



MESSRS:ROPLA

Date: 2008 year 6 month 4 day

APPROVE SHEET

Description : INTERFERENCE SUPPRESSION CLASS X2 (MKP)

Type No : MKP-104K0275AB1151

Customer Type No : DIV0044

APPROVED BY

HUA JUNG COMPONENTS CO., LTD

Head Office:

NO. 37 FENG PING FIRST ROAD. TALIAO KAOHSIUNG HSIEN TAIWAN R.O.C

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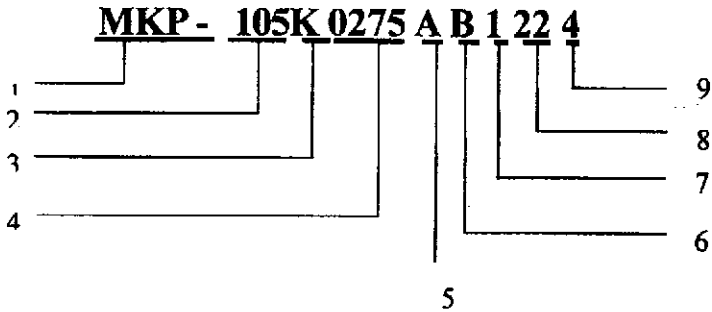
Factory:

SHIJE 3 VILLAGE INDUSTRIAL AREA, SHIJE TOWN, DONGGUAN, GUANGDONG, P.R.C

TEL: 86-769-6322836 FAX: 86-769-6322840

PART NUMBERING

MKP 1.0uF K 275VAC
26*19*10mm P:22.5mm



1. TYPE OF CAPACITOR:

CODE	PPN-	MEF-	MPP-	PPS-	PEN-	MPC-	MPS-	MKP-	MEB-	MEA-	MET-
TYPE	PPN	MEF	MPP	PPS	PEN	MPC	MPS	MKP	MEB	MEA	MET

CODE	MPSA	MEMB	MPT-	MPA-	MPCT	MPCA	PPT-	PET-	PEI-	PSA-	PPSA	PPSH
TYPE	MPSA	MEMB	MPT	MPA	MPCT	MPCA	PPT	PET	PEI	PSA	PPSA	PPSH

2. CAPACITANCE:

Express in picofarad (1 Microfarad = 1,000,000 Picofarads)
first two digits represent significant figures, third digit
specifies the number of zero to follow ex.

- 102=0.001uF 105=1.0uF
- 103=0.01uF 106=10.0uF
- 104=0.1uF

3. TOLERANCE:

F=1% G=2% H=3% J=5% K=10% M=20% L=2.5%

4. RATED VOLTAGE:

CODE	0050	0100	0250	0400	0630	1000	1200	1600	2000
TYPE	50V	100V	250V	400V	630V	1000V	1200V	1600V	2000V

5. VOLTAGE TYPE:

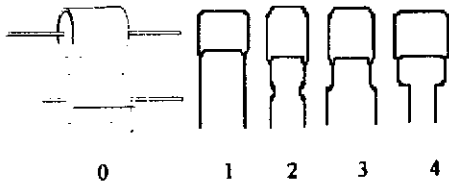
A=A.C. VOLTAGE D=D.C. VOLTAGE H=H-Pulse VOLTAGE

6. PACKAGING TYPE:

B=BULK T=TAPING

7. LEAD CONFIGURATION

- 0=AXIAL(include PSR, PSA) 1=STRAIGHT LEAD
- 2=FORMED LEAD 3=FORMED LEAD
- 4=FORMED LEAD *=FORMED LEAD

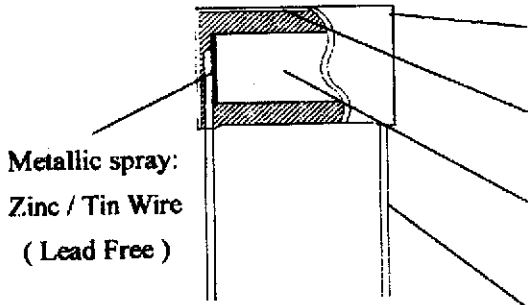




9. CODE FOR FINAL LEAD LENGTH (RADIAL): Unit:mm

- 1 =17(MIN) 6 =15.0
- 2 = 3.5 7 =20.0
- 3 = 4.0 8 =TAP
- 4 = 4.5 9 =6
- 5 = 10.0 0 = AXIAL (include PSR , PSA)
- B = 5.0

8. CODE FOR FINAL LEAD PITCH (RADIAL): Unit:mm

- 05 = 5.0 07 = 7.5 10 = 10.0 12 = 12.5 15 = 15.0 16 = 16.5 17 = 17.5
- 20 = 20.0 22 = 22.5 25 = 25.0 27 = 27.5 30 = 30.0 32 = 32.5
- 35 = 35.0 37 = 37.5 40 = 40.0 42 = 42.5 00 = AXIAL(include PSR , PSA)

TYPE: MKP METALLIZED POLYPROPYLENE CAPACITOR		Page.:03
PRODUCT SPECIFICATION		08-04 Rev 6
1.SCOPE	This specification covers the requirement for Metallized polypropylene dielectric fixed capacitor which is approved by UL,CSA, ENEC- SEMKO, and CQC.	
2.PRODUCT NAME	Metallized polypropylene capacitor, Type MKP	
3. PRODUCT RANGE	Operating temperature range.	-40 to +110°C (IEC384-14) +110°C max. (UL) +110 °C max. (CSA) (including temperature rise on unit surface)
	Rated voltage	275VAC max. (IEC384-14) 310VAC max. (UL) 310VAC max. (CSA)
	Capacitance range	Refer to the individual drawing.
	Capacitance tolerance	Refer to the individual drawing.
4.APEARANCE	1. Marking shall be legible in the right place. 2. Plating of lead wire shall be perfect without rust. 3. Coating shall be without any crack, rent, pinhole etc .	
5.CONSTRUCTION	The capacitor has a non-inductive construction, wound with Metallized polypropylene film dielectric. The capacitor is enclosed in noncombustible plastic case, filled with noncombustible filling resin, and has two leads. <div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Metallic spray: Zinc / Tin Wire (Lead Free)</p> </div> <div style="width: 65%;"> <p>Noncombustible plastic case (Flame class : UL94V-0)</p> <p>Noncombustible Epoxy resin (Flame class : UL94V-0)</p> <p>element (Metallized polypropylene film)</p> <p>lead wire : Tinned copper clad-steel wire (Lead Free)</p> </div> </div>	
6.DIMENSIONS	As specified in the individual drawing.	
7. CONDITIONAL STANDARD TEST	The test shall be conducted at a temperature of from 15°C to 35°C, a humidity of from 45% to 75%. However the test shall be conducted at a temperature of 20±5°C, a humidity of 65±5%,when doubt is entertained about judgment.	
HUA JUNG COMPONENTS CO., LTD.		Approved
		Undertaker
		
