



**CAPACITOR
COMPETENCE**
since 1958

FILM CAPACITORS

FILM CAPACITORS · SNUBBER

CBB 165 IS SERIES

JIANGHAI EUROPE

Electronic Components GmbH



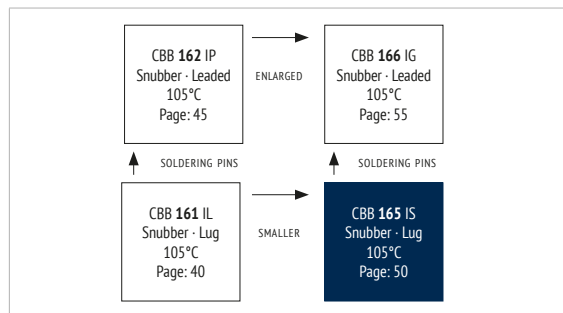
ENGINEERED SOLUTIONS

v2020.2

FEATURES

- Very low dissipation factor
- High peak pulse capability
- Plates for direct IGBT connection
- Self-healing
- 105°C

OVERVIEW



PRODUCT



APPLICATIONS

- High pulse and high frequency circuits

CHARACTERISTICS

ITEM	CHARACTERISTICS
Climatic Category	40/105/56 (IEC 61071)
Operating Temperature	-40 ~ +105 °C ($\theta_{hotspot} \leq 105$ °C) $\theta_{hotspot} = 85-105$ °C: See Voltage Derating Diagram
Storage Temperature	-40 ~ +105 °C
Rated Voltage U_{RDC}	850 ~ 3.000 V_{DC}
Capacitance Range	0,4 ~ 8,0 μF
Capacitance Tolerance	± 10 % (K), ± 5 % (J)
Voltage between Terminals U_{TT}	1,5 * U_{RDC} (20°C, 10s)
Voltage between Terminals & Case U_{TC}	3.000 V_{AC} (20°C, 50 Hz, 10s)
Capacitor Dissipation Factor $\tan \delta$	$\leq 5 * 10^{-4}$ (20 °C, 1 kHz)
Dielectric Dissipation Factor $\tan \delta_o$	$\leq 2 * 10^{-4}$ (20 °C, 1 kHz)
Series Inductance L_s (typ.)	≤ 20 nH (20 °C)
Insulation Resistance R_i °C	$\geq 30.000 M\Omega * \mu F$ (20 °C, 100 V_{DC} , 1 min)
Max. Overvoltage	1,1 * U_{RDC} (30 % of time under load) 1,15 * U_{RDC} (30 min. per day) 1,2 * U_{RDC} (5 min. per day) 1,3 * U_{RDC} (1 min. per day) 1,5 * U_{RDC} (max. 30 ms, 100ms per day)
Life Time Expectancy	≥ 100.000 h, failure rate ≤ 100 FIT (70°C)
Reference Standard	IEC 61071:2007

ENVIRONMENTAL

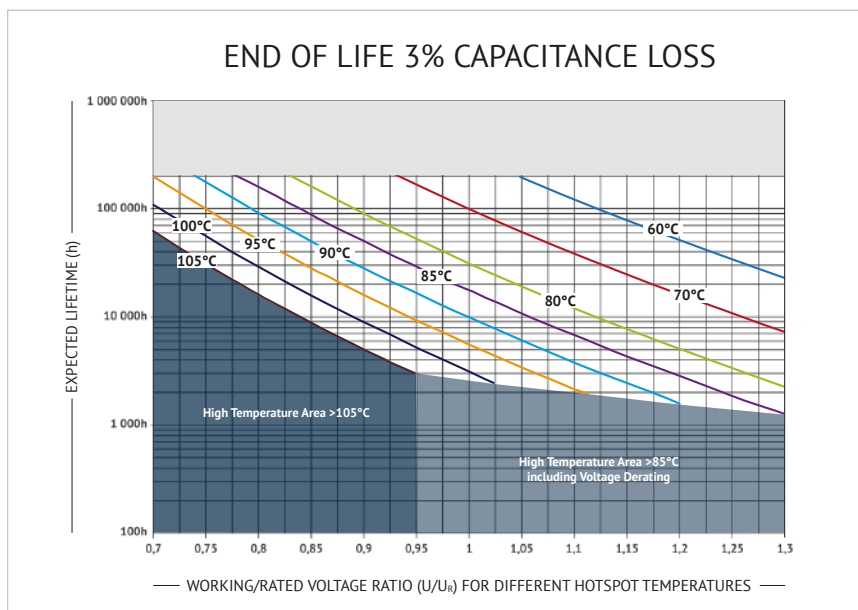
The products are RoHS, WEEE and REAcH compliant.

