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Reference
309083
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Your reference
Grace Kao

9 February 2004

CB-Application(s) SE-33139M1

We have the pleasure to enclose a (the) requested CB-certificate(s) and the pertaining Test Report.

Yours sincerely

Intertek Semko AB
Product Certification

Enclosure CB certificate(s)



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

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

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9 February 2004

CB-Application(s) SE-33139M1

We have the pleasure to enclose a (the) new CB certificate(s) as well as Test Report, issued due to increased rated temperature from 100°C to 110°C.

We also enclose a form for Identity Declaration (ID). The ID shall be filled in by you and be used to verify that the specimen to be submitted to other Certification Bodies is absolutely identical with the one we have tested. On the basis of these documents you may apply for a licence to use the national marks of the countries whose Certification Bodies have signed the agreement. The documents together with a specimen should be submitted in the country where approval is applied for and in accordance with the relevant national procedures.

Yours sincerely

Intertek Semko AB
Product Certification

Enclosure CB certificate(s)



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IEC SYSTEM FOR CONFORMITY TESTING
AND CERTIFICATION OF ELECTRICAL
EQUIPMENT (IECEE)
CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFIRMITÉ
ET DE CERTIFICATION DES EQUIPMENTS
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 demandeur

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

Name and address of the manufacturer
Nom et adresse du fabricant

Same as above

Name and address of the factory
Nom et adresse de l'usine

Hua Jung International Corporation
West Shijie 3 Village Ind. Area, Shincheng Area, Shijie Town,
Dongguan, Guangdong, CHINA

Rating and principal characteristics
Valeurs nominales et caractéristiques principales

0.0047-2.2 μ F Series E12, Class X2, AC 275V,
40/100/56/B or 40/110/56/B

Trade mark (if any)
Marque de fabrique (si elle existe)

HJC

Model/type Ref.
Ref. de type

MKP

Additional information (if necessary)
Information complémentaire (si nécessaire)

This certificate replaces CB certificate SE-33139, dated 28 May 2003.
A new certificate is issued due to increased rated temperature from
100°C to 110°C.

**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 60384-14:1993 and A1:1995

**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 une partie de ce certificat*

203726-2 and 309083-2

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Intertek Semko AB

Stockholm

9 February 2004

SUL/MMB

DAM

Intertek ETL SEMKO



Postal address
Intertek Semko AB
P.O. Box 1103
SE-164 22 KISTA

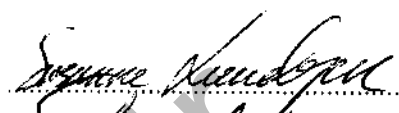

Visiting address
Torshamnsgatan 43
KISTA-STOCKHOLM

Telephone

Int +46 8 750 00 00

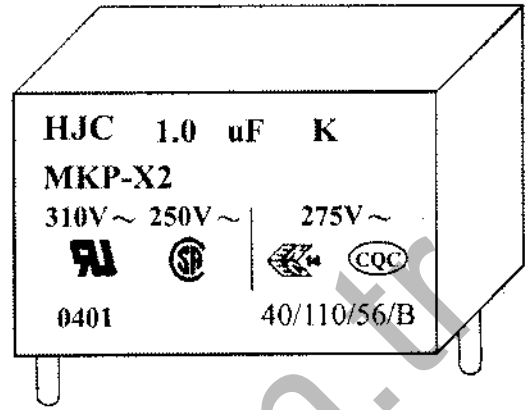
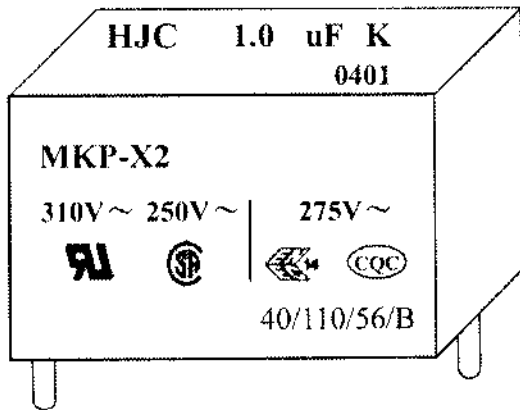
Telefax

