F2		
4.7	F1	G1		
6.8	F2			

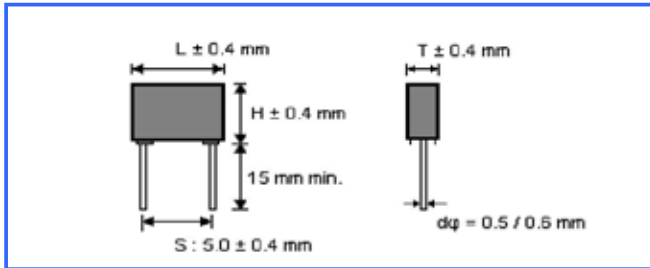
CASE CODE	L	T	H	S	dφ
B1	10.5	3.5	6.5	7.5	0.6
B2	10.5	4.0	9.0	7.5	0.6
C1	13.0	4.0	9.0	10.0	0.6
C2	13.0	5.0	11.0	10.0	0.6
C3	13.0	6.0	12.0	10.0	0.6
D1	18.0	5.0	11.0	15.0	0.8
D2	18.0	6.0	12.0	15.0	0.8
D3	18.0	7.5	13.5	15.0	0.8
D4	18.0	8.5	14.5	15.0	0.8
E1	26.5	6.0	15.0	22.5	0.8
E2	26.5	7.0	16.5	22.5	0.8
E3	26.5	8.5	17.0	22.5	0.8
E4	26.5	10.0	19.0	22.5	0.8
F1	32.0	11.0	20.0	27.5	0.8
F2	32.0	13.0	22.0	27.5	0.8
G1	32.0	15.0	30.0	27.5	0.8

* Please stipulate Case-Code required when submit the enquiry.



METALLIZED POLYESTER CAPACITOR

NON-INDUCTIVE, MINIATURE SIZE, FLAME RETARDANT ENCASED



FEATURES

- * Miniature size and light weight.
- * Available on taping 5mm lead space for automatic insertion.

GENERAL SPECIFICATION

VDC \ Mfd	63			100			250		
	L	T	H	L	T	H	L	T	H
0.0010	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0012	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0015	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0018	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0022	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0027	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0033	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0039	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0047	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0056	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0068	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.0082	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.010	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.012	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.015	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.018	7.2	2.5	6.5	7.2	2.5	6.5	7.2	2.5	6.5
0.022	7.2	2.5	6.5	7.2	2.5	6.5	7.2	3.5	7.5
0.027	7.2	2.5	6.5	7.2	2.5	6.5	7.2	3.5	7.5
0.033	7.2	2.5	6.5	7.2	2.5	6.5	7.2	3.5	7.5
0.039	7.2	2.5	6.5	7.2	2.5	6.5	7.2	3.5	7.5
0.047	7.2	2.5	6.5	7.2	2.5	6.5	7.2	4.5	9.5
0.056	7.2	2.5	6.5	7.2	2.5	6.5	7.2	4.5	9.5
0.068	7.2	2.5	6.5	7.2	2.5	6.5	7.2	4.5	9.5
0.082	7.2	2.5	6.5	7.2	2.5	6.5	7.2	5.0	10.0
0.10	7.2	2.5	6.5	7.2	3.5	7.5	7.2	5.0	10.0
0.12	7.2	2.5	6.5	7.2	4.5	9.5	7.2	6.0	11.0
0.15	7.2	3.5	7.5	7.2	4.5	9.5	7.2	6.0	11.0
0.18	7.2	3.5	7.5	7.2	4.5	9.5			
0.22	7.2	3.5	7.5	7.2	5.0	10.0			
0.27	7.2	4.5	9.5	7.2	5.0	10.0			
0.33	7.2	4.5	9.5	7.2	6.0	11.0			
0.39	7.2	4.5	9.5	7.2	6.0	11.0			
0.47	7.2	5.0	10.0	7.2	6.0	11.0			
0.56	7.2	5.0	10.0	7.2	6.0	11.0			
0.68	7.2	6.0	11.0						
0.82	7.2	6.0	11.0						
1.0	7.2	6.0	11.0						

1. OPERATING TEMPERATURE:

- 40°C ~ + 125°C
Derate DC voltage 1.25%/°C above 85°C to 125°C.

2. VOLTAGE RANGE(V_r):

63V, 100V, and 250V.

3. CAPACITANCE RANGE:

0.0010 ~ 1.0 Mfd.

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5% and ±10%.

6. INSULATION RESISTANCE:

C < .33Mfd, R ≥ 15,000 Meg. Ohm at 20±3°C.

C ≥ .33Mfd, RC ≥ 5,000 Meg. Ohm × Mfd.