		

8.CHARACTER

No.	Item	Performance	Testing method								
1	Withstand Voltage	<p>[Between terminals]: Nothing abnormal shall be found, when a voltage specified below is applied :</p> <p>2200VDC for 3 sec. or $C \leq 0.0068\mu\text{F}$: AC1500V or DC2121V for 1 minute $C > 0.0068\mu\text{F}$: AC1000V or DC1768V for 1 minute</p> <p>1.Cut-off Current AC: 2A DC:10mA</p> <p>2.Current limiting resistance of $1\Omega/\text{V}$ shall be connected to the test circuit.</p> <p>3.Slow-up voltage speed : 100V/sec</p> <p>[Between terminals and enclosure] : Nothing abnormal shall be found, when a voltage of 2050VAC is applied for 1 minute.</p>	IEC 384-14-4.2.1 (IEC 384-1 4.6)								
2	Insulation resistance	<p>[Between terminals] :</p> <p>15000MΩ or more (when $C \leq 0.33 \mu\text{F}$) at DC100V 5000MΩ. μF or more (when $C > 0.33 \mu\text{F}$) at DC100V (2000MΩ or more at DC500V)</p> <p>[Between terminals and enclosure] :</p> <p>30000MΩ or more at DC100V 500MΩ or more at DC500V</p> <p>When the reading of measuring instrument becomes steady at a value after a voltage of DC 100\pm15V or DC 500\pm50V is applied for 1 minute \pm5 seconds. (Ambient temperature at 20°C)</p>	IEC 384-14-4.2.5 (IEC 384-1-4.5)								
3	Capacitance	Within a range of specified value. (Measured at a frequency of $1 \pm 0.2 \text{ KHz}$, at 20 °C, 1Vrms)	IEC 384-14-4.2.2 (IEC 384-1-4.7)								
4	Dissipation factor	0.1 % or less (Measured at a frequency of $1 \pm 0.2 \text{ KHz}$, at 20 °C, 1Vrms)	IEC 384-14-4.2.3 (IEC 384-1-4.8)								
5	Termination strength	<p>[Tensile strength] The load specified below shall be applied to the terminal in its draw-out direction gradually up to the specified value and held thus for 10 ± 1 seconds. After the test , no breaking or loosening of the terminal shall be found.</p> <table border="1" data-bbox="443 1641 1086 1715"> <thead> <tr> <th>Lead wire diameter [mm]</th> <th>Tensile force [N]</th> </tr> </thead> <tbody> <tr> <td>over 0.5 to 0.8</td> <td>10.0</td> </tr> </tbody> </table> <p>[Bending strength] While the load specified below is applied to the lead wire, the body of the capacitor shall be bent 90° and returned to the original position. This operation shall be conducted in a few seconds. Then the body shall be bent 90° , at the same speed in the opposite direction and returned to the original position. After the test , no breaking or loosening of the terminal shall be found.</p> <table border="1" data-bbox="443 1984 1086 2058"> <thead> <tr> <th>Lead wire diameter [mm]</th> <th>Bending force [N]</th> </tr> </thead> <tbody> <tr> <td>over 0.5 to 0.8</td> <td>5.0</td> </tr> </tbody> </table>	Lead wire diameter [mm]	Tensile force [N]	over 0.5 to 0.8	10.0	Lead wire diameter [mm]	Bending force [N]	over 0.5 to 0.8	5.0	IEC 384-14-4.3 (IEC 384-1-4.13) IEC 68-2-21 Test Ua1
Lead wire diameter [mm]	Tensile force [N]										
over 0.5 to 0.8	10.0										
Lead wire diameter [mm]	Bending force [N]										
over 0.5 to 0.8	5.0										
			IEC 384-14-4.3 (IEC 384-1-4.13) IEC 68-2-21 Test Ua1								

No.	Item	Performance	Testing method
6	Vibration proof	<p>The frequency shall be varied from 10Hz to 55Hz at 1.5mm amplitude and back to 10Hz in approximately 1 minute intervals. This motion shall be applied for a period of 2 hours in each of 3 mutually perpendicular directions.</p> <p>During the last 30 min of vibration in each direction, checks shall be made for open or short-circuiting and interruption.</p> <p>Performance :</p> <p>Bending strength : There shall be no open or short-circuiting and the connections must be stabilized.</p> <p>Appearance : There shall be no such mechanical damage as terminal damage etc.</p>	<p>IEC 384-14-4.7 (IEC 384-1-4.17) IEC 68-2-6 Test Fc</p>
7	Solder ability	<p>The lead wire shall be immersed into soldering bath at 235 ± 5 °C for 2 ± 0.5 seconds up to the depth of $1.5 + 0.5 / - 0$mm from the bottom of the body.</p> <p>Performance:</p> <p>At least 95% of the circumferential face of lead wire up to immersed level shall be covered with new solder.</p>	<p>IEC 384-14-4.5 (IEC 384-1-4.15) IEC 68-2-20 Test Ta</p>
8	Soldering heat resistance	<p>The lead wire shall be immersed into soldering bath and its depth of dipping shall be up to $1.5 + 0.5 / - 0$mm from the root of terminals by using a heat shielding plate.</p> <p>Temperature and duration of soldering shall be 350 ± 10 °C for 3.5 ± 0.5 seconds or 260 ± 5 °C for 10 ± 1 seconds.</p> <p>After the immersion is finished, the capacitor shall be let alone at ordinary temperature and humidity for 1 ± 0.5 hours.</p> <p>After this, the capacitor shall be satisfied with the following performance.</p> <p>Appearance : No remarkable change.</p> <p>Withstand voltage :</p> <p>Nothing abnormal shall be found, when a voltage specified in item 8.1 is applied for 1 minute.</p> <p>Insulation resistance :</p> <p>Insulation resistance shall conform to Item 8.2.</p> <p>Change rate of capacitance :</p> <p>$\Delta C/C \leq \pm 3\%$ of the value before the test.</p>	<p>IEC 384-14-4.4 (IEC 384-1-4.14) IEC 68-2-20 Test Tb</p>
9	Cold resistance	<p>The capacitor shall be placed in the testing chamber at -40 ± 3 °C for $2 + 1 / - 0$ hours. After the test, the capacitor shall be let alone at the ordinary condition for 1.5 ± 0.5 hours, and shall be satisfied with the following performance.</p> <p>Change rate of capacitance</p> <p>$\Delta C/C \leq \pm 5\%$ of the value before the test.</p>	<p>IEC 384-14-4.11.4 IEC 68-2-1 Test Aa</p>
10	Dry Heat resistance	<p>The capacitor shall be placed in the testing oven at $+110 \pm 2$ °C for $2 + 1 / - 0$ hours. After the test, the capacitor shall be let alone at the ordinary condition for 1.5 ± 0.5 hours, and shall be satisfied with the following performance.</p> <p>Insulation resistance: $\geq 50\%$ of the initial specified value.</p> <p>Change rate of capacitance</p> <p>$\Delta C/C \leq \pm 5\%$ of the value before the test.</p>	<p>IEC 384-14-4.11.2 (IEC 384-1-4.21.2) IEC 68-2-2 Test Ba</p>