Int +46 8 750 60 30

<p>TEST REPORT IEC 60384-14 Fixed capacitors for use in electronic equipment Part 14: Sectional specification Fixed capacitors for electromagnetic interference suppression and connection to the supply mains</p>	
Report reference No	309083-2
Tested by (printed name and signature)	Susanne Lundgren 
Approved by (printed name and signature)	Torbjörn Andersson 
Date of issue	2004-02-06
Testing Laboratory Name	Intertek Semko AB
Address	Box 1103, SE-164 22 Kista, SWEDEN
Testing location	CBTL <input type="checkbox"/> SMT <input type="checkbox"/> TMP <input type="checkbox"/>
Address	Same as above
Applicant's Name	HUA JUNG COMPONENTS CO., LTD.
Address	No 37, Feng Ping 1 st Road, Tao Liao, Kaohsiung Hsien, TAIWAN
Test specification	
Standard	IEC 60384-14:1993 (Second Edition) + A1:1995
Test procedure	CB-scheme
Procedure deviation.....	Increased rated temperature to 110°C. Only endurance test
Non-standard test method	N.A.
Test Report Form No.....	IEC60384_14C
TRF originator	SGS Fimko Ltd
Master TRF	dated 2002-03
Amendment to Test Report.....	303726-2
Modification of the appliance.....	Increased rated temperature from 100°C to 110°C.
Clauses concerned.....	1.6, 4.2.2, 4.2.1, 4.2.5, 4.13, 4.14
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Test item description	Capacitor for radio interference suppression
Trademark	HJC
Manufacturer	Hua Jung International Corp. CHINA
Model and/or type reference	MKP
Rating(s)	0,0047-2,2uF X2. AC 275V. 40/110/56/B.



Copy of marking plate and summary of test results (information/comments):



Summary of testing:

www.signal.com



TRF No.: IEC60384_14C

Intertek Semko AB

TRF originator: SGS Fimko

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Telephone +46 8 750 00 00, Fax +46 8 750 60 30, www.sweden.intertek-etlsemko.com
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Test item particulars	
.....	
.....	
Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement	P(ass)
Test item does not meet the requirement ...:	F(ail)
Testing	
Date of receipt of test item	2003-08-12
Date(s) of performance of test	2004-01-12
General remarks	
<p>"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IEC60384-2".</p> <p>The test result presented in this report relate only to the object(s) tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma (point) is used as the decimal separator.</p>	

<p>General product information:</p> <p>Dielectric Material. Metallized polypropylene film by Toray ind. Inc., Sung Moon Electronics and Steiner GmbH</p> <p>Epoxy material. Type 5073A/B by Epolab Chemical Industries Inc. Type Eporites 5339-1A/B by Epolab Chemical Industries Inc. Type Eporites 5007A/B by Epolab Chemical Industries Inc. Type 9001A/B by Shaw Huow Enterprise Co., Ltd Type 3102 by Magnolia Plastics Inc. Type 3177 B/H by Taiwan Li-Bond Resin Co., Ltd Type EC-200 by Eimou Enterprise Co., Ltd</p> <p>Case material. Type 310-SEO by GE Plastics Japan Ltd. Type PBT-4115 by Chang Chun Plastics Co., Ltd Type 1403G3 by Nan Ya Plastics Corp. Type D202G15 by Shinkong Synthetic Fibers Corp.</p>



	Rating(μF)	Width	Height	Depth	Pitch		備註
1	0.0047	10	8	4	7.5		
2	0.0056	10	8	4	7.5		
3	0.0068	10	8	4	7.5		
4	0.0082	10	8	4	7.5		
5	0.01	10	8	4	7.5		
6	0.012	10	8	4	7.5		
7	0.015	10	9	4	7.5		
8	0.018	10	9	4	7.5		
9	0.022	10	9	4	7.5		
10	0.027	10	10	5	7.5		
11	0.033	10	10	5	7.5		
12	0.039	10	11	5	7.5		
13	0.047	10	12	6	7.5		
14	0.056	10	12	6	7.5		
15	0.0047	13	10	5	10		
16	0.0056	13	10	5	10		
17	0.0068	13	10	5	10		
18	0.0082	13	10	5	10		
19	0.01	13	10	5	10		
20	0.012	13	10	5	10		
21	0.015	13	11	5	10		
22	0.018	13	11	5	10		
23	0.022	13	11	5	10		
24	0.027	13	11	5	10		
25	0.033	13	11	5	10		
26	0.039	13	9	4	10		
27	0.047	13	10	5	10		
28	0.056	13	10	5	10		
29	0.068	13	11	5	10		
30	0.082	13	12	6	10		
31	0.1	13	12	6	10		
32	0.12	13	13	7	10		
33	0.15	13	14	8	10		
34	0.01	18	11	5	15		
35	0.015	18	11	5	15		
36	0.022	18	11	5	15		