7. DISSIPATION FACTOR:

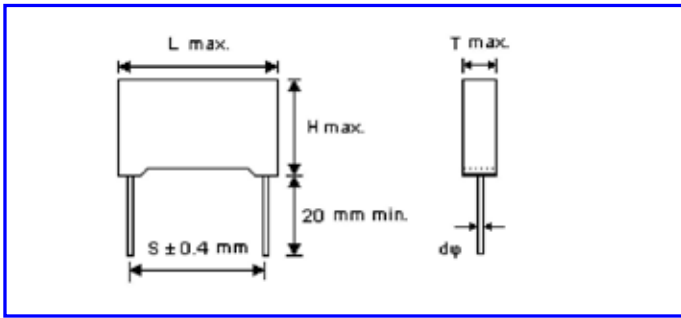
1.0% max. at 1KHz 20±3°C.

Maximum pulse rise time
(dv/dt) V / μsec

63VDC	250
100VDC	300
250VDC	400

METALLIZED POLYPROPYLENE CAPACITOR , SPECIAL

NON-INDUCTIVE, LOW SELF INDUCTANCE, FLAME RETARDANT ENCASED



Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	15.0	20.0	22.5	27.5
450	120	90	80	60
630	140	110	100	80

L	18.0	24.0	26.5	32.0
S	15.0	20.0	22.5	27.5

VDC \ Mfd	450VDC/220VAC				630VDC/275VAC			
	L	T	H	dφ	L	T	H	dφ
0.022					18.0	5.0	11.0	0.6
0.033					18.0	5.0	11.0	0.6
0.047					18.0	5.0	11.0	0.6
0.068					18.0	5.0	11.0	0.6
0.10	18.0	5.0	11.0	0.6	18.0	6.0	12.0	0.8
0.15	18.0	5.0	11.0	0.6	18.0	7.5	13.5	0.8
0.22	18.0	5.0	11.0	0.6	18.0	8.5	14.5	0.8
0.22					24.0	7.0	12.5	0.8
0.33	18.0	6.0	12.0	0.8	18.0	10.0	16.5	0.8
0.33					24.0	7.5	15.0	0.8
0.47	18.0	7.5	13.5	0.8	18.0	11.0	19.0	0.8
0.47	24.0	7.0	12.5	0.8	24.0	9.5	16.5	0.8
0.47					26.5	8.5	17.0	0.8
0.68	18.0	9.5	15.5	0.8	24.0	11.5	19.0	0.8
0.68	24.0	7.5	15.0	0.8	26.5	10.0	19.0	0.8
0.68	26.5	6.0	15.0	0.8				
1.0	18.0	11.0	19.0	0.8	24.0	13.5	22.0	0.8
1.0	24.0	9.5	16.5	0.8	26.5	13.0	23.0	0.8
1.0	26.5	8.5	17.0	0.8	32.0	11.0	20.0	0.8
1.5	24.0	11.5	19.0	0.8	26.5	16.0	25.0	0.8
1.5	26.5	10.0	19.0	0.8	32.0	14.0	25.0	0.8
2.2	24.0	13.5	22.0	0.8	32.0	16.0	25.5	0.8
2.2	26.5	12.0	21.5	0.8				
2.2	32.0	11.0	20.0	0.8				
3.3	32.0	13.0	22.0	0.8				
4.7	32.0	16.0	25.5	0.8				
6.8	32.0	18.0	28.0	0.8				

APPLICATION

This type capacitor is suitable to be used for PFC (Power Factor Correction) purpose in appliances such as Electronic Lighting, Inverter, UPS, Switching Mode Power Supply

FEATURES

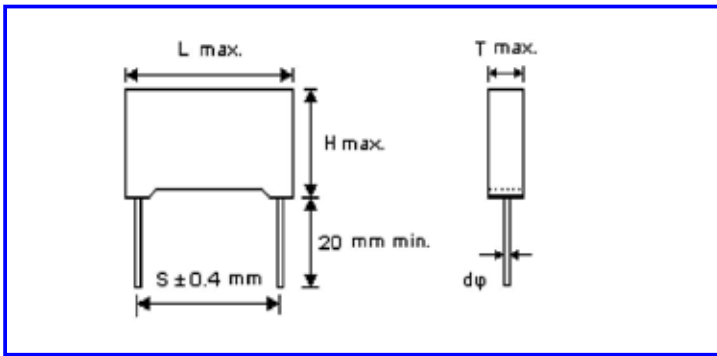
- * This series is using special metallized polypropylene film.
- * Self-healing property.
- * Avoid fatal short circuit.

GENERAL SPECIFICATION

- OPERATING TEMPERATURE:**
- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.
- VOLTAGE RANGE:**
450, 630 VDC.
- CAPACITANCE RANGE:**
0.022 ~ 6.8 Mfd.
(other rating upon request)
- DIELECTRIC STRENGTH:**
160% of rated voltage for 2 sec.
- CAPACITANCE TOLERANCE:**
±5%, ±10% and ±20%.
- INSULATION RESISTANCE:**
C < .33 Mfd, R ≥ 30,000 Meg. Ohm at 20±3°C.
C ≥ .33 Mfd, RC ≥ 10,000 Meg. Ohm × Mfd.
- DISSIPATION FACTOR:**
0.1% max. at 1KHz 20±3°C.