No.	Item	Performance	Testing method
11	Humidity resistance	<p>The capacitor under test shall be put in the testing oven and kept at condition of the temperature $+40\pm 2$ °C and the humidity at 90 to 95% for $500+24/-0$ hours and then shall be let alone at ordinary condition for 1.5 ± 0.5 hours.</p> <p>After the test , the capacitor shall be satisfied with the following performance.</p> <p>Appearance : No remarkable change.</p> <p>Withstand voltage :</p> <p>[between terminals]</p> <p>Nothing abnormal shall be found, when a voltage specified below is applied for 1 minute.</p> <p>$C \leq 0.0068\mu\text{F}$: AC1500V</p> <p>$C > 0.0068\mu\text{F}$: DC1075V</p> <p>[between terminals and enclosure]</p> <p>Nothing abnormal shall be found , when a voltage of 2050VAC is applied for 1 minute.</p> <p>Insulation resistance:</p> <p>[between terminals]</p> <p>7500MΩ or more (when $C \leq 0.33\mu\text{F}$) at DC100V</p> <p>2500MΩ. μF or more (when $C > 0.33\mu\text{F}$) at DC100V</p> <p>[between terminals and enclosure]</p> <p>15000MΩ or more at DC100V</p> <p>Change rate of capacitance :</p> <p>$\Delta C/C \leq \pm 5\%$ of the value before the test .</p> <p>Dissipation factor : $\leq 0.15\%$ at 1 KHZ.</p>	<p>IEC 384-14-4.12 (IEC 384-1-4.22) IEC 68-2-3 Test Ca</p>
12	Rapid change of Temp.	<p>The capacitor under the test shall be kept in the testing oven and kept at condition of the temperature of -40 ± 3 °C for 30 ± 3 minutes.</p> <p>After this, the capacitor shall be let alone at the ordinary temperature for 3 minutes or less. After this , the capacitor under the test shall be kept in the testing oven and kept at condition of the temperature of $+110\pm 2$ °C for 30 ± 3 minutes. Then the capacitor shall be let alone at the ordinary temperature for 3 minutes or less. This operation shall be counted as 1 cycle , and it shall be repeated for 5 cycles successively .</p> <p>After the test , the capacitor shall be let alone at the ordinary condition for 1.5 ± 0.5 hours, and shall be satisfied with the following performance.</p> <p>Appearance : No remarkable change .</p> <p>Insulation resistance :</p> <p>$\geq 50\%$ of initial specified value.</p> <p>Change rate of capacitance :</p> <p>$\Delta C/C \leq \pm 10\%$ of the value before the test .</p> <p>Dissipation factor : $\leq 0.12\%$ at 1 KHZ.</p>	<p>IEC 384-14-4.6 (IEC 384-1-4.16) IEC 68-2-14 Test Na</p>

No.	Item	Performance	Testing method				
13	High temperature loading	<p>The capacitor shall be submitted to an endurance of 1000h at 110°C at a voltage (*) except that once every hour the voltage shall be increased to 1000Vrms for 0.1 second.</p> <p>Voltage (*) : 125% of rated voltage</p> <p>After the test , the capacitor shall be satisfied with the following performance.</p> <p>Appearance : No remarkable change .</p> <p>Withstand voltage :</p> <p>[between terminals]</p> <p>Nothing abnormal shall be found , when a voltage specified below is applied for 1 minute.</p> <p>C ≤ 0.0068μF : AC1500V</p> <p>C > 0.0068μF : DC1075V</p> <p>[between terminals and enclosure]</p> <p>Nothing abnormal shall be found , when a voltage of AC 2050V is applied for 1 minute.</p> <p>Change rate of capacitance :</p> <p>Within ΔC/C: ≤± 10% of the value before the test .</p> <p>Insulation resistance :</p> <p>[between terminals]</p> <p>7500 MΩ or more (when C ≤ 0.33 μF) at DC100V</p> <p>2500 MΩ. μF or more (when C > 0.33 μF) at DC100V</p> <p>[between terminals and enclosure]</p> <p>3000 MΩ or more at DC100V</p> <p>Dissipation factor : ≤ 0.15% at 1KHZ.</p>	IEC 384-14-4.14				
14	Impulse voltage	<p>The capacitor shall be subjected to a maximum of 24 impulses of the same polarity. If any three successive impulses are shown by the monitor to have had a waveform indicating that no self-healing breakdowns have occurred, then the capacitor shall be no more subjected to impulses.</p> <p>Impulse voltage(X2): when C ≤ 1.0μF U_p = DC 2.5 (kV)</p> <p>when C > 1.0μF U_p = DC 2.5/√C (kV)</p> <p>Appearance : No remarkable change.</p> <p>Others : There shall be no permanent breakdown or flashover.</p> <p>After impulse voltage, the capacitor shall be subjected to high temperature loading (item 13).</p>	IEC 384-14 4.13				
15	Active flammability test	<p>The capacitor shall be wrapped in at least one not more than two complete layers of cheesecloth.</p> <p>The capacitor shall be subjected to 20 discharges from a tank Capacitor, charged to a voltage that, when discharged, places a peak voltage across the capacitor under test.</p> <p>The interval between successive discharges shall be 5 seconds.</p> <p>Throughout the test, a rated voltage U_R shall be applied across the capacitor under test and shall be maintained for 2 minutes after the last discharge, unless a blown fuse causes an open circuit.</p> <p>The cheesecloth around the capacitor shall not burn with a flame.</p> <table border="1" data-bbox="507 1933 1150 2007"> <tr> <td>Rated voltage: U_R</td> <td>Peak voltage: U_i</td> </tr> <tr> <td>275VAC</td> <td>DC 2.5kV +7 / -0%</td> </tr> </table>	Rated voltage: U _R	Peak voltage: U _i	275VAC	DC 2.5kV +7 / -0%	IEC384-14 4.18
Rated voltage: U _R	Peak voltage: U _i						
275VAC	DC 2.5kV +7 / -0%						