	Rating(μ F)	Width	Height	Depth	Pitch		備註
37	0.033	18	11	5	15		
38	0.039	18	11	5	15		
39	0.047	18	11	5	15		
40	0.056	18	11	5	15		
41	0.068	18	11	5	15		
42	0.082	18	11	5	15		
43	0.1	18	11	5	15		
44	0.12	18	12	6	15		
45	0.15	18	12	6	15		
46	0.18	18	12	6	15		
47	0.22	18	13	7	15		
48	0.27	18	14.5	7.5	15		
49	0.33	18	15.5	8	15		
50	0.39	18	17	8	15		
51	0.47	18	18	9	15		
52	0.56	18	19	10	15		
53	0.15	26	14.5	6	22.5		
54	0.18	26	14.5	6	22.5		
55	0.22	26	14.5	6	22.5		
56	0.33	26	16.5	7.5	22.5		
57	0.39	26	16.5	7.5	22.5		
58	0.47	26	16.5	7.5	22.5		
59	0.56	26	16.5	7.5	22.5		
60	0.68	26	17	8	22.5		
61	0.82	26	18	9	22.5		
62	1.0	26	19	10	22.5		
63	1.2	26	20	11.5	22.5		
64	1.5	26	22	12	22.5		
65	1.8	26	24	14	22.5		
66	2.2	26	25	15	22.5		
67	0.47	31	18	9	27.5		
68	0.56	31	20	10	27.5		
69	0.68	31	20	10	27.5		
70	0.82	31	20	11	27.5		
71	1.0	31	20	11	27.5		
72	1.5	31	23.5	14	27.5		
73	2.2	31	26	18	27.5		
74	0.33	18	13.5	10	15		



IEC 60384-14			
Clause	Requirement – Test	Result – Remark	Verdict
	GENERAL		
1.6	Marking		
	a) manufacturer's name or trademark.....:	HJC	P
	b) type	MKP	P
	c) capacitor class and subclass	X2	P
	d) recognized approval mark		P
	e) rated capacitance(s) / rated resistance(s)	2.2uF	P
	f) rated voltage	275V-	P
	g) method of connection		N
	h) rated current		N
	i) tolerance	J	P
	j) climatic category and passive flammability category	40/110/56/B	P
	k) rated temperature		N
	l) year and month / week of manufacture	0401	P
	m) reference		N
1.6.1	Clear identification		P
1.6.2	Package markings		N
1.6.3	Additional marking		P
	Approval marks		P

QUALIFICATION APPROVAL TEST			
3.4.3.2	IEC 60384-14 Table II	Safety tests only	P

TEST FOR GROUP 0			
4.1	Dimensions (mm)		P
	Visual inspection		P
4.2.1 + 4.2.5	Voltage proof and insulation resistance at 100 V:		P
	- test temperature (°C)	23	—
	- class	X2	—