METALLIZED POLYPROPYLENE CAPACITOR

NON-INDUCTIVE, LOW SELF INDUCTANCE, FLAME RETARDANT ENCASED



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

250, 400 and 630 VDC.

3. CAPACITANCE RANGE:

0.01 ~ 2.2 Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5%, ±10% and ±20%.

6. INSULATION RESISTANCE:

$C < .33$ Mfd, $R \geq 30,000$ Meg. Ohm at $20 \pm 3^\circ\text{C}$.
 $C \geq .33$ Mfd, $RC \geq 10,000$ Meg. Ohm \times Mfd.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz $20 \pm 3^\circ\text{C}$.

FEATURES

- * High reliability and excellent self-healing characteristics.
- * Low losses and low ESR.
- * Self-healing property.
- * Specials available upon request.

Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	7.5	10.0	15.0	22.5	27.5
250	15.0	11.0	7.0	4.0	3.0
400	30.0	20.0	10.0	5.5	5.0
630	40.0	30.0	15.0	8.0	7.0

VDC \ Mfd	250 VDC case code	400 VDC case code	630 VDC case code
0.010	B2/C1	C1	C2
0.015	B2/C1	C1	C2
0.022	C1	C2	C3
0.033	C1	C2	D2
0.047	C2	C3	D3
0.068	C2	D2	D4
0.10	C3/D1	D3	E2
0.15	D2	D4	E3
0.22	D2	E2	E4/F1
0.33	E1	E3	F2
0.47	E2	E4/F1	G1
0.68	E2	F1	
1.0	E4/F1	F2	
1.5	F1	G1	
2.2	F2		

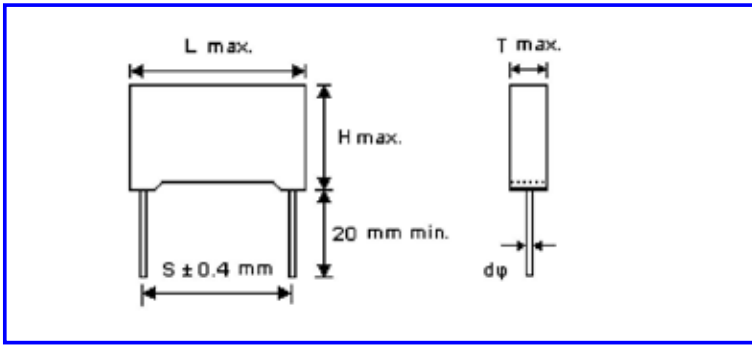
CASE CODE	L	T	H	S	dφ
B2	10.5	4.0	9.0	7.5	0.6
C1	13.0	4.0	9.0	10.0	0.6
C2	13.0	5.0	11.0	10.0	0.6
C3	13.0	6.0	12.0	10.0	0.6
D1	18.0	5.0	11.0	15.0	0.8
D2	18.0	6.0	12.0	15.0	0.8
D3	18.0	7.5	13.5	15.0	0.8
D4	18.0	8.5	14.5	15.0	0.8
E1	26.5	6.0	15.0	22.5	0.8
E2	26.5	7.0	16.5	22.5	0.8
E3	26.5	8.5	17.0	22.5	0.8
E4	26.5	10.0	19.0	22.5	0.8
F1	32.0	11.0	20.0	27.5	0.8
F2	32.0	13.0	22.0	27.5	0.8
G1	32.0	15.0	30.0	27.5	0.8

* Please stipulate Case-Code required when submit the enquiry.



POLYPROPYLENE FILM CAPACITOR

NON-INDUCTIVE, LOW SELF INDUCTANCE, FLAME RETARDANT ENCASED



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:

- 40°C ~ + 105°C
Derate DC voltage 2.5%/°C above 85°C to 105°C.

2. VOLTAGE RANGE:

630 VDC (250 VAC); 1200 VDC (500 VAC)
1600 VDC (750VAC); 2000 VDC (1000VAC)

3. CAPACITANCE RANGE:

0.001uf ~ 0.1Mfd.
(other rating upon request)

4. DIELECTRIC STRENGTH:

160% of rated voltage for 2 sec.

5. CAPACITANCE TOLERANCE:

±5% (J), ±10% (K), ± 20% (M).

6. INSULATION RESISTANCE:

R ≥ 30,000 Meg. Ohm at 20±3°C.

7. DISSIPATION FACTOR:

0.1% max. at 1KHz 20±3°C.