9.UL

No.	Item	Performance	Testing method														
1	Across-the-line discharge test	<p>The capacitor shall be subjected to four discharges from a dump capacitor charged to a voltage that, when discharged, places a potential of DC5kV across the capacitor under test, The interval between successive discharges is to be 5 seconds. During the discharge test, a 240VAC, 60 Hz potential is to be applied across the capacitor under test. The 240VAC potential is to be maintained for 30 seconds after the fourth discharge, unless the circuit is opened in a shorter time by failure of the capacitor. There shall be no glowing or flaming of a single layer of cheesecloth placed securely around the capacitor, or expulsion of materials from the capacitor which may produce a casualty, fire or shock hazard.</p> <table border="1" data-bbox="459 703 1193 842"> <thead> <tr> <th>Capacitor Under test (Ct)</th> <th>Dump capacitor (Vdc)</th> <th>Applied voltage (Vdc)</th> </tr> </thead> <tbody> <tr> <td>0.001 ~ 0.005 μF</td> <td>0.005 μF</td> <td rowspan="5">5000*(Ct+Cd) Cd</td> </tr> <tr> <td>0.0051 ~ 0.05 μF</td> <td>0.05 μF</td> </tr> <tr> <td>0.051 ~ 0.5 μF</td> <td>0.5 μF</td> </tr> <tr> <td>0.51 ~ 1.0 μF</td> <td>1.0 μF</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Capacitor Under test (Ct)	Dump capacitor (Vdc)	Applied voltage (Vdc)	0.001 ~ 0.005 μ F	0.005 μ F	5000*(Ct+Cd) Cd	0.0051 ~ 0.05 μ F	0.05 μ F	0.051 ~ 0.5 μ F	0.5 μ F	0.51 ~ 1.0 μ F	1.0 μ F			<p>UL1414.13 CSA C22.2 NO.1 10.5.1</p>
Capacitor Under test (Ct)	Dump capacitor (Vdc)	Applied voltage (Vdc)															
0.001 ~ 0.005 μ F	0.005 μ F	5000*(Ct+Cd) Cd															
0.0051 ~ 0.05 μ F	0.05 μ F																
0.051 ~ 0.5 μ F	0.5 μ F																
0.51 ~ 1.0 μ F	1.0 μ F																
2	Line-by-pass Discharge test	<p>The capacitor shall be subjected to 50 discharges from a 0.001μF capacitor that has been charged to a potential of DC 10kV. The interval between successive discharges is to be 5 seconds. After the fiftieth discharge, there shall be no visible evidence of damage to a capacitor.</p> <p>Withstand voltage: [between terminals] & [between terminals and enclosure] Nothing abnormal shall be found, when a voltage of 1000VAC is applied for 1 minute.</p>	<p>UL1414,16 CSA C22.2 NO.1 6.12.2</p>														
3	Damp heat insulation	<p>The capacitor under test shall be put in the testing oven and kept at condition of the temperature at 20 to 30 °C and the humidity at 93 ± 2 % for 48 hours.</p> <p>After the test, the capacitor shall be satisfied with the following performance.</p> <p>Insulation resistance: (between terminals and enclosure) 2 MΩ or more (at DC250V)</p>	<p>UL1283.29</p>														
4	Flame test	<p>Three samples of the capacitor shall be subjected to three 15 sec. applications of a test flame, the period between applications of the flame being 15 seconds, the material of the enclosure is acceptable if each capacitor does not continue to flame for more than 15 seconds after the first and second applications, and for not more than 60 seconds after the third application.</p> <p>A supply of gas having a heating value of approximately 1000 Btu per cubic foot at normal pressure and a 3/8- inch diameter Tirrill burner are to be used. The test flame is to be 3/4 inch high with air ports of the burner closed.</p> <p>Each capacitor is to be mounted in a position that is most conducive to the ignition of the capacitor and which is permitted by the physical construction of the capacitor. The tip of the test flame is to be applied at any location on the body of each capacitor.</p>	<p>UL1414.9</p>														

10. Approved standard

Agency	Country	Specification	File number
UL	U.S.A	UL 1414 MKP 0.0047~1.0uF 310VAC, 110°C. UL 1283 MKP 0.0047~2.2uF 310VAC, 110°C.	E149075 E221690
CSA	Canada	CSA C22.2 No.8-M1986 MKP0.0047~2.2 uF 310VAC, 110°C. CAN/CSA C22.2 No.1-98 MKP0.0047~1.0 uF 250VAC	LR85363 158927
ENEC	ENEC SEMKO	EN132400 :1994/A2:1998/A3:1998 IEC 60384-14:1993/A1:1995 MKP 0.0047~2.2 uF 275VAC , 40/110/56/B	No.SE/0252-1C
CB TEST	SEMKO	IEC 60384-14,Second Edition,1993/A1:1995 MKP 0.0047~2.2 uF 275VAC , 40/110/56/B	SE-33139M1
CQC	China	GB/T14472 (1998) MKP .0047~2.2uF 275VAC	CQC02001002548

The **ENEC** mark was accepted in all European countries as equivalent of
VDE , SEV , SEMKO , DEMKO , NEMKO , FIMKO , etc.

11. Rated Voltage Pulse Slope dv/dt (V/μs) at 389VDC

Pitch V.R	7.5 m/m	10 m/m	15 m/m	22.5 m/m	27.5 m/m
389 VDC	500	400	300	180	120

NEW MARKING

Capacitor is Marked on Body for Following Items.

- (1) Logo , Manufacturing Symbol
- (2) Nominal Capacitance
- (3) Capacitance Tolerance
- (4) Rated Voltage
- (5) Part Name (Capacitor Class X2)
- (6) Monogram of Safety Standard Approvals.

The ENEC Mark:

ENEC is an abbreviation for "European Norms Electrical Certification".

ENEC mark was accepted in all European countries as equivalent of

Ⓢ Ⓝ Ⓣ Ⓜ Ⓟ Ⓠ etc.

