

RESIN DIPPED TANTALUM ELECTROLYTIC CAPACITORS

SH SERIES

SH series is a high reliable resin dipped solid tantalum capacitor. This features long life (85°C, 2,000 hours), low leakage current and non-flammable epoxy resin use

Specifications

Operating temperature range -55°C to $+85^{\circ}\text{C}$

Rated working voltage range. 3.15 to 50 WV DC

Rated capacitance range: 0.1 to 470 μF

Capacitance tolerance (at 120 Hz/20°C)
 $\pm 20\%$ ($\pm 10\%$ is available)

■ DC leakage current

$I = 0.008 CV$ or $0.05 \mu\text{A}$

Whichever is the greater

where, I max leakage current (μA)

C rated capacitance (μF)

V rated voltage (V)

The DC leakage current shall be measured after 2 minutes application of the rated dc working voltage through a 1,000 ohm resistor

Tan. δ (at 120 Hz/20°C)

0.04 max for 0.1 - 1 μF

0.06 max for 1.5 - 68 μF

0.08 max for 100 - 470 μF

0.10 max for 3V working products

refer to standard products table

■ Surge voltage

Working voltage	Surge voltage
3.15 V, DC	4 V, DC
6.3	8
10	13
16	20
25	32
35	44
50	63

The capacitor shall be applied with a surge voltage in series with a 1,000 ohm resistor at a cycle of 0.5 minutes "ON" and 4.5 minutes "OFF" repeating 1,000 times at $+85^{\circ}\text{C}$

After the test, the capacitor shall meet the following limits

Capacitance change	Within $\pm 5\%$ of the initial measured value
Tan δ	Less than the initial specified value
Leakage current	Less than the initial specified value

■ Low and high temperature stability

	-55°C	$+85^{\circ}\text{C}$
Capacitance change	$\pm 12\%$ max	$\pm 12\%$ max
Leakage current	—	0.1 CV or $5 \mu\text{A}$ max whichever is the greater

■ Humidity Life test

After testing for 500 hours at 40°C , 90~95% RH with no voltage applied, the capacitor shall meet the following limits

Capacitance change	Within $\pm 15\%$ of the initial measured value
Tan δ	Less than 150% of the initial specified value
Leakage current	Less than 150% of the initial specified value

■ Load Life test

After testing for 2,000 hours at 85°C with working voltage applied through a 1,000 ohm resistor, the capacitor shall meet the following limits

Capacitance change	Within $\pm 10\%$ of the initial measured value
Tan δ	Less than the initial specified value
Leakage current	Less than 125% of the initial specified value

■ Shelf life test

After testing 2,000 hours at 85°C with no voltage applied, the capacitor shall meet the limits of Load life test



DUBLIN SALES OFFICE
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DISTRIBUTORS
 FOR THE
 SH
 TANTALUM
 CAPACITORS

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 Telex 877222

BOSLEDGE
 Tel 061 834 7339
 Telex 667864

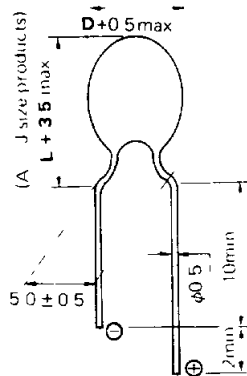
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Standard products table

W V (V DC) Cap (μF)	3 15	6.3	10	16	25	35	50
0.1				A		A	C
0.15				A		A	C
0.22				A		A	C
0.33				A		A	C
0.47				A		B	C
0.68				A		B	E
1.0				A		C	F
1.5				B	C	D	G
2.2				C	D	E	H
3.3			C	D	E	F	I
4.7		C	D	E	F	G	J
6.8	C	D	E	F	G	I	L
10	D	E	F	G	I	J	
15	E	F	G	H	J	K	
22	F	G	H	I	K	L	
33	G	H	I	J	L	M	
47	H	I	J	K	M	N	
68	I	J	K	L	N		
100	J	K	L	M			
150	K	L	M	N			
220	L	M	N				
330	M	N					
470	N						