APPLICATIONS

1. Electronic lighting, e.g. : car headlamp and ballast
2. Switching spikes suppression in SMPS.
3. Snubber and SCR commutating circuits
4. High frequency and high voltage application

FEATURES

- * Polypropylene film dielectric film
- * Double sided metallized polyester film electrodes
- * Suit for high frequency, high pulse, high AC voltage applications.
- * Uniform shape and high density packaging.
- * Case impervious to known solvents.
- * Self-healing property.
- * Other dimension case is available on request.

VDC \ Mfd	630VDC(250VAC)			1200VDC(500VAC)			1600VDC(750VAC)			2000VDC(1000VAC)		
	L	T	H	L	T	H	L	T	H	L	T	H
0.0010				18.0	5.0	11.0	18.0	5.0	11.0	26.5	6.0	15.0
0.0012				18.0	5.0	11.0	18.0	5.0	11.0	26.5	6.0	15.0
0.0015				18.0	5.0	11.0	18.0	5.0	11.0	26.5	6.0	15.0
0.0018				18.0	5.0	11.0	18.0	5.0	11.0	26.5	6.0	15.0
0.0022				18.0	5.0	11.0	18.0	6.0	12.0	26.5	6.0	15.0
0.0027				18.0	5.0	11.0	18.0	6.0	12.0	26.5	6.0	15.0
0.0033				18.0	6.0	12.0	18.0	7.5	13.5	26.5	6.0	15.0
0.0039				18.0	6.0	12.0	18.0	7.5	13.5	26.5	6.0	15.0
0.0047				18.0	6.0	12.0	18.0	8.5	14.5	26.5	6.0	15.0
0.0056				18.0	6.0	12.0	18.0	9.5	15.0	26.5	6.0	15.0
0.0068				18.0	7.5	13.5	18.0	10.0	16.5	26.5	7.0	16.5
0.0082				18.0	7.5	13.5	18.0	11.0	19.0	26.5	7.0	16.5
0.010	18.0	5.0	11.0	18.0	7.5	13.5	26.5	7.0	16.0	26.5	8.5	17.0
0.012	18.0	5.0	11.0	18.0	7.5	13.5	26.5	7.0	16.0	26.5	10.0	19.0
0.015	18.0	5.0	11.0	18.0	7.5	13.5	26.5	8.5	17.0	26.5	10.0	19.0
0.018	18.0	6.0	12.0	18.0	7.5	13.5	26.5	10.0	19.0	26.5	13.0	22.0
0.022	18.0	6.0	12.0	18.0	8.5	14.5	26.5	10.0	19.0	26.5	13.0	22.0
0.027	18.0	7.5	13.5	18.0	8.5	14.5	26.5	11.0	20.0	32.0	13.0	22.0
0.033	18.0	7.5	13.5	26.5	8.5	17.0	26.5	14.0	23.0	32.0	13.0	22.0
0.039	18.0	8.5	14.5	26.5	8.5	17.0	26.5	14.0	23.0	32.0	15.0	24.5
0.047	18.0	9.5	15.0	26.5	8.5	17.0						
0.056	18.0	10.0	16.5	26.5	10.0	19.0						
0.068	18.0	11.0	19.0	26.5	10.0	19.0						
0.082	26.5	8.5	17.0	26.5	11.0	20.0						
0.10	26.5	11.0	20.0									

L	18.0	26.5	32.0
S	15.0	22.5	27.5
dφ	0.8	0.8	0.8

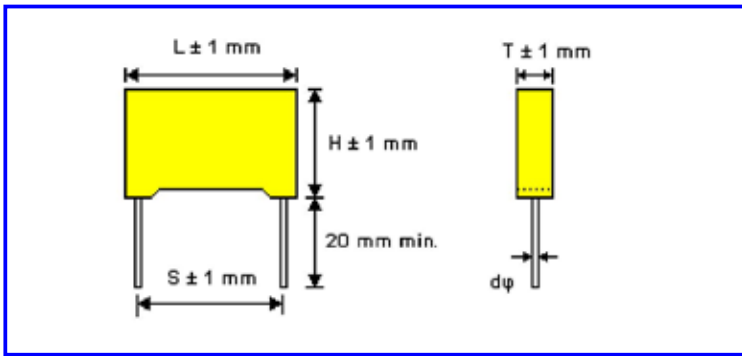
Maximum pulse rise time (dv/dt) V / μsec