- (7) Date Code :

Year : 02 → 2002 03 → 2003 04 → 2004

Week on : 01 ~ 53

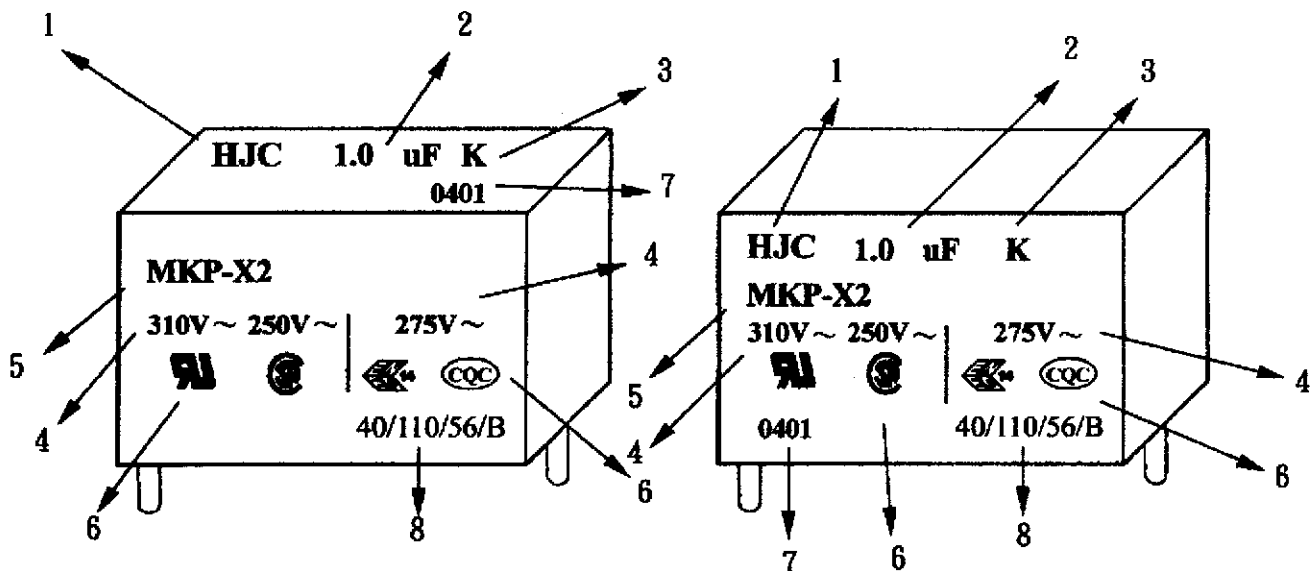
- (8) Application categories are indicated by code letters and number:

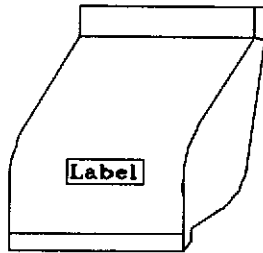
1st. Number (40): Minimum Temperature (-40°C).

2nd. Number (110): Maximum Temperature (110°C).

3rd. Number (56): The days of damp heat test.

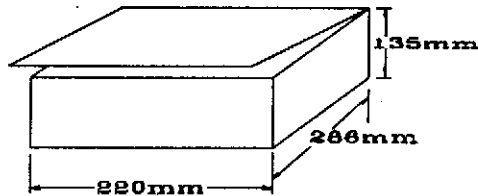
4th. Code letter (B) : Category of Passive flammability.



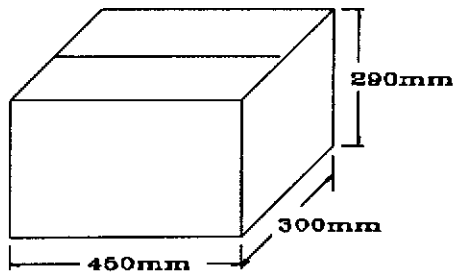
PACKAGE**Package Bag**

BODY SIZE(mm)	PCS / Container
D1 (18×11×5)	500 PCS
D2 (18×12×6)	500 PCS
D3 (18×13.5×7.5)	200 PCS
E2 (26.5×16.5×7)	100 PCS
E3 (26.5×17×8.5)	100 PCS
E4 (26.5×19×10)	100 PCS
F1 (32×20×11)	100 PCS
F2 (32×22.5×13)	50 PCS
F3 (32×24.5×14)	50 PCS

- label : 1. Manufacture's name
 2. Type name
 3. Part no
 4. Quantity
 5. Packing

Container

BODY SIZE(mm)	Wrap / Container
D1 (18×11×5)	8 Wrap
D2 (18×12×6)	6 Wrap
D3 (18×13.5×7.5)	5 Wrap
E2 (26.5×16.5×7)	8 Wrap
E3 (26.5×17×8.5)	8 Wrap
E4 (26.5×19×10)	5 Wrap
F1 (32×20×11)	4 Wrap
F2 (32×22.5×13)	4 Wrap
F3 (32×24.5×14)	4 Wrap