SH type



Size code	D max	L max	F
A	3.5	6.0	5.0
B	4.0	6.5	5.0
C	4.0	7.0	5.0
D	4.5	7.0	5.0
E	4.5	7.5	5.0
F	4.5	8.0	5.0
G	5.0	8.0	5.0
H	5.0	8.5	5.0
I	5.5	9.0	5.0
J	6.0	10.0	5.0
K	7.5	11.0	5.0
L	7.5	12.0	5.0
M	9.0	14.0	5.0
N	10.0	15.0	5.0

Marking

"A" ~ "C" size products

W V code/place of decimal point
Ex V1 = 35V 0.1μF
V47 = 35V 0.47μF
2C2 = 16V 2.2μF

Capacitance

"D" ~ "N" size products

W V

W V code for marking on A - C size products

Code	W V
F	3 15
J	6.3
A	10
C	16
E	25
V	35
H	50

DTV
Tel 01 670 6166
Telex 262415

FARNELL
Tel (0532) 636311
Telex 55147

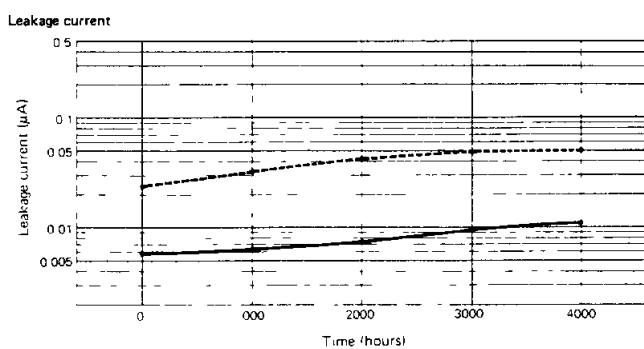
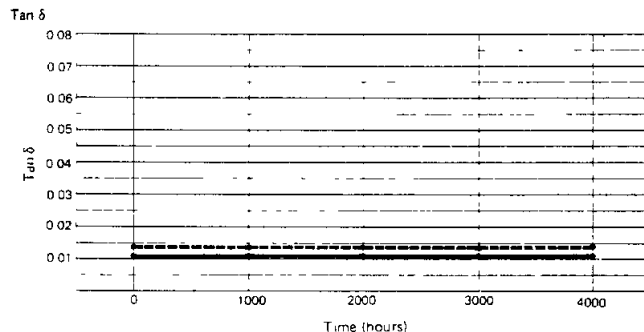
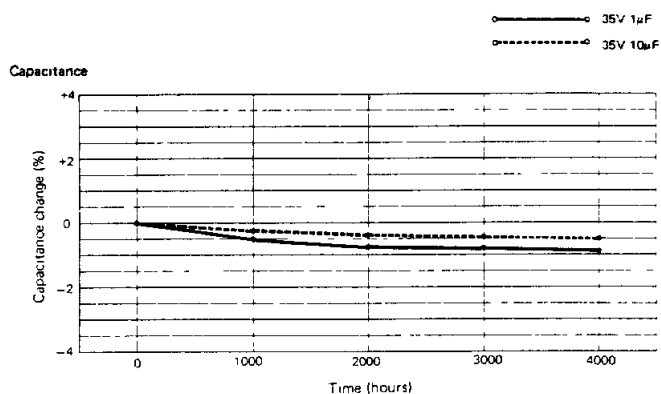
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Telex 338814