No.	X-capacitors				Y-capacitors			
	Test A		Test B or C		Test A		Test B or C	
	U (V d.c.)	R (MΩ) or RC (s)	U (V a.c.)	R (MΩ)	U (V d.c.)	R (MΩ)	U (V a.c.)	R (MΩ)
01	N	N	N	N	N	N	N	N
02	N	N	N	N	N	N	N	N
03	N	N	N	N	N	N	N	N
04	N	N	N	N	N	N	N	N
05	N	N	N	N	N	N	N	N
06	N	N	N	N	N	N	N	N
07	N	N	N	N	N	N	N	N
08	N	N	N	N	N	N	N	N
09	N	N	N	N	N	N	N	N
10	N	N	N	N	N	N	N	N
11	N	N	N	N	N	N	N	N
12	N	N	N	N	N	N	N	N
13	N	N	N	N	N	N	N	N
14	N	N	N	N	N	N	N	N
15	N	N	N	N	N	N	N	N
16	N	N	N	N	N	N	N	N
17	1182	> 20000	2050	> 20000	N	N	N	N
18	1182	> 20000	2050	> 20000	N	N	N	N
19	1182	> 20000	2050	> 20000	N	N	N	N
20	1182	> 20000	2050	> 20000	N	N	N	N
21	1182	> 20000	2050	> 20000	N	N	N	N
22	1182	> 20000	2050	> 20000	N	N	N	N
23	1182	> 20000	2050	> 20000	N	N	N	N
24	1182	> 20000	2050	> 20000	N	N	N	N
25	1182	> 20000	2050	> 20000	N	N	N	N
26	1182	> 20000	2050	> 20000	N	N	N	N
27	1182	> 20000	2050	> 20000	N	N	N	N
28	1182	> 20000	2050	> 20000	N	N	N	N
29	N	N	N	N	N	N	N	N
30	N	N	N	N	N	N	N	N
31	N	N	N	N	N	N	N	N
32	N	N	N	N	N	N	N	N
33	N	N	N	N	N	N	N	N
34	N	N	N	N	N	N	N	N
35	N	N	N	N	N	N	N	N



TRF No.: IEC60384_14C

Intertek Semko AB

TRF originator: SGS Fimko

Torshamnsgatan 43, Box 1103, SE-164 22 Kista, Sweden
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No.	X-capacitors				Y-capacitors			
	Test A		Test B or C		Test A		Test B or C	
	U (V d.c.)	R (MΩ) or RC (s)	U (V a.c.)	R (MΩ)	U (V d.c.)	R (MΩ)	U (V a.c.)	R (MΩ)
36	N	N	N	N	N	N	N	N
37	N	N	N	N	N	N	N	N
38	N	N	N	N	N	N	N	N
39	N	N	N	N	N	N	N	N
40	N	N	N	N	N	N	N	N

www.signal.com.tr



TRF No.: IEC60384_14C

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TRF originator: SGS Fimko

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IEC 60384-14			
Clause	Requirement – Test	Result – Remark	Verdict
	TEST FOR GROUP 3		
4.13.2	Pulse test for Class X-capacitors:		P
	- Rated capacitance, lowest value (F)	4,7 x 10 ⁻⁹	—
	- Rated capacitance, highest value (F)	2,2 x 10 ⁻⁶	—

No.	Capacitance	Pulse voltage (kV)	Applied pulses	Result
17	Lowest	2,5	3	P
18	Lowest	2,5	3	P
19	Lowest	2,5	3	P
20	Lowest	2,5	3	P
21	Lowest	2,5	3	P
22	Lowest	2,5	3	P
23	Highest	1,68	3	P
24	Highest	1,68	3	P
25	Highest	1,68	3	P
26	Highest	1,68	3	P
27	Highest	1,68	3	P
28	Highest	1,68	3	P

4.14.3	Endurance test for Class X-capacitors:		P
	- Test for 1000 h; test temperature (°C); beginning; end	110; 2003-11-24; 2004-01-12	P
	- Test voltage (V); 1,25 x rated voltage	344; 1,25 x 275	—

4.13.2	Pulse test for Class Y-capacitors:		N
	- Rated capacitance, lowest value (F)		—
	- Rated capacitance, highest value (F)		—
	- Test temperature (°C)		—



TRF No.: IEC60384_14C

Intertek Semko AB

TRF originator: SGS Fimko

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Registered in Sweden: No SE556024059901, Registered office: As address

IEC 60384-14			
Clause	Requirement – Test	Result – Remark	Verdict

No.	Capacitance	Pulse voltage (kV)	Applied pulses	Result
29	Lowest			N
30	Lowest			N
31	Lowest			N
32	Lowest			N
33	Lowest			N
34	Lowest			N
35	Highest			N
36	Highest			N
37	Highest			N
38	Highest			N
39	Highest			N
40	Highest			N

4.14.4	Endurance test for Class Y-capacitors:		N
	- Test for 1000 h; test temperature (°C); beginning; end		
	- Test voltage (V); 1,7 x rated voltage		—