VDC \ S	15.0	22.5	27.5
630	1500	1100	
1200	2500	1800	
1600	6000	3000	
2000		3500	2100



METALLIZED POLYPROPYLENE AC CAPACITOR

INTERFERENCE SUPPRESSORS CLASS X2



GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:
- 40°C ~ + 100°C (GMF)
2. RATED VOLTAGE:
275VAC FOR VDE, SEV, SEMKO,
NEMKO, DEMKO, FIMKO.
250VAC FOR, UL, CSA.
3. CAPACITANCE RANGE:
0.01 ~ 2.2Mfd (UL1414 up to 1.0Mfd ;
UL1283 up to 2.2Mfd)
4. DIELECTRIC STRENGTH:
2000VDC for 1 sec.
5. CAPACITANCE TOLERANCE:
± 10%
6. INSULATION RESISTANCE:
C < .33 Mfd, R ≥ 30,000MΩ
C ≥ .33 Mfd, RC ≥ 10,000MΩ × Mfd
(at 20±3°C, 100VDC)
7. DISSIPATION FACTOR:
0.1% max. at 1KHz, 20±3°C



E247953



40014111



314644-01



807300



24296



P08209375



08.0359



10001048706

APPLICATION

* Line-By-Pass, Antenna coupling and Across-The-Line.

VAC Mfd	250VAC / 275VAC				
	L	T	H	S	dφ
0.010	13.0	5.0	11.0	10.0	0.6
0.010	18.0	5.0	11.0	15.0	0.8
0.012	13.0	5.0	11.0	10.0	0.6
0.012	18.0	5.0	11.0	15.0	0.8
0.015	13.0	5.0	11.0	10.0	0.6
0.015	18.0	5.0	11.0	15.0	0.8
0.018	18.0	5.0	11.0	15.0	0.8
0.022	13.0	5.0	11.0	10.0	0.6
0.022	18.0	5.0	11.0	15.0	0.8
0.027	13.0	5.0	11.0	10.0	0.6
0.027	18.0	5.0	11.0	15.0	0.8
0.033	13.0	5.0	11.0	10.0	0.6
0.033	18.0	5.0	11.0	15.0	0.8
0.039	13.0	6.0	12.0	10.0	0.6
0.039	18.0	5.0	11.0	15.0	0.8
0.047	13.0	6.0	12.0	10.0	0.6
0.047	18.0	5.0	11.0	15.0	0.8
0.056	13.0	7.0	13.0	10.0	0.6
0.056	18.0	5.0	11.0	15.0	0.8
0.068	13.0	7.0	13.0	10.0	0.6
0.068	18.0	5.0	11.0	15.0	0.8
0.082	13.0	8.0	14.0	10.0	0.6
0.082	18.0	6.0	12.0	15.0	0.8
0.10	13.0	6.0	12.0	10.0	0.6
0.10	13.0	8.0	16.0	10.0	0.6
0.10	18.0	6.0	12.0	15.0	0.8
0.12	18.0	6.0	12.0	15.0	0.8
0.12	18.0	7.5	13.5	15.0	0.8
0.15	18.0	7.5	13.5	15.0	0.8

VAC Mfd	250VAC / 275VAC				
	L	T	H	S	dφ
0.15	18.0	8.5	14.5	15.0	0.8
0.18	18.0	7.5	13.5	15.0	0.8
0.22	18.0	8.5	14.5	15.0	0.8
0.22	18.0	9.5	15.5	15.0	0.8
0.22	26.5	7.0	16.5	22.5	0.8
0.27	18.0	9.5	15.5	15.0	0.8
0.27	26.5	8.5	17.0	22.5	0.8
0.33	18.0	8.5	15.0	15.0	0.8
0.33	18.0	10.0	16.5	15.0	0.8
0.33	18.0	11.0	19.0	15.0	0.8
0.33	26.5	8.5	17.0	22.5	0.8
0.39	18.0	11.0	19.0	15.0	0.8
0.39	26.5	10.0	19.0	22.5	0.8
0.47	26.5	8.5	17.0	22.5	0.8
0.47	26.5	10.0	19.0	22.5	0.8
0.56	26.5	10.0	19.0	22.5	0.8
0.56	32.0	11.0	20.0	27.5	0.8
0.68	26.5	10.0	19.0	22.5	0.8
0.68	32.0	11.0	20.0	27.5	0.8
0.82	26.5	11.0	20.0	22.5	0.8
0.82	32.0	13.0	22.0	27.5	0.8
1.0	26.5	14.0	23.0	22.5	0.8
1.0	32.0	11.0	20.0	27.5	0.8
1.0	32.0	13.0	22.0	27.5	0.8
1.0	32.0	16.0	25.0	27.5	0.8
1.2	32.0	13.0	22.0	27.5	0.8
1.5	32.0	15.0	24.5	27.5	0.8
1.8	32.0	15.0	24.5	27.5	0.8
2.2	32.0	15.0	30.0	27.5	0.8

