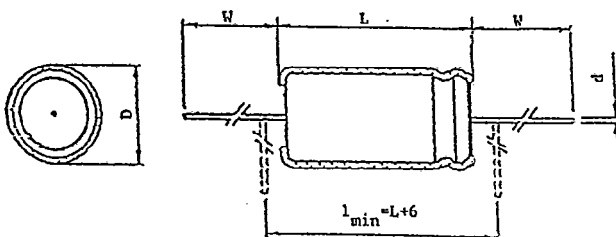
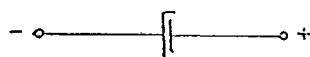


SVENSKA ELEKTRISKA KOMMISSIONEN	CECC 30 301-053	
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: SS CECC 30 000 SS CECC 30 300 Issue 2	Manufacturer's detail specification March 1989	
DETAIL SPECIFICATION FOR ALUMINIUM ELECTROLYTIC CAPACITORS WITH NON SOLID ELECTROLYTE		
TYPICAL CONSTRUCTION: Cylindrical Polar Metallic, insulated case Axial wire terminations		
<u>Insulating plastic sleeve</u>   Circuit diagram		QUICK REFERENCE DATA: RATED CAPACITANCE RANGE: 1.0 μ F to 4700 μ F CAPACITANCE TOLERANCE: -10/30% low voltage and high voltage $\pm$ 20% "Tantalum size" case sizes R and S Other tolerances on request RATED VOLTAGE RANGE: 4 V to 450 V d.c. CLIMATIC CATEGORY: 40/125/56 FOR $U_R = 4 - 125$ V d.c. 40/105/56 FOR $U_R = 160 - 450$ V d.c. GRADE: Long Life use ASSESSMENT LEVEL: E, plus additional
See the relevant Qualified Products List for the availability of components qualified to this detail specification.		

1. GENERAL DATA

- 1.1. RECOMMENDED METHOD OF MOUNTING (for vibration and shock testing)
The capacitors are to be clamped by the wire leads in a distance of 6mm±1mm to the case. Capacitors with a case size exceeding E shall be additionally clamped by the case.

1.2. DIMENSIONSTable 1

Case size reference	Dimensions (mm)			W $\begin{smallmatrix} +3 \\ -2 \end{smallmatrix}$
	D max. (2)	L max. (2)	d nominal ± 0.03	
R	8.0	19.0	0.65	32
S	9.4	20.0		32
A	10.5	21.0	0.8	32
B	10.5	30.0		27
C	13.5	21.0		32
D	13.5	30.0		27
E	13.5	38.0		42
F	16.5	30.0		
G	16.5	38.0		
H	20.5	30.0		
J	20.5	38.0		
L	20.5	47.0		

(2 including insulation sleeve)

1.3. RATINGS AND CHARACTERISTICS

Grade	Long Life
Capacitance range	1 to 3300 μ F The range of values available in each voltage range is given in the qualified products list
Tolerance on rated capacitance	-10/+30% standard $\pm 20\%$ for Tantalum size
Rated voltage range	4 - 450V
Category voltage	Rated voltage
Climatic category	40/125/56 for $U_R = 4 - 125V$ 40/105/56 for $U_R = 160 - 450V$
Rated temperature	125°C for $U_R = 4 - 125V$ 105°C for $U_R = 160 - 450V$
Rated ripple current	see Table 2B and sub-clause 1.8.
Tangent of loss angle	see Table 2B
Leakage current	see Table 2B
ESR	see Table 2B

Table 2A

Standard values of capacitance and voltage related to case sizes.

Other values within the specified capacitance and voltage ranges can be delivered on request.

Rated voltage (V)	4	6	10	15	16	20	25	35	40
Rated capacitance (µF)	Case size diameter (mm) x length (mm), case size reference								
1									
2.2									
2.7									
3.3									
3.9									
4.7									
5.6									
6.8									8,0x19,0
8.2									R 8,0x19,0
10.0									R 8,0x19,0
12.0									R 8,0x19,0
15.0									R 8,0x19,0
									R

Table 2A continued

Standard values of capacitance and voltage related to case sizes.

Other values within the specified capacitance and voltage ranges can be delivered on request.

Rated voltage (V)	4	6	10	15	16	20	25	35	40
Rated capacitance (µF)	Case size diameter (mm) x length (mm), case size reference								
18						8,0x19,0		8,0x19,0	
						R		R	
22				8,0x19,0	10.5x21	8,0x19,0		8,0x19,0	
				R	A	R		R	
27				8,0x19,0		8,0x19,0		9,4x21,0	
				R		R		S	
33				8,0x19,0		8,0x19,0		9,4x21,0	10.5x21
				R		R		S	A
39				8,0x19,0		8,0x19,0		9,4x21,0	
				R		R		S	
47			8,0x19,0	8,0x19,0	10.5x21	8,0x19,0	10.5x21	9,4x21,0	
			R	R	A	R	A	S	
56			8,0x19,0	8,0x19,0		9,4x21,0			
			R	R		S			
68		8,0x19,0	8,0x19,0	8,0x19,0	10.5x21	9,4x21,0			10.5x30
		R	R	R	A	S			B
82		8,0x19,0	8,0x19,0	9,4x21,0		9,4x21,0			
		R	R	S		S			
100	8,0x19,0	8,0x19,0	8,0x19,0	9,4x21,0	10.5x21	9,4x21,0	10.5x30		
	R	R	R	S	A	S	B		
120	8,0x19,0	8,0x19,0		9,4x21,0					
	R	R		S					
150	8,0x19,0	8,0x19,0	9,4x21,0	9,4x21,0	10.5x30				13.5x30
	R	R	S	S	10.5x21 B/A				D

