Ordering Code

MMY - 10 - 223 K - 100 T/R

1 2 3 4 5 6

1. TYPE : MMY, MPY, PPY, PMY, MPX
2. LEAD SPACING : 5, 7.5, 10, 15, 22.5, 27.5 mm
3. RATED CAPACITANCE : 223 = 0.022 μF
4. CAP, TOLERANCE :

Code Letter	F	G	H	I	J	K	M
CAP, Tolerance	±1%	±2%	±2.5%	±3%	±5%	±10%	±20%

5. WORKING VOLTAGE : 63/100/160/200/250/400/600/800/1000/1600/2000VDC,110/250/275VAC
6. PACKING : T/R = Reel Taping, T/A = AMMO Taping, No Marking = Bulk

READ CAPACITANCE

	pF	GpF	μF
101	100 pF	0.1 nF	0.0001μF
102	1000 pF	1 nF	0.001μF
103	10000 pF	10 nF	0.01μF
104	100000 pF	100 nF	0.1μF
105	1000000 pF	1000 nF	10μF
106	1000000 pF	10000 nF	10μF

0.0001μF
1 Farad = 1,000 Hilli Farad(mF) 1 mF = 1,000 Micro Farad(Mfd, μF) 1 μF = 1,000 Nano Farad(nF) 1 nF = 1,000 Pico Farad(PF)

GENERAL TECHNICAL DATA

Dielectric : Polyester film

Plates : Aluminum layer deposited by evaporation under vacuum

Winding : Non-inductive type

Lead : Tinned wire(minimum lead content 5%)

Protection : Plastic case, epoxy resin filled. Box made of solvent resistant material.

Marking : Capacitance, tolerance, DC nominal voltage

Climatic category : FME DIN 40040. 55/100/21 IEC 68-1

Technical terms and tests : IEC 384-2 CECC 30400 DIN 44110 T1 DIN 45910 T11

Detail specification : CECC 30401-025

Reliability : LR DIN 40040 (L = 300 FIT, R = 105 Hours) 1 FIT = 1 x 10-9 failures/components x h.
Considering a practical application at +40°C and 0.5 x Vn.
We can assume a failure quote of 2 FIT.

Failure criteria (according to Din 44122) : Short or open circuit
Capacitance change ΔC/C : >± 10%
Dissipation factor : >2 x limit value
Insulation resistance : 0.005 x limit value

ELECTRICAL DATA

Nominal voltage(Vn) : 63 Vdc-100Vdc-250Vdc-400Vdc

Category voltage(Vc) : Up to 105°C V = Vn
For temperature between 105°C and +120°C a decreasing factor of 1.25% per degree °C on the nominal voltage Vn has to be applied.

Capacitance range : 0.001 µF to 1 µF

Capacitance values : Values in compliance with IEC 63 Norm. E6 series

Capacitance tolerances (at 1KHz) : ±5%, ±10%, ±20%

Total self inductance : ∫∫ 7nH

Dissipation factor(DF) : tgδ± x 10-4 at +25°C ±5°C

KHz	C<0.1µF	C>0.1µF
1	<100	<100
10	<150	<150
100	<300	

Insulation resistance :
Temperature
Test condition : +25°C ±5°C
Voltage charge time : 1 minute
Votage charge : 50 Vdc for Vn 100 Vdc, 100Cdc for Vn=100Vdc
10,000MΩ for C 0.1µF(5.104MΩ) (*) F
1,000sec. for C 0.1µF(5,000sec.) (*)

Test voltage between terminals : 1.6 x Vn applied for 2sec. at +25°C ±5°C(*) Typical value

Maximum pulse rise time(dv/dt) :

Vn	C(pF)	(V/ x µsec.
100Vdc	C≤3300	30
	3300≤C≤6800	15
	C>6800	10
63Vdc		8
50Vdc		4

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

Soldering :

Test Condition		Performance	
Soldering temperature	+260°C ±5°C	Capacitance change ¥ÄC/C	±2%
Soldering duration	5sec. ±1sec.	DF change ¥Ä tg¥ä	30·10-4 at 10KHz
		Insulation resistance	limit value

Damp heat test :

Test Condition		Performance	
Temperature	+40°C	Capacitance change ¥ÄC/C	±5%
Relative humidity	93% ±2%	Dissipation factor change¥Ä tg¥ä	50·10-4 at 1KHz
Test duration	21 days	Insulation resistance	50% of limit value

Lift test :

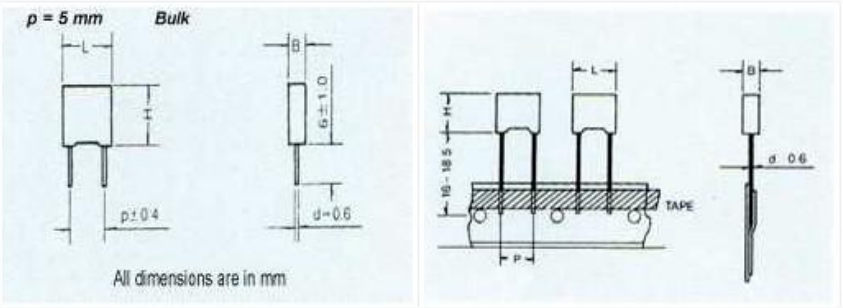
Test Condition		Performance	
Temperature	+105°C	Capacitance change ¥ÄC/C	±5%
Test duration	1000 Hours	DF change ¥Ä tg¥ä	50·10-4 at 1KHz
Voltage applied	1.25 x Vn	Insulation resistance	50% of limit value

Long term stability :

Test Condition		Performance	
Storage	Standard environmental conditions	Capacitance change ¥ÄC/C	±3%

DIMENSION (mm)

Diagrams (p = 5 mm)



Dimension :

CAP (μF)	63VDC/40VAC				100VDC/63VAC				250VDC/63VAC				400VDC/200VAC			
	B	H	L	P	B	H	L	P	B	H	L	P	B	H	L	P
0.00051~					2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5
0.001~					"	"	"	"	"	"	"	"	3.5	7.5	7.2	5
0.015~					"	"	"	"	3.5	7.5	7.2	5	4.5	7.5	7.2	5
0.033~					"	"	"	"	4.5	7.5	7.2	5	5	10	7.2	5
0.056~					"	"	"	"	5	10	7.2	5				
0.1~	2.5	6.5	7.2	5	3.5	7.5	7.2	5	6	11	7.2	5				
0.15~	3.5	7.5	7.2	5	4.5	7.5	7.2	5	"	"	"	"				
0.27~	"	"	"	"	"	"	"	"								
0.39~	4.5	7.5	7.2	5	5	10	7.2	5								
0.47~	"	"	"	"	6	11	7.2	5								
0.68~	6	11	7.2	5												
1.0	"	"	"	"												

CAPACITANCE VALUE

Max Voltage(Vr.m.s.) Vs. Frequency (Sinusoidal Wave-Form)