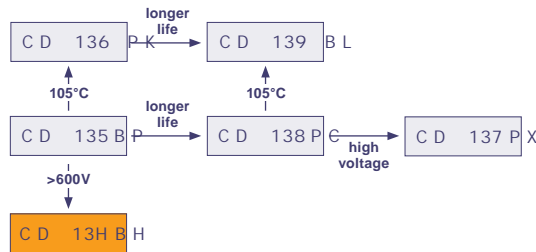


4 000h at 85°C

- Extreme High Voltage
- High Ripple Current
- Power Supplies & Inverters



item	Characteristics	
operating Temperature range (°C)	-25 ~ +85	
Voltage range (V)	600, 630	
Capacitance range (µF)	1000 ~ 5600	
Capacitance Tolerance (20°C, 120Hz)	± 20%	
Leakage Current (µA)	After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0,01CV or 5mA, whichever is smaller C: Nominal Capacitance (µF) V: Rated Voltage (V)	
Dissipation Factor (20°C, 120Hz)	Rated Voltage (V)	600                      630
	Tan (max)	0,25                      0,3

	useful Life		Load Life	Endurance Test	Shelf Life
Lifetime	4 000h	>65 000h	2000h	2000h	1000h
Leakage Current	Not more than specified value		Not more than specified value	Not more than specified value	Not more than specified value
Capacitance Change	Within ± 30% of initial value		Within ± 20% of initial value	Within ± 10% of initial value	Within ± 20% of initial value
Dissipation Factor	Not more than 300% of specified value		Not more than 200% of specified value	Not more than 130% of specified value	Not more than 200% of specified value
Condition:					
Applied Voltage	$U_R$	$U_R$	$U_R$	$U_R$	$U_R = 0$
Applied Current	$I_R$	$1,2 \times I_R$	$I_R$	$I_R = 0$	$I_R = 0$
Applied Temperature	85°C	40°C	85°C	85°C	85°C
outlier Percentage	1%	1%	0%	IEC 60384	0%

After test:  
 $U_R$  to be applied for 30min  
 >24h before measurement

Screw

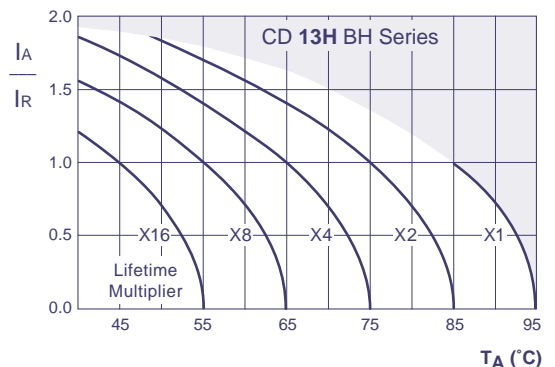
## Multiplier for Ripple Current

Frequency Coefficient

Frequency	50/60Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0,8	1,00	1,18	1,30	1,40

## Multiplier for Lifetime

Lifetime Diagram



$I_A$  = actual ripple current at 120Hz,  $I_R$  = rated ripple current at 120Hz, 85°C  
 Multiplier of Useful Life as a function of ambient temperature and ripple current load

L %DVLV GH QHG DV  
7 & ! 5 ' L  
7 & 5 L  
& L

# Part Number System

## Order Code Screw Type

EC	G	1C	BP	101	M	B	E	160	A 361		J E x x x x x
Technology	Terminal Type	Rated Voltage Code	Series Code	Capacitance Code	Capacitance Tolerance	Mounting	Diameter	Length	For Terminal Code see tables below	Material Code	for Specials only
EC = Electrolytic Capacitor	Screw = G	For coding please refer to the pages of ratings	CD 135 = BP	100 = 101	±20% = M	Bolt = B	36 = A	53 = 053		-	
			CD 136 = PK	1000 = 102	±10% = K	No double sleeve = N	40 = B	65 = 065		V=PCV Sleeve	
			CD 137 = PX	10000 = 103	+30 / -10% = Q	2 stoppers bracket+double sleeve* = I	51 = C	96 = 096		E=PET Sleeve	
			CD 138 = PC		+20 / -0% = R	3 stoppers bracket+double sleeve* = Y	64 = D	100 = 100		P=Polyolefn	
			CD 139 = BL		+20 / -10% = V	No bracket, but double sleeve* = D	77 = E	115 = 115		Standard = PVC Sleeve	
			CD 13H = BH		+50 / -10% = T	* Double sleeve for diameter 51 only	90 = F	236 = 236			
			CD 138S = WP				101 = G				
CD 838 = ZT											