Carton

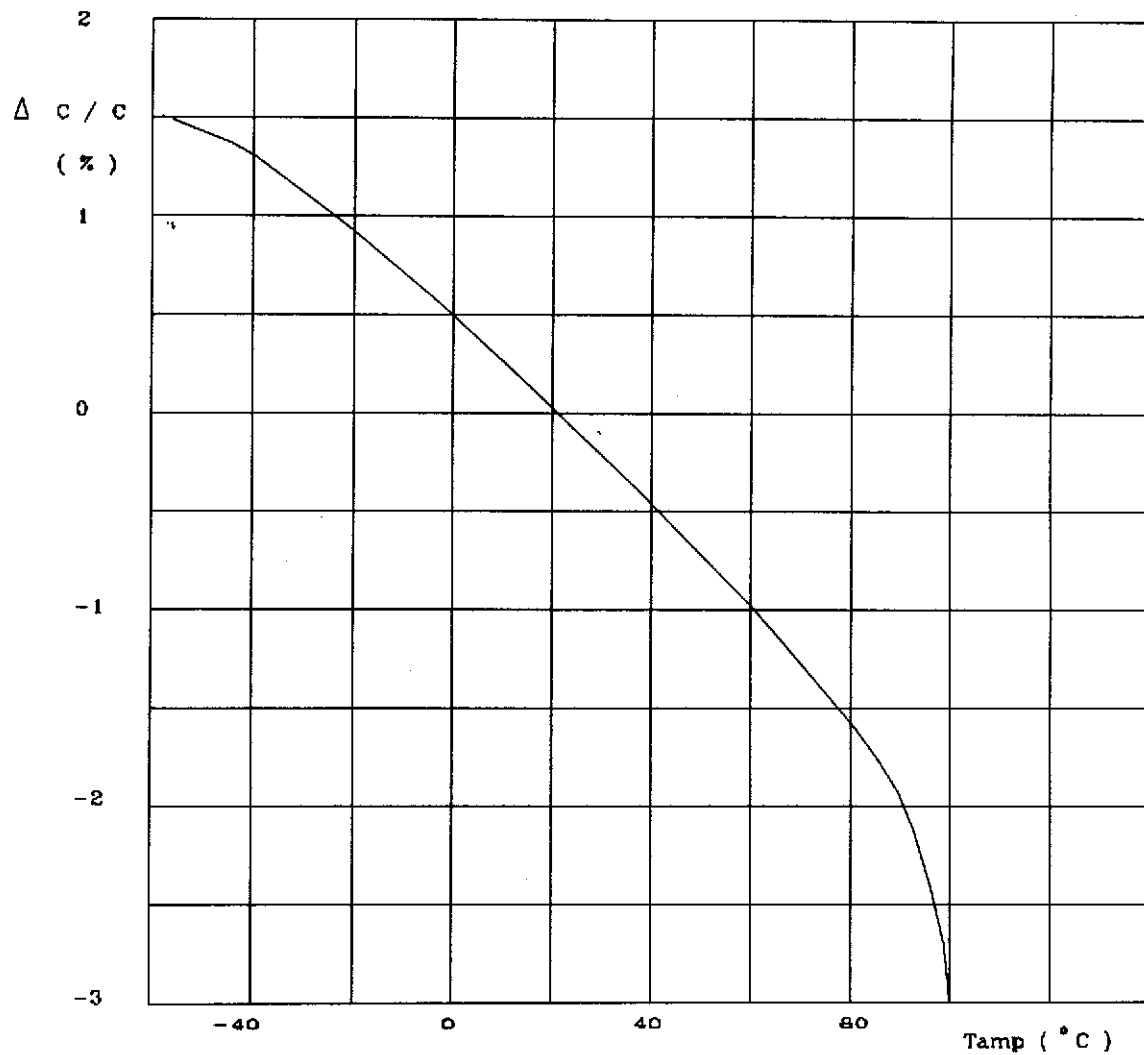
1. 4 Containers / PER CARTON
2. OUTSIDE DETAILS OF CARTON:
 - A. CUSTOMER'S NAME
 - B. TYPE
 - C. SPECIFICATION
 - D. PART ON.
 - E. QUANTITY

HUA JUNG COMPONENTS CO., LTD.

MKP Series, Metallized Polypropylene film capacitor

Capacitance as a function of ambient free air temperature : typical curve

CAPACITANCE



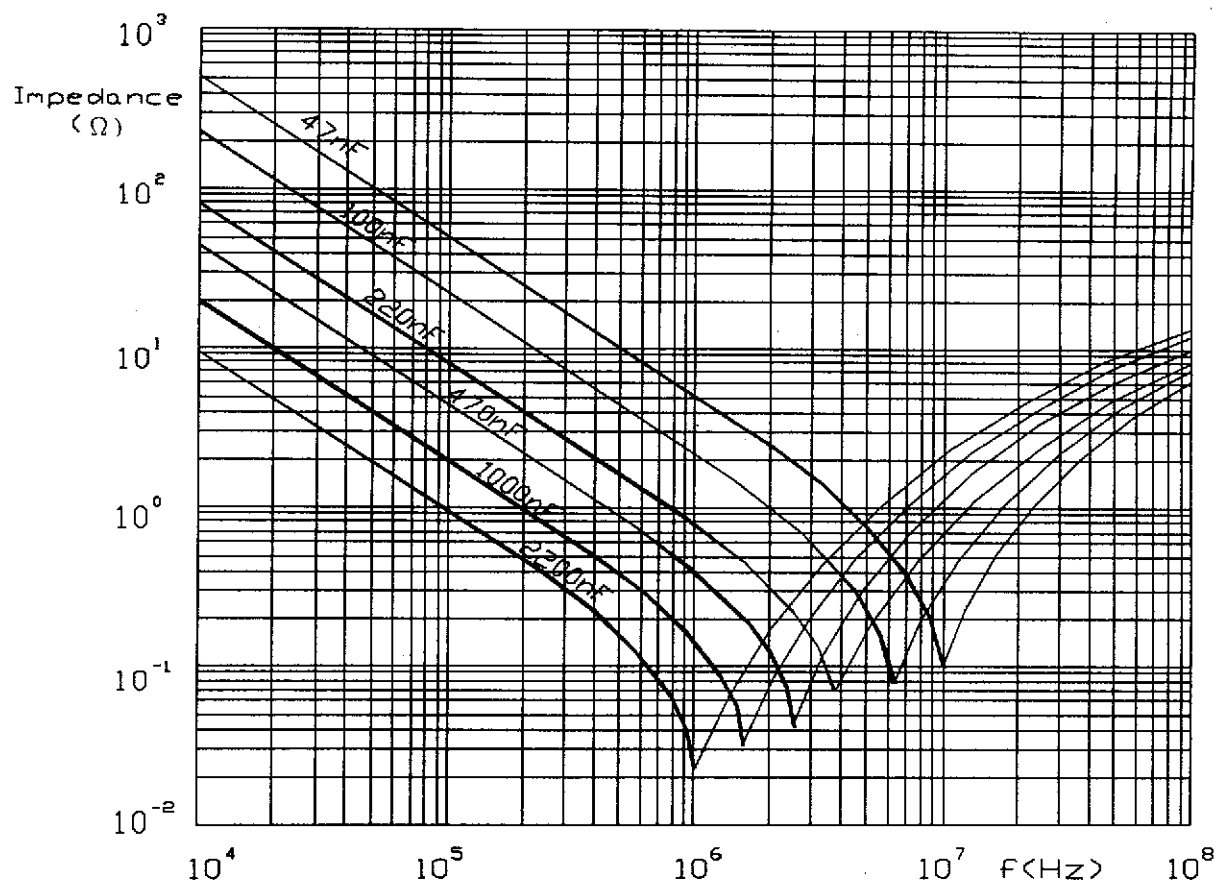
— All capacitance values are specified at 1 KHz.

HUA JUNG COMPONENTS CO., LTD.