4.14.5	Endurance test for lead-through arrangements:		N
	- Test for 1000 h; test temperature (°C); beginning; end		—
	- Test current (A); 1,1 x rated current		—
	- Maximum temperature of case (°C)		N

4.14.7	Final inspection: visual examination		P
	Final measurements: capacitance and resistance:		P
	- Rated capacitance, lowest value: X-capacitors (F); Y-capacitors (F)	4,7 x 10 ⁻⁹	—
	- Rated capacitance, highest value: X-capacitors (F); Y-capacitors (F)	2,2 x 10 ⁻⁶	—
	- Test temperature (°C)	23	—



IEC 60384-14						
Clause	Requirement – Test				Result – Remark	Verdict
No.	Capacitance, X-capacitors		Capacitance, Y-capacitors		Resistance	
	initial (F)	final (F)	initial (F)	final (F)	initial (Ω)	final (Ω)
17	4,62 x 10 ⁻⁹	4,34 x 10 ⁻⁹	N	N	N	N
18	4,64 x 10 ⁻⁹	4,34 x 10 ⁻⁹	N	N	N	N
19	4,64 x 10 ⁻⁹	4,37 x 10 ⁻⁹	N	N	N	N
20	4,6 x 10 ⁻⁹	4,42 x 10 ⁻⁹	N	N	N	N
21	4,58 x 10 ⁻⁹	4,48 x 10 ⁻⁹	N	N	N	N
22	4,62 x 10 ⁻⁹	4,48 x 10 ⁻⁹	N	N	N	N
23	2,22 x 10 ⁻⁶	2,19 x 10 ⁻⁶	N	N	N	N
24	2,2 x 10 ⁻⁶	2,16 x 10 ⁻⁶	N	N	N	N
25	2,19 x 10 ⁻⁶	2,14 x 10 ⁻⁶	N	N	N	N
26	2,16 x 10 ⁻⁶	2,13 x 10 ⁻⁶	N	N	N	N
27	2,2 x 10 ⁻⁶	2,15 x 10 ⁻⁶	N	N	N	N
28	2,17 x 10 ⁻⁶	2,12 x 10 ⁻⁶	N	N	N	N
29	N	N	N	N	N	N
30	N	N	N	N	N	N
31	N	N	N	N	N	N
32	N	N	N	N	N	N
33	N	N	N	N	N	N
34	N	N	N	N	N	N
35	N	N	N	N	N	N
36	N	N	N	N	N	N
37	N	N	N	N	N	N
38	N	N	N	N	N	N
39	N	N	N	N	N	N
40	N	N	N	N	N	N
	- Initial capacitance (Group 0) within tolerance given in detail specification or printed on capacitor				Maximum difference % ± 20	P
	- The difference between the capacitance value measured finally and in Group 0 shall not exceed 10 %, for ceramic capacitors the difference shall not exceed 20 %				Maximum difference % ± 10	P
	Final measurements: voltage proof and insulation resistance at 100 V:					P
	- Test temperature (°C)				23	