## Technical Specification Screw Type

**Standard Housing**  
Order Code: I, Y, D, N

**Bolt Housing**  
Order Code: B

### Terminal Detail

Screw Definition	
Hexagon-Head	M5x10
Hexagon-Head	M6x12
Hexagon-Head	M8x16

\* add 0,5 mm for Double Sleeve (½ length)  
order code: (Y, I, D)  
N = Single Sleeve only

### Bolt:

Ø D	Ø d	l
Ø 36	M8	12
Ø 51	M12	16

in mm

L = 0,6 mm  
h1 see Terminal Table below

## Mounting

Position: Screw capacitors need to be mounted into an upright position. If a horizontal position is needed please ensure the safety vent is located on the highest position (12 o'clock).

Bolt: Maximum Torque M12: 12,5Nm

Terminal Screws: Maximum Torque M5: 3Nm M6: 6Nm

### Terminal Code

Terminal Code	ØD	Screw	Pitch P	d1	d2	h1	h2
A 361	36	M5	12,7	8	11	6,8	1,8
A362	36	10 - 32	12,7	8	11	6,8	1,8
A 511	51	M5	21,8	10	13,5	6,8	1,8
A512	51	10-32	21,8	8	11	2,5	0,5
D511	51	M5	21,8	10	13	5,5	0
A 641	64	M5	28,2	10	15,5	7,3	2,3
A642	64	M5	28,2	15	20	7,3	3,5
A643	64	1/4 - 28	28,2	15	20	7,3	3,5
B641	64	1/4 - 28	28,2	17,2	0	6,4	0
D641	64	M5	28,2	13	15	7,14	0
E641	64	M5	28,2	10	15,5	6,8	1,8
A 771	77	M5	31,4	10	15,5	6,3	1,3
A772	77	M6	31,4	10	15,5	6,3	1,3
B771	77	M6	31,4	17,2	0	3,17	0
B772	77	M6	31,4	17,2	0	6,4	0
B773	77	M8	31,4	17,2	0	3,17	0
B774	77	M5	31,4	17,2	0	6,4	0
B775	77	1/4-28	31,4	17,2	0	6,4	0
B778	77	M5	31,4	17,2	0	10,4/6,4	0

Terminal Code	ØD	Screw	Pitch P	d1	d2	h1	h2
C771	77	M5	31,4	17,2	0	3,5	0
C772	77	M6	31,4	17,2	0	3,5	0
C773	77	M5	31,4	17,2	0	5,5	0
C774	77	M5	31,4	17,2	0	6,4	0
C775	77	M6	31,4	17,2	0	6,4	0
D771	77	M5	31,4	13	15	6,4	0
F771	77	M6	31,4	13	15	6,4	0
F772	77	M5	31,4	13	15	6,4	0
A 901	90	M5	31,4	10	15,5	6,3	1,3
A902	90	M6	31,4	10	15,5	6,3	1,3
B901	90	M6	31,4	17,2	0	6,4	0
B902	90	M5	31,4	17,2	0	6,4	0
B903	90	M5	31,4	17,2	0	10,4/6,4	0
C901	90	M5	31,4	17,2	0	6,4	0
C902	90	M6	31,4	17,2	0	6,4	0
D901	90	M5	31,4	10	13	5,5	0
E901	90	M6	31,4	15	17	8,6	2,4
F901	90	M6	31,4	13	15	6,4	0
A 101	101	M8	41,5	17,2	21,5	11,0	6,0

preferred, other forms on request in mm

Terminal A101 = A991, B774 = B776

B778 and B903 have different lengths h1 of each terminal.

Terminal A, B and F include potting glue. Terminal C, D and E are without glue (middle pin).

Extended cathode design only with terminal C, D, E possible.