LUGTON
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Telex 25618

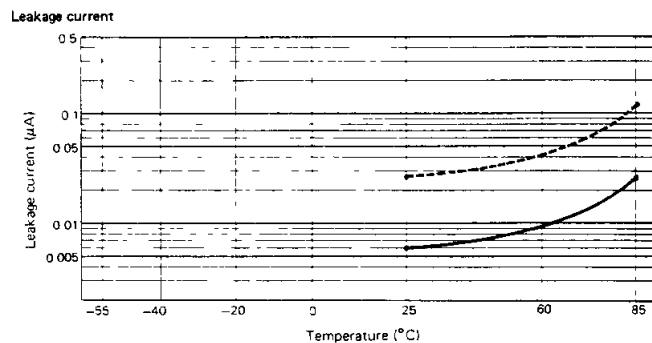
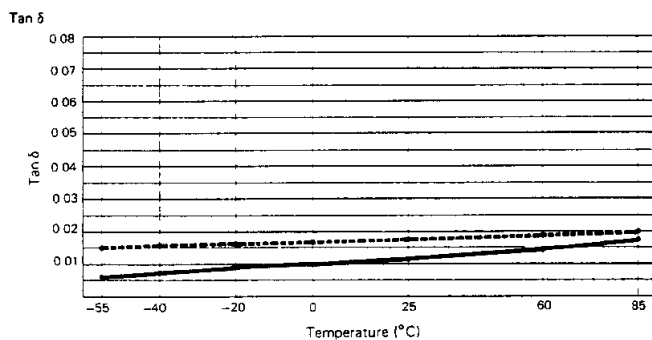
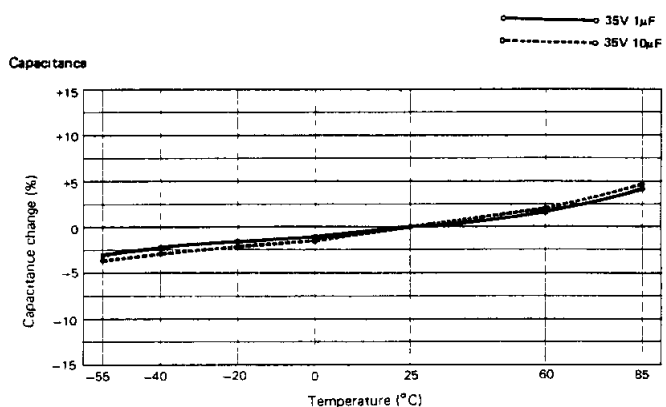
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Load life characteristics (at +85% C with W.V. applied)