MKP Series, Metallized Polypropylene film capacitor

Impedance as a function of frequency:
typical curves

IMPEDANCE

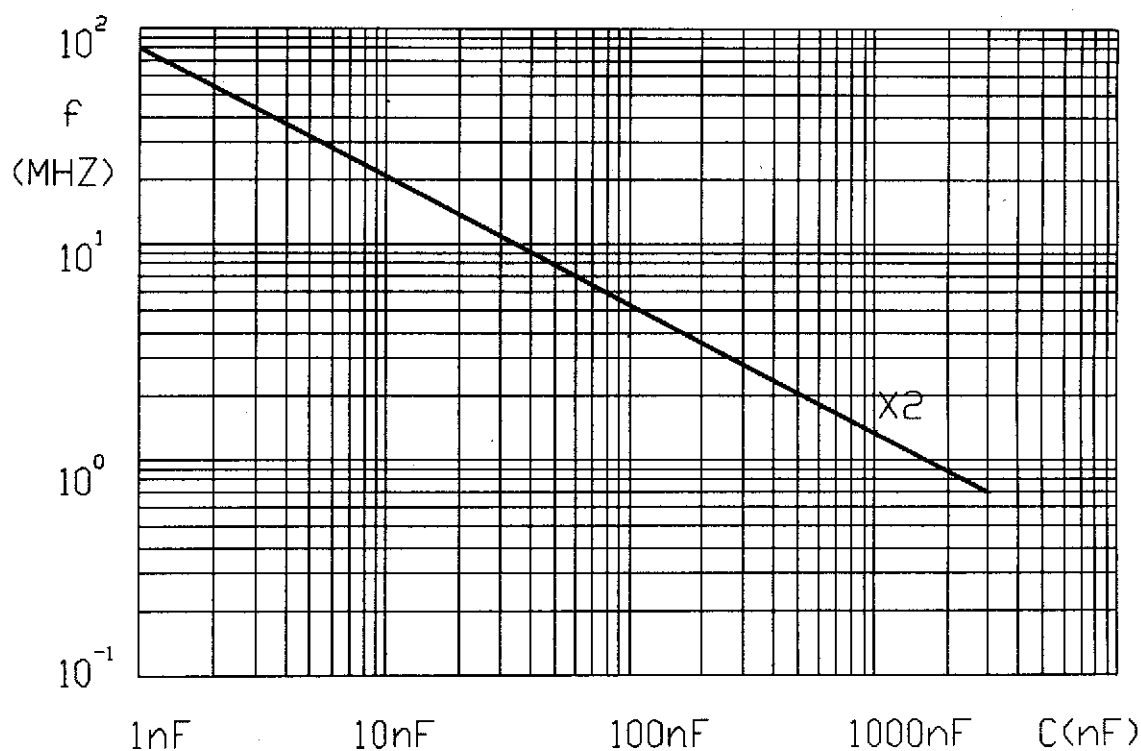


HUA JUNG COMPONENTS CO., LTD.

MKP Series, Metallized Polypropylene film capacitor

Resonant frequency as function of capacitance : typical curves

RESONANT FREQUENCY





**UL International, L.L.C.,
Taiwan Branch**

**UL International, L.L.C.,
Taiwan Branch**
4th Floor, No. 260 Da-Yeh Road
Pei Tou, Taipei, Taiwan 112
www.ul-asia.com
tel: 886 2 2896 7790
fax: 886 2 2891 7644

MR. C YI WU
HUA JUNG COMPONENTS CO LTD
37 FENG PING 1ST RD
TA LIAO
KAOHSIUNG HSIEN 831 TAIWAN

Date: 2007/08/10
Subscriber: 498177003
PartySite: 349092
File No: E221690
Project No: 07NKL3848
PD No: 07C29011
Type: R
PO Number: Mr. Kuo, C. H.

Subject: Procedure And/Or Report Material

The following material resulting from the investigation under the above numbers is enclosed.

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
	1		Revised Authorization Page(s)	2007/08/06
	1		Rec Comp Mark Data Pgs	
	1		Revised Index Page(s) 1	2007/08/06
2007/08/06	1	2	Add New Proc/Report Sect	

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to , referring to the above Project and/or PD Numbers.

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NBK File





File E221690

Vol 1

Issued: 2001-12-28
Revised: 2007-08-10

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

COMPONENT - ELECTROMAGNETIC INTERFERENCE FILTERS
(FOKY2,FOKY8)

Manufacturer: HUA JUNG INTERNATIONAL (DONGGUAN)
(553000-001) ELECTRONICS CO LTD
WEST SHIJIE 3 VILLAGE INDUSTRIAL AREA
SIHERNG RD, SHINCHERNG AREA
SHIJIE TOWN
DONGGUAN GUANGDONG CHINA

Applicant: HUA JUNG COMPONENTS CO LTD
(498177-003) 37 FENG PING 1ST RD
TA LIAO
KAOHSIUNG HSIEN 831 TAIWAN

Recognized Company: SAME AS APPLICANT
(498177-003)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc. (UL), or any authorized licensee of UL, only on products covered by this Procedure, in accordance with the applicable UL Services Agreement.

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Underwriters Laboratories Inc.

Stephen Hewson
Senior Vice President
Global Follow-Up Service Operations

William R. Carney
Director
North American Certification Program





Certificate of Compliance

Certificate: 1118279 (LR85363)

Master Contract: 158927

Project: 1547674

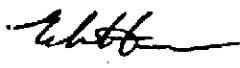
Date Issued: 2004/07/29

Issued to: Hua Jung Components Co., Ltd.
No 37 Feng Ping 1st Rd
Ta Liao
Kaoshiung Hsien,
Taiwan
Attention: Hui Chen Huang

The products listed below are eligible to bear the CSA Mark shown



Issued by:


Edward Lee, CET

Authorized by: Renzo Pupulin, C.E.T., Product
Group Manager



PRODUCTS

CLASS 2221 02 - AUDIO AND VIDEO EQUIPMENT - Electromagnetic Interference (EMI)
Filters

Line-to-line capacitors, Type MKP, rated 310V ac, 110C, 0.0047 μ F to 1.0 μ F; 1.2 μ F, 1.5 μ F, 1.8 μ F and 2.2 μ F.

Note: The capacitors are Certified for use as components of other Certified equipment where the suitability of the combinations is to be determined by CSA International.

APPLICABLE REQUIREMENTS

CSA Std C22.2 No. 8-M1986 - Electromagnetic Interference (EMI Filters)

CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1041922 (LR 85363-10)

Master Contract: 158927

Project: 1418562


Date Issued: September 3, 2003

Issued to: **Hua Jung Components Company Limited**
No. 37, Feng Ping 1st Road
Ta Liao
Kaohsiung Hsien
Taiwan
Attention: Mr. Jeffrey Ou

The products listed below are eligible to bear the CSA Mark shown



Issued by:  Edwin Ko, P. Eng.