## Terminal Form

**Terminal A**  
Order Code: AXXX

d2  
d1  
h1

h1

**Terminal B**  
Order Code: BXXX

d1  
h1

h2

**Terminal C**  
Order Code: CXXX

d1  
h1

h1

**Terminal D**  
Order Code: DXXX

d1  
h1

h1

**Terminal E**  
Order Code: EXXX

d2  
d1  
h1

h1

**Terminal F**  
Order Code: FXXX

d1  
h1

h1

vent

vent

vent

vent

vent

vent

D±1,0

D±1,0

D±1,0

D±1,0

D±1,0

D±1,0

Tolerances of d1, d2: +/- 0,3 mm, Tolerances of h1, h2: +/- 0,5 mm, CD 138S WP and CD 139 BL only available with terminal C, D and E

## Bracket Mounting

**i-Type**  
Ø D 36-90

**Y-Type**  
Ø D 51-101

Ø D	W1	W2	W3	W4	a	b	h
36	48,0	58,0	-	-	3,8	-	15
51	68,0	80,0	63,6	73,0	5	7,0	30
64	81,0	93,0	76,2	85,1	5	7,0	30
77	93,5	106,0	89	98,4	5	7,0	30
90	108,0	120,5	101,6	111,2	5	7,0	30
101	-	-	115,0	127,0	6	8,0	30

b

preferred

in mm

h = Height of brackets

## Accessories for Bolt Mounting

**Cap nut**  
Order Code: ACCNUT3038M12  
For Screw Capacitors with M12 Bolt

**Cap nut**  
Order Code: ACCNUT2230M12  
For Screw Capacitors with M12 Bolt

**Press ring**

mm

mm

**insulation Washer**  
Order Code: ACCISO5113  
For Screw Capacitors  
with Diameter 51 und 64

**insulation Washer**  
Order Code: ACCISO7713  
For Screw Capacitors  
with Diameter 77 und 90

mm

mm

Ø Capacitor	64	77	90
A +0.3	62.3	74.8	88.0
B +0.3	64.1	77.0	90.0
C +0.3	70.5	84.5	97.9
D +0.3	74.5	88.6	102.0
E +0.2	71.2	85.5	98.6
F +0.2	18.0	20.0	23.5
G -0.25	3.0	2.4	3.0
Product Code Agree with RoHS	ACC PR164	ACC PR177	ACC PR190
Product Code Agree with RoHS and UL-94-V0	ACC PR464	ACC PR477	ACC PR490

All dimensions in mm



/LIHWLPH (VWLPDWLRQ RI \$OXPLQXP (OHFWURO\WLF &DSDFLWRUV

7R HVWLPDWH WKH /LIHWLPH RI D QRQ VROLG LSSOH PLDLPW (OHFWURO\WLF &DSDFLWRUV  
/LIHWLPH GHSHQGV PDLQO\ RQ WKH DPELHQW WHPSHUDWXUH WKH ULSSOH FXUUHQW  
2WKHU SDUDPHWHUV PD\ DOVR DIIHFW WKH LQVXUWHUHQGHQFH PDQ\ GLIIHUHQW Z  
LQAXHQFH RQ WKH Q&PBUKDDORUHVXODWKLJK WUDQVSDUHQF\ E\ SXEOLVKLQJ WKH  
HDFK GDWDVKHHW /LIHWLPH HVWLPDWLRQV DUH DSSUR[LPDWLRQV E\ QDWXUH

3OHDVH OHW -, \$1\*+\$, (8523( FRQUP DQ\ UHVXOW EHIRUH XVLQJ LW 7KH IRUPXOD  
RI D VSHFLFDWLRQ 7KH IRUPXODV GR QRW FRYHU DGGLWLRQDO DJLQJ HIIHFWV  
FRQWDFW XV VKRXOG \RX QHGH /LIHWLPH HVWLPDWHV IRU 6ROLG (OHFWURO\WH  
PD\ KDYH DQ HIIHFW )RUFHG FRROLQJ RU RWKHU DGGLWLRQDO FRROLQJ PHWKRG  
E\ WKH IRUPXODV