Table 2A continued

Standard values of capacitance and voltage related to case sizes.

Other values within the specified capacitance and voltage ranges can be delivered on request.

Rated voltage (V)	4	6	10	15	16	20	25	35	40
Rated capacitance (µF)	Case size diameter (mm) x length (mm), case size reference								
180	8,0x19,0 R	8,0x19,0 R	9,4x21,0 S						
220	8,0x19,0 R	9,4x21,0 S	9,4x21,0 S		10.5x30 13.5x21 B/C	10.5x30 B			13.5x38 16.5x30 E/F
270	9,4x21,0 S	9,4x21,0 S							
330	9,4x21,0 S	9,4x21,0 S			13.5x30 D	13.5x38 E			16.5x38 G
470	9,4x21,0 S				13.5x30 13.5x21 D/C	16.5x30 F			20.5x38 J
680					16.5x30 F	16.5x38 G			20.5x38 J
1000			16.5x30 F		16.5x38 16.5x31 G/F	20.5x38 J			20.5x47 L
1500			16.5x38 G		20.5x38 16.5x38 J/G	20.5x47 L			
2200			20.5x38 J		20.5x47 16.5x38 L/G				
3300			20.5x47 L		20.5x38 J				
4700					20.5x38 J				

Table 2A continued

Standard values of capacitance and voltage related to case sizes.

Other values within the specified capacitance and voltage ranges can be delivered on request.

Rated voltage (V)	50	60	63/64	75	100	125	200	350	450
Rated capacitance (µF)	Case size diameter (mm) x length (mm), case size reference								
1									10.5x20 A
2.2						8,0x19,0 R			
2.7						8,0x19,0 R			
3.3					8,0x19,0 R	8,0x19,0 R			10.5x30 A
3.9						8,0x19,0 R			
4.7	8,0x19,0 R	8,0x19,0 R		8,0x19,0 R	8,0x19,0 10.5x21 R/A	8,0x19,0 R		10.5x30 B	
5.6	8,0x19,0 R	8,0x19,0 R		8,0x19,0 R	8,0x19,0 R	8,0x19,0 R			
6.8	8,0x19,0 R	8,0x19,0 R		8,0x19,0 R	8,0x19,0 R	9,4x21,0 S			13.5x30 D
8.2	8,0x19,0 R	8,0x19,0 R		8,0x19,0 R	9,4x21,0 S	9,4x21,0 S			
10.0	8,0x19,0 R	8,0x19,0 R	10.5x21 A	8,0x19,0 R	9,4x21,0 10.5x30 S/B	9,4x21,0 S	10.5x30 B	13.5x30 D	16.5x30 F
12.0	8,0x19,0 R	8,0x19,0 R		9,4x21,0 S					
15.0	8,0x19,0 R	9,4x21,0 S	10.5x21 A	9,4x21,0 S					16.5x38 G

Table 2A continued

Standard values of capacitance and voltage related to case sizes.

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Rated voltage (V)	50	60	63/64	75	100	125	200	350	450
Rated capacitance (μF)	Case size diameter (mm) x length (mm), case size reference								
18	8,0x19,0 R	9,4x21,0 S							
22	9,4x21,0 S	9,4x21,0 S	10.5x21 A		13.5x30 D		13.5x30 D	16.5x30 F	20.5x30 H
27									
33			10.5x30 A		13.5x30 D		16.5x30 F	20.5x30 H	20.5x38 J
39									
47			10.5x30 B		13.5x38 E		16.5x30 F		20.5x47 L
56									
68			13.5x30 D		16.5x30 F			20.5x47 L	
82									
100			13.5x30 D		16.5x38 G		20.5x38 J		
120									
150			16.5x30 F		20.5x38 J		20.5x47 L		

Table 2A continued

Standard values of capacitance and voltage related to case sizes.

Other values within the specified capacitance and voltage ranges can be delivered on request.

Rated voltage (V)	50	60	63/64	75	100	125	200	350	450
Rated capacitance (μF)	Case size diameter (mm) x length (mm), case size reference								
180									
220			16.5x38 G		20.5x47 L				
270									
330			20.5x38 J						
470			20.5x47 L						
680									
1000									
1500									
2200									
3300									