Authorized by:  Ray Fadavi, P. Eng., MBA
Operations Manager

PRODUCTS

CLASS 2221 01 - AUDIO AND VIDEO EQUIPMENT - Accessories and Parts for Electronic Equipment

Across-the-line capacitors, line-to-ground, line-isolation and antenna-coupling capacitors, Type MKP, rated 250V ac, 0.0047 μ F to 1.0 μ F.

Note: These components are Certified for use only as components of other certified equipment where the suitability of the combination is to be determined by CSA International.

APPLICABLE REQUIREMENTS

CSA-C22.2 No. 1-98 - Audio, Video and Similar Electronic Equipment
General Instruction No. 2 (Including Amendment 1)

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.

DOD 507WD 2003/01/31

HUA JUNG COMPONENTS CO., LTD.
No 37, Feng Ping 1st Road
Ta Liao, Kaohsiung Hsien
TAIWAN

Handled by
Susanne Lundgren
Direct telephone
+46 8 750 02 92
Reference
702338
E-mail
susanne.lundgren@intertek.com
Your reference
Eric Chiu

11 April 2007

Capacitor for radio interference suppression, type MKP

We have the pleasure to enclose the requested CENELEC ENEC Agreement Licence for the product defined above.

Intertek ETL SEMKO ensures that information on the product covered by this licence will be published in the "Product list" on www.eepca.org. This means that the product can be freely marketed in the participating countries without any further application procedures.

The currently participating signatories are located in the following countries:

Austria	Belgium
Czech Republic	Denmark
Finland	France
Germany	Great Britain
Greece	Hungary
Ireland	Italy
Luxemburg	Netherlands
Norway	Portugal
Slovenia	Spain
Sweden	Switzerland.

Yours sincerely

Intertek Semko AB
Product Certification



Intertek Semko AB

Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30, www.sweden.intertek-etlsemko.com
Registered in Sweden: No SE556024059901, Registered office: As address

1(1)

Licence for



CENELEC ENEC Agreement Licence Ref. No. SE/0252-2

Product:	Capacitor for radio interference suppression
Type designation:	MKP
Test Report No.	702338-01
Licence holder:	HUA JUNG COMPONENTS CO., LTD. No 37, Feng Ping 1st Road Ta Liao, Kaohsiung Hsien TAIWAN
The product complies with the standard(s):	EN 60384-14:2005
Licence holder is authorized to use the mark with the following limitations:	-
Date of expiry:	11 April 2017

Additional Information in Appendix

Certification Body	Intertek Semko AB, Product Certification	Place	Kista - Stockholm
Signed	<hr/> Pia Östgaard	Date	11 April 2007
Internal reference:	SUL		

A handwritten signature in black ink, appearing to be 'Pia Östgaard', is written over the printed name in the 'Signed' field.


This Licence is the result of testing a sample of the product submitted, in accordance with the provisions of the relevant specific standard. A copy of the Licence shall be filed in the place of manufacturing. The Licence has been established by a body which is a signatory to the ENEC Agreement ratified by CENELEC Marks Committee on 10 April 1992.

APPENDIX

CENELEC ENEC Agreement Licence Ref. No. SE/0252-2

Test Report No. 702338-01

Technical data

<i>Type designation</i>	MKP
<i>Rated voltage</i>	275VAC
<i>Capacitance</i>	0.47, 0.68, 2.2, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10uF
<i>Class and sub-class</i>	X2
<i>Climatic category</i>	40/110/56/B
<i>Trade mark</i>	

Manufacturing site(s): Hua Jung International Corporation
West Shijie 3 Village Ind. Area
Shincheng Area
Shijie Town, Dongguan, Guangdong
CHINA

11 April 2007

Intertek Semko AB

Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
Telephone +46 8 750 00 00, Fax +46 8 750 60 30, www.sweden.intertek-etlsemko.com
Registered in Sweden: No SE5502405901, Registered office: As address

IEC**IECEE**
CB
SCHEME

Ref. Certif. No.

SE-49719IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEMESYSTEME CE D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC**CB TEST CERTIFICATE****CERTIFICAT D'ESSAI OC**Product
Produit

Capacitor for radio interference suppression

Name and address of the applicant
Nom et adresse du demandeurHUA JUNG COMPONENTS CO., LTD.,
No 37, Feng Ping 1st Road, Ta Liao, Kaohsiung Hsien,
TAIWANName and address of the manufacturer
Nom et adresse du fabricant

Same as applicant

Name and address of the factory
Nom et adresse de l'usineHua Jung International Corporation,
West Shijie 3 Village Ind. Area, Shincheng Area, Shijie Town,
Dongguan, Guangdong, CHINARatings and principal characteristics
Valeurs nominales et caractéristiques principales0.47, 0.68, 2.2, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10uF. Class X2.
275VAC. 40/110/56/B.Trademark (if any)
Marque de fabrique (si elle existe)

HJC

Model / Type Ref.
Ref. De type

MKP

Additional information (if necessary)
Les informations complémentaires (si nécessaire)

-

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

IEC 60384-14:2005

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue partie de ce Certificat

705088-01

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de CertificationIntertek Semko AB
Box 1403
SE-164 22 Kista, Sweden
Int +46 8 750 0000**Intertek ETL SEMKO**

Date: 12 April 2007

Signature:



产品认证证书

证书编号: CQC07001020389

申请人名称及地址

华容股份有限公司
台湾高雄县大寮乡凤屏一路37号

制造商名称及地址

华容股份有限公司
台湾高雄县大寮乡凤屏一路37号

生产厂名称及地址

华容国际公司 (V001099)
中国广东省东莞市石碣镇新城区三村工业区

产品名称和系列、规格、型号

抑制电源电磁干扰用固定电容器

MKP-X2 275VAC (0.47-10) μ F, 40/110/56/B

产品标准和技术要求

GB/T14472-1998

认证模式

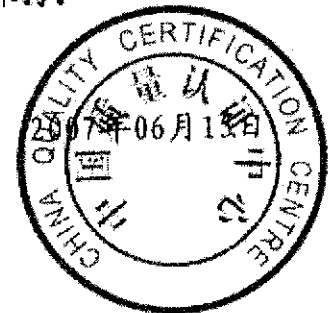
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本证书的有效性依据发证机构的定期监督获得保持。

主任:

李怀林



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<http://www.cqc.com.cn>

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華容股份有限公司

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