)RU WKH HVWLPDWLRQ DQG LQWHUSUHWDWLRQ RI \$ / (8523( PHV D\ W R Q H C A R D G D E V H U G

6WUXFWXUDO IRUPXOD	/	/ 7 . 5 . 9 .
:KHUH	/	7RWDO /LIHWLPH
	/	/LIHWLPH XQGHU 5DWHG 5LSSOH &XUUHQW DW 8SSHU &DWHJRU\ 7HPSHUDWXUH VHH FDWDORJXH
	.7	7HPSHUDWXUH )DFWRU
	.5	5LSSOH &XUUHQW )DFWRU
	.9	9ROWDJH )DFWRU

.7 **7HPSHUDWXUH )DFWRU**  
\$OXPLQXP (OHFWURO\WLF &DSDFLWRUV IROORZ URXJKO\ WKH . UXOH  
/LIHWLPH E\ UXOH RI WKXPE :KHQ WKH RSHUDWLRQDO WHPSHUDWXUH  
7KH IRUPXODV UHWDLQ LV

		<u>7</u> \$ 7
	.7	.
:KHUH	7	5DWHG 7HPSHUDWXUH
	7	\$PELHQW 7HPSHUDWXUH 8SSHU &DWHJRU\ 7HPSHUDWXUH

.5 **5LSSOH &XUUHQW )DFWRU** 7KH LQAXHQFH RI ULSSOH FXUUHQW RQ /  
WKH IROORZLQJ IRUPXOD

		\$ <u>α</u> 7
	.5	L .
:LWK	\$	<u>5</u>
		5
:KHUH	\$	\$FWXDO 5DWHG 5LSSOH &XUUHQW
	.5	5LSSOH &XUUHQW DW 8SSHU &DWHJRU\ 7HPSHUDWXUH
	7	&RUH 7HPSHUDWXUH 5LVH RI WKH FDSDFLWRUV
		W\SLFDOO\ . IRU DQG . IRU &7
	.L	%DVLV GHQGHQGH DV
	7	f & \$ ! 5' .L
		\$ " 5 .L
	7	f & \$ " 5 .L

9ROWDJH )DFWRU )RU 5DGLDO (OHFWURO\WLF &DSDFLWRU\XVW KRLW  
 VRPH ELJJHU FSDDFLWRUV OLNH 6QDS ,Q DQG 6FUHZ 7HUPLQDO W\SHV  
 YROWDJH ZLOO DIIHFW WKHLU /LIHWLPH ,W LV H[SUHVVHG DV IROORZ

$\frac{8_s}{8_5} Q$

:KHUH

$8_5$  5DWHG 9ROWDJH  
 $8_s$  \$FWXDO 2SHUDWLQJ 9ROWDJH  
 Q ([SRQHGW GH¿QH DV

$\frac{8_s}{8_5} \quad A \quad Q$

$\frac{8_s}{8_5} \quad A \quad Q$

)UHTXHQF\ &RUUHFWRU )DFWRUV ,I WKH DFWXDO 5LSSOH &XUUHQWV  
 ZHLJKLQJ IDFWRUV QHHG WR EH DSSOLHG

$\sqrt{\frac{1}{1} \frac{1}{1} \frac{1}{1} Q}$

\$

\$ FFWXDO 5DWHG 5LSSOH &XUUHQW QrupD  
 $\frac{1}{1}$   $\frac{1}{10}$  5LSSOH &XUUHQWV DW GLIIHUHQW IUHTXH  
 $\frac{1}{1}$   $\frac{1}{10}$  )UHTXHQF\ &RUUHFWRU )DFWRUV IRU GLI

-, \$1\*+\$, (OHFWURO\WLF &DSDFLWRU /LIHWLPH (VWLPDWRU )RUPXOD

$\frac{7}{7} \cdot \frac{5}{5} \cdot \frac{9}{9}$

$\frac{7}{7} \frac{7}{7} > \frac{\$}{5} @ \frac{7}{7} \frac{8_s}{8_5} Q$

7 & \$ ! 5 , A . L  
 7 & \$ 5 , A . L  
 7 & A . L

$\frac{8_s}{8_5} \quad A \quad Q$

$\frac{8_s}{8_5} \quad A \quad Q$