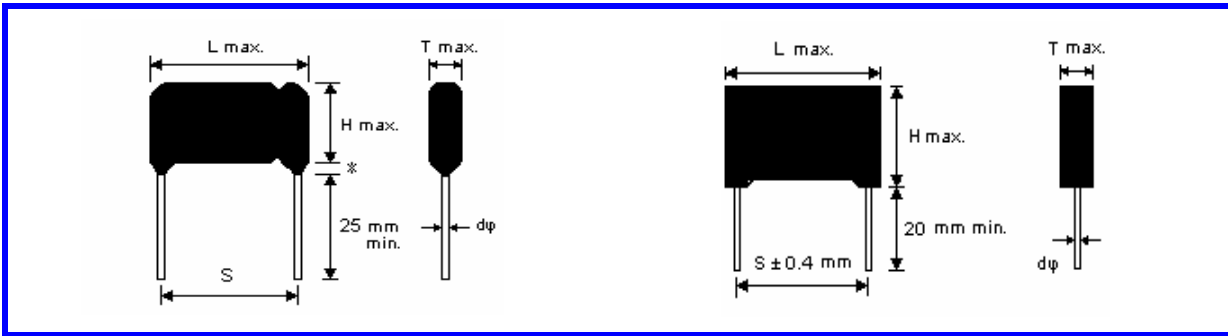


RoHS Compliant

TYPE CRD/CRK

METALLIZED POLYESTER CAPACITOR

RC COMPOUND CONSTRUCTION



APPLICATION

1. Spark Killer.
2. Noise, click suppressor.

FEATURES

1. RC compound construction.
2. Small size and light weight.
3. Radial type:
 - F/R Epoxy dipped (CRD type)
 - Encased and Epoxy filled (CRK type)

GENERAL SPECIFICATION

1. OPERATING TEMPERATURE:
 - 40°C ~ + 85°C
2. VOLTAGE RANGE:
 - 200, 400, 600 VDC. , others upon request
3. CAPACITANCE RANGE:
 - 0.1, 0.25, 0.50, 1.0 Mfd. , other capacitance upon request
4. RESISTANCE RANGE:
 - 22, 47, 100, 150, 220 ohms
5. DIELECTRIC STRENGTH:
 - 160% of Rated voltage for 2 sec.



RoHS Compliant

MULTI-SECTION CAPACITOR

METALLIZED FILM, ENCASED AND EPOXY FILLED



Three-wire units



Multi-wire units

Typical application

The typical application is for the air conditioning units in which capacitors are required for both compressor and fan motors.

Features

- * This series of product contains two independent capacitors in a single housing.
- * Constructed with low loss metallized film bearing self-healing characteristics.
- * Encased with round or flat flame-retardant case.
- * Filled with flame-retardant epoxy.

Typical application

This series of product is for multi-speed control or improving output torque for motor.

Features

- * This series of capacitor provides more than two capacitance in a single-housing.
- * Constructed with low loss metallized film bearing self-healing characteristics.
- * Encased with round or flat flame-retardant case.
- * Filled with flame-retardant epoxy.

本目錄的編印，除了介紹本公司規格產品外，也廣泛提供電容器有關特性、用途、檢驗與相關資料，希望能藉此提供對客戶的服務。

本公司所製造電容器的種類、型式及規格繁多，提供業者多種選擇以符合不同的需求。請參照第 1 頁的图片及簡單的規格說明。至於詳細資料，則請閱每項型式的內頁說明。

為了客戶選用考慮之便，本目錄特別提供十三頁說明(DATA-1 ~ 7)。第 4 頁 DATA-2 的資料是塑膠膜電容器的主要特性，也就是提供客戶對本公司產品--塑膠膜電容器在使用上的選擇參考。

如果在選用上仍有斟酌，可就各種不同性質的電容器作深入的選擇。而第 10、11 頁更詳細介紹不同品種塑膠膜電容器的各種電氣特性差異，提供選用時作正確的抉擇。

第 12、13、14 頁DATA-6 / 7 是成捲包裝(簡稱捲裝)，專供自動插件機使用的兩種主要包裝方式，也是廣泛被採用的規格。本公司規格雖略有差異，但通用性極高。客戶如有特殊要求，歡迎來電 (函) 洽商。

型式與編號介紹:

製造編號包括兩部份：前半部份是型式代號(TYPE CODE)，用來完整的代表一種電容器。希望客戶能參照並瞭解，作為貴我雙方連絡的依據。後半部份是批號(LOT NUMBER)，它是本公司一貫生產作業的連續編號。全部製造編號都印在產品標籤上，客戶對該批產品如有任何疑問，請記下此編號與我們連絡。

	型式代號					批號
例1:	EWf	630	W20	V	0	-63455A
例2:	POR	1K5	S22	J	3	-66577B
例3:	EMT	250	P10	M	4	-67533C
例4:	PMD	100	P47	K	7	-69318D
	型式	規格電壓	電容量	容差率	導線加工	