IEC 60384-14

Clause	Requirement – Test	Result – Remark	Verdict
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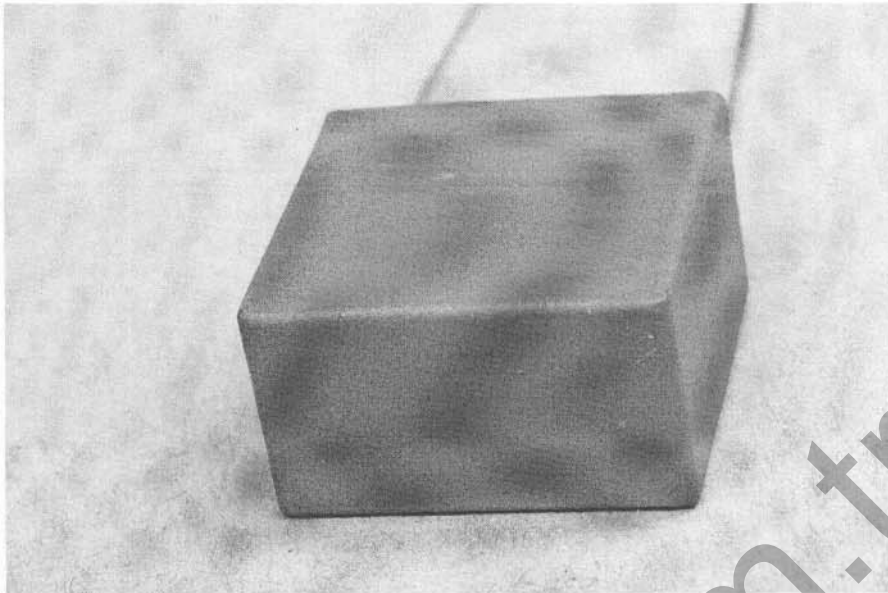
No.	X-capacitors				Y-capacitors			
	Test A		Test B or C		Test A		Test B or C	
	U (V d.c.)	R (MΩ) or RC (s)	U (V a.c.)	R (MΩ)	U (V a.c.)	R (MΩ)	U (V a.c.)	R (MΩ)
17	1182	> 20000	2050	> 20000	N	N	N	N
18	1182	> 20000	2050	> 20000	N	N	N	N
19	1182	> 20000	2050	> 20000	N	N	N	N
20	1182	> 20000	2050	> 20000	N	N	N	N
21	1182	> 20000	2050	> 20000	N	N	N	N
22	1182	> 20000	2050	> 20000	N	N	N	N
23	1182	> 20000	2050	> 20000	N	N	N	N
24	1182	> 20000	2050	> 20000	N	N	N	N
25	1182	> 20000	2050	> 20000	N	N	N	N
26	1182	> 20000	2050	> 20000	N	N	N	N
27	1182	> 20000	2050	> 20000	N	N	N	N
28	1182	> 20000	2050	> 20000	N	N	N	N
29	N	N	N	N	N	N	N	N
30	N	N	N	N	N	N	N	N
31	N	N	N	N	N	N	N	N
32	N	N	N	N	N	N	N	N
33	N	N	N	N	N	N	N	N
34	N	N	N	N	N	N	N	N
35	N	N	N	N	N	N	N	N
36	N	N	N	N	N	N	N	N
37	N	N	N	N	N	N	N	N
38	N	N	N	N	N	N	N	N
39	N	N	N	N	N	N	N	N
40	N	N	N	N	N	N	N	N



TRF No.: IEC60384_14C

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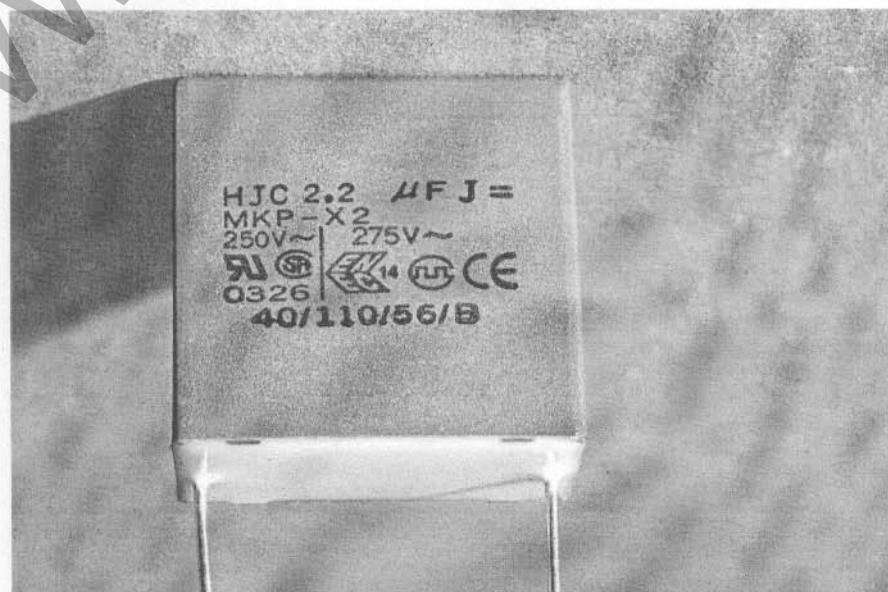
TRF originator: SGS Fimko



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