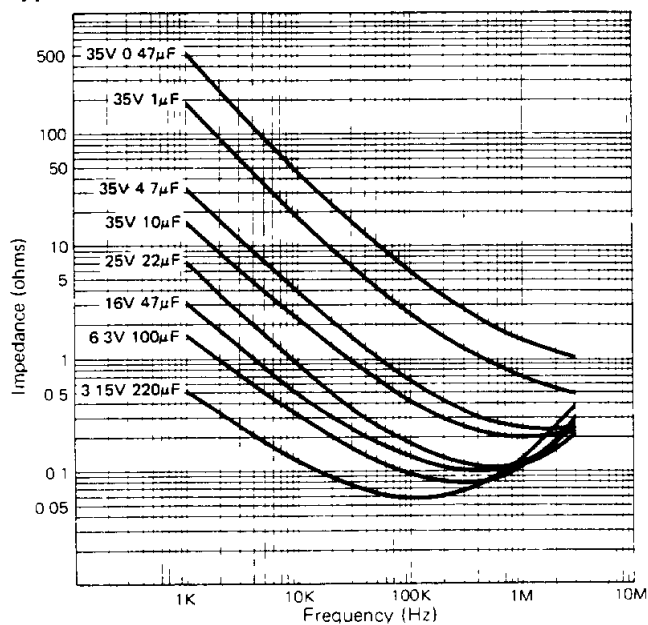
Temperature characteristics



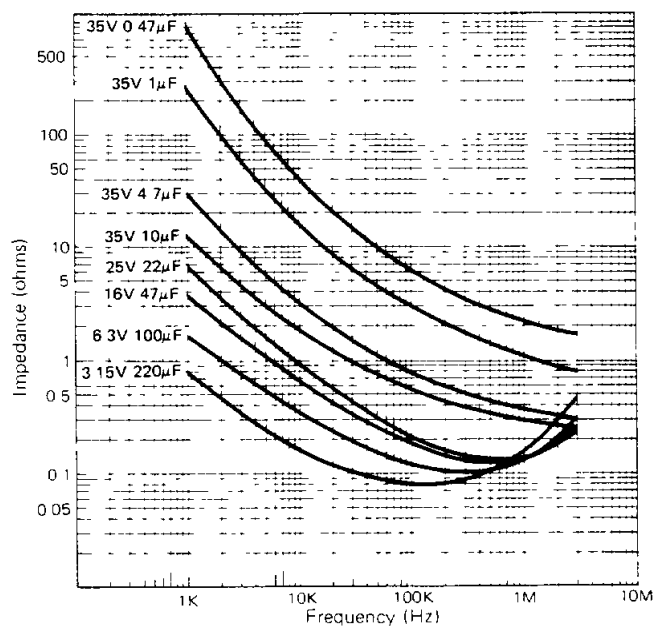
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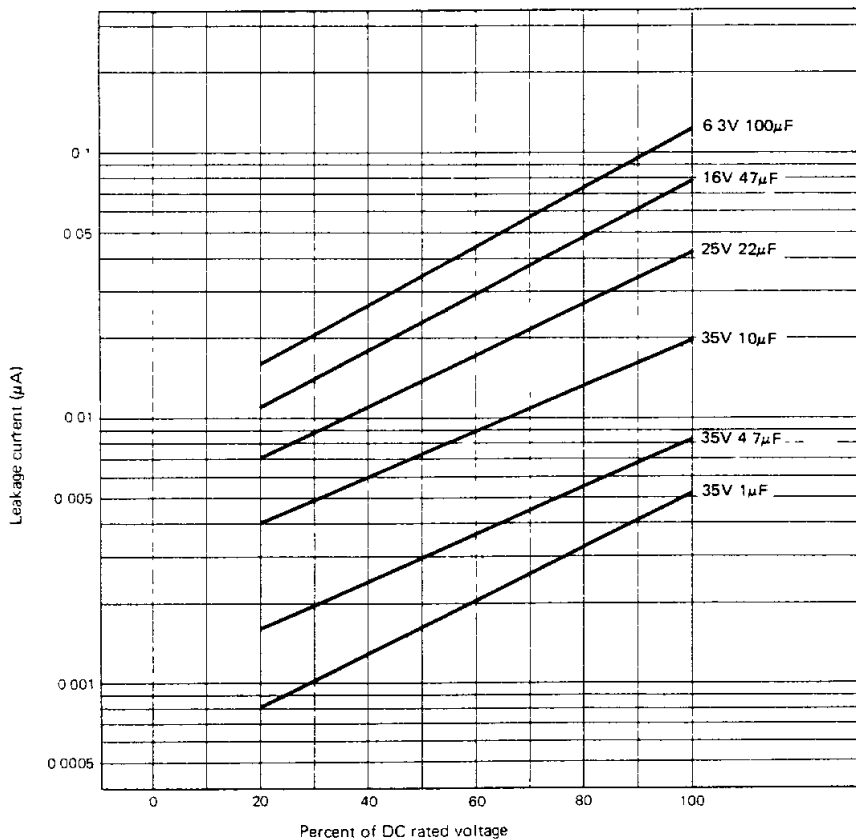
Typical curves



Impedance vs Frequency (at +25°C)



Impedance vs Frequency (at -40°C)



Leakage current vs applied d.c. voltage
(after 2 minutes at +25°C)

RADIO RESISTOR
Tel (0462) 57166
Telex 826251

UNITED ELECTRONICS
Tel (0438) 2393
Telex 826080

VSI
Tel (0279) 29666
Telex 81387