- 1. 型式：**由三個字母組成，第一個字母表示介質；聚乙☒膜：E，如例 1、例 3；聚丙☒膜：P；聚碳酸☒膜：C；聚苯乙☒膜：S。第二個字母M 表示採用金屬化膜的產品，如例 3、例 4。W 表示有浸臘處理，是專供充放電使用的，如例 1。但若無使用特殊材料時，則將第二位字母以 "O"，如例 2。第三個字母表示外觀，形狀，請參照第 1 頁。
圓筒型：T 即 J | S 的 08；扁平型：F 即 J | S 的 91；沾膠型：D 即 J | S 的 93。
有感型：L 即 J | S 的 92；圓沾膠型：R 即 J | S 的 16；盒裝型：K 即 J | S 的 99。
- 2. 規格電壓：**由三位數表示，其中有 K 代表千位，如例 2 的 1 K 5 表示 1500 伏特。
- 3. 電容量：**以 Mfd 為計算單位。第一字母表示隨後第一個數字的位數；A：10 Mfd，如 A 1 2 表示 12Mfd，W：1 Mfd 如 W15 表示 1.5 Mfd，P：0.1 Mfd 如 P22 表示 0.22 Mfd，S：0.01 Mfd 如 S15 表示 0.015 Mfd，D：0.001 Mfd 如 D47 表示 0.0047 Mfd，T：0.0001 Mfd 如 T68 表示 0.00068 Mfd，也就是 680PF。
- 4. 容差率：**係以 J | S 與 E | A 共同通用的代號，請參照 DATA-1 的下則說明 4。
- 5. 導線加工：**不論各種結構型式，其導線加工以下列代號表示：
0 表示不加工，1 表示內彎，2 表示外彎，3 表示內外彎，
4 表示切短，5 表示內彎及切短，6 表示外彎及切短，7 表示內外彎及切短。

本公司採用自動化高精度設備，積多年豐富經驗，在嚴格管制下生產的。所有的產品都全數檢驗並自動記錄它的電容量、損失角（或稱損耗因數）、耐電壓與絕緣電阻等主要特性分佈，可提供完整的自動檢驗報告。

除非客戶另有要求，我們採用美國 MIL-STD-105E 的 Level II 以 AQL 0.4% 執行主要特性檢驗；以 AQL 1.5% 作外形或其他次要特性的檢驗。

1. 封裝耐燃：耐燃膠帶應特別指定，而 VALOX CASE 及棕色樹脂與藍色樹脂符合 UL 94 V-0 標準。
2. 可☒性與線材：鍍錫銅包鋼線符合 IEC 384-1，可☒性試驗要求。
3. 拉力試驗：符合 IEC 384-1 4.13 測試要求。
4. 彎曲試驗：符合 IEC 384-1 4.13 測試要求。
5. 振動試驗：參考 IEC 384-1 4.17 試驗，把電容器置於儀器上，使承受 0.03 " 振幅的間歇運動。頻率範圍從 10 到 55 Hz，在 3 個直角面上分別試驗 2 小時（共 6 小時）。試驗後，電容器沒有任何機械的損傷而且電氣特性不會退化。
6. 耐濕試驗：參考 IEC 384-1 4.22 試驗，把電容器放置於試驗環境 R.H. 90 到 95%，40°C 240 小時後，再置於室溫 2 小時後測試（請參照 DATA-2）。
7. 壽命試驗：置於 85°C 施加規格電壓的 1.25 倍電壓 1,000 小時後測試。（請參照 DATA-2）。

打印：

電容器標示電容量、容差率、直流規格電壓、製造商名稱 "FARAD" 或商標  或符號 'F'、"F"。

包裝：

請參照第 24 頁的圖片。

- (1) 散裝：小的紙內盒或者 PVC 塑膠袋
打包及加貼標籤後裝於一個標準外銷箱。
- (2) 導線同軸型的捲裝：4 盒捲裝電容器裝一個標準外銷箱。
- (3) 導線平行式的捲裝（有感和無感）：
 - (a) 6 盒捲裝電容器裝入一個標準外箱。
 - (b) 6 盒彈帶型包裝電容器裝入一個標準外銷箱。

產品標籤式樣：

	POLYPROPYLENE FILM CAPACITOR				產品描述
產品型式	Type:	POD	Q'ty.:	250 pcs	數量
電容量	Cap.:	.0033 Mfd	Tol.:	±5 %	電容誤差
額定電壓	Vr.:	1000 VDC	T.V.:	2500 VDC	測試電壓
製造品號	Mfg. P/N:	POD1K0D33J500			
客戶料號	C. P/N:	10-21480-03	DATE:	20110818	日期
包裝員簽章	Packing:		Inspector:		檢驗員簽章

塑膠膜電容器使用應注意事項

一. 工作電壓

1. 直流電壓 (VDC)

在電容器的額定溫度 (Rated Temperature) 內, 電容器工作電壓可達額定電壓 (Rated voltage). 在高額定溫度 (Upper Rated Voltage) 和最高工作溫度間, 工作電壓必須依參數降電壓使用. 超電壓使用會造成電容器因短路失效. 金屬化電容器具有自復特性, 如超電壓使用雖不立即短路, 但會使 IR 下降. 如果 '自復' 持續發生, 可能造成電容器發煙或著火的危險.

2. 交流電壓 (VAC 50/60 Hz)

VDC 額定電壓之塑膠膜電容器是無極性, 雖可以在 VAC 下工作, 但如要長期使用在交流電壓下, 要選用專為交流電壓使用所設計的電容器才正確.

VDC 額定電壓之塑膠膜電容器如使用在 VAC 時, 峰 \square 電壓必須低於額定電壓.

3. 脈沖電壓 (Pulse)

電容器的介 \square 耐電壓強度會隨工作頻率增高而衰減.

二. 容許電流 (Permissible Current)

當電容器在高頻率下工作, 電流和電容器的內阻 (Internal Resistance) 會使電容器溫度上昇. 當電容器的溫度超過最高工作溫度會造成電容器劣化形成開路 (Open) 或短路失效, 嚴重者可能發煙或著火. 電容器決不能超電流使用.

電容器所承受的電流有下列兩種.

1. 有效電流 (RMS Current).

此電流是由週期性的電壓 (period voltage) 產生的, 也是造成電容器溫升的因素.

2. 脈波峰 \square 電流 (Peak Current)

當高脈波電流在極短的時間內 (微秒間) 通過電容器時, 會造成電容器連接導線部位產生高熱, 劣化. 這種脈波在 Switching, Snubber, Fly-back, Resonance, Striking 都使用. 電容器的 dv/dt (Pulse rise time) 規格 \square , 定義其耐脈波電流峰 \square . 其關係如下.

$$I_p = C \times dv/dt \quad I: \text{Amp} \quad C: \mu\text{f} \quad dv/dt: \text{V}/\mu\text{s}$$

脈波使用請慎選合適的 dv/dt 規格電容器.

塑膠膜電容器使用應注意事項

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VDC 額定電壓之塑膠膜電容器是無極性, 雖可以在 VAC 下工作, 但如要長期使用在交流電壓下, 要選用專為交流電壓使用所設計的電容器才正確.

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電容器所承受的電流有下列兩種.

1. 有效電流 (RMS Current).

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當高脈波電流在極短的時間內 (微秒間) 通過電容器時, 會造成電容器連接導線部位產生高熱, 劣化. 這種脈波在 Switching, Snubber, Fly-back, Resonance, Striking 都使用. 電容器的 dv/dt (Pulse rise time) 規格 \square , 定義其耐脈波電流峰 \square . 其關係如下.

$$I_p = C \times dv/dt \quad I: \text{Amp} \quad C: \mu\text{f} \quad dv/dt: \text{V}/\mu\text{s}$$

脈波使用請慎選合適的 dv/dt 規格電容器.



CERTIFICATE OF REGISTRATION

The Management System of

Farad Electronics Factory

Jin-Xing Industrial Zone, Xia-Ni Village, Qingxi Town, Dongguan City, Guangdong Province, P.R.China

has been assessed by GIC and complying with

ISO9001:2008

For the following activities

Processing of plastic film capacitors

Date of Issue: 25 July 2011

Date of Expiry: 24 July 2014

Date of Initial Certification: 25 July 2011

Certificate No.: 684670

The maintenance of this certificate is subject to GIC regular surveillance audits and is validated by the conformity label. This certificate shall be used in conjunction with the <Surveillance Audit Conformity Notification> issued upon successful completion of every surveillance audit, and the Notification will state clearly the validity period of this certificate.



The validity of this certificate can be verified from the following website

www.gicg.com.cn

Guardian Independent Certification Ltd

*Registered in England
Sovereign House 212-224 Shaftesbury Avenue London England WC2H 8HQ*

Accredited by Member of the IAF MLA



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CERTIFICATE OF REGISTRATION

The Management System of

Farad Electronics Factory

Jin-Xing Industrial Zone, Xia-Ni Village, Qingxi Town, Dongguan City, Guangdong Province, P.R.China

has been assessed by GIC and complying with

ISO14001: 2004

For the following activities

Environmental Management Activities Relating to Processing of Plastic Film Capacitors

Date of Issue: 13 September 2010 Date of Expiry: 12 September 2013

Date of Initial Certification: 13 September 2010

Certificate No.: 681830

The maintenance of this certificate is subject to GIC regular surveillance audits and is validated by the conformity label. This certificate shall be used in conjunction with the <Surveillance Audit Conformity Notification> issued upon successful completion of every surveillance audit, and the Notification will state clearly the validity period of this certificate.



The validity of this certificate can be verified from the following website

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