The detailed version please see separate "Environmental Certificates" document or www.jianghai-europe.com

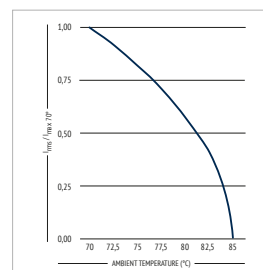
APPROVALS

UL94-V0:
Plastic & Compound Mass

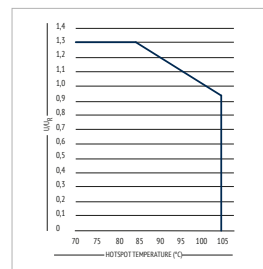
LIFETIME

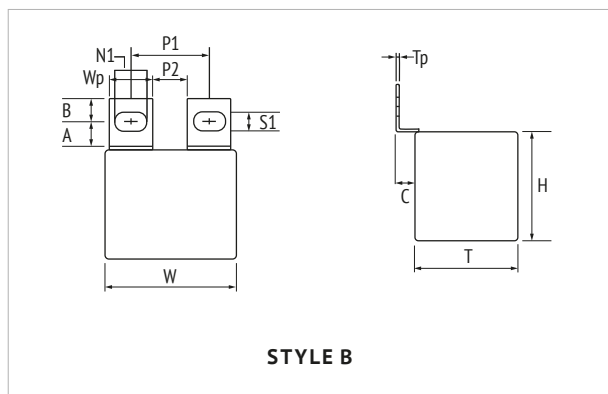
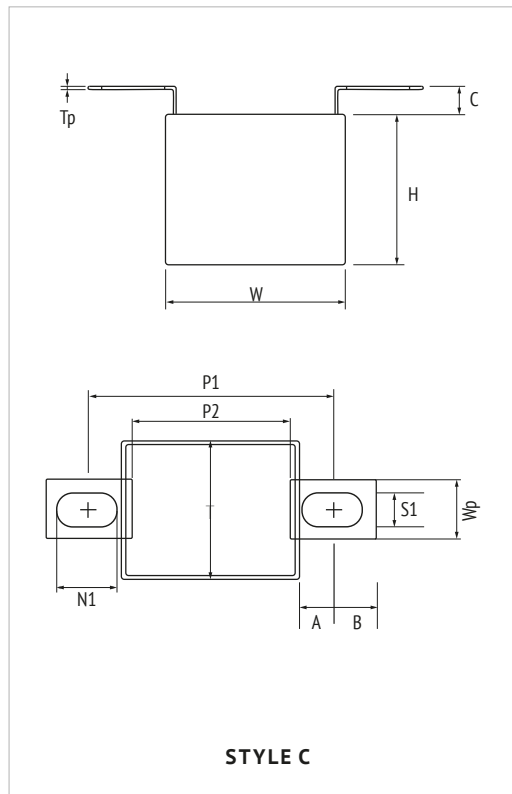
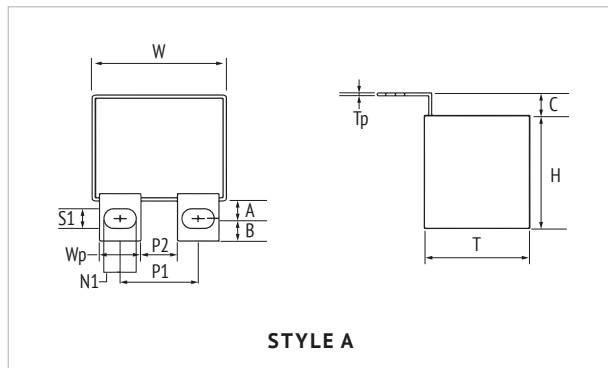


CURRENT DERATING



VOLTAGE DERATING



■ DIMENSIONS


Terminal Style	Length of Case $W \pm 1,0$ (mm)	Mounting Hole Pitch $P1 \pm 0,5$ (mm)	Gap between Terminals $P2 \pm 0,5$ (mm)	Width Terminal Plate $Wp \pm 0,3$ (mm)	Thickness Terminal $Tp \pm 0,1$ (mm)	Distance of Terminal $C \pm 1$ (mm)	Width of Hole $S1 \pm 0,1$ (mm)	Length of Hole $N1 \pm 0,3$ (mm)	Position of Hole $A \pm 0,2$ (mm)	Distance of Hole $B \pm 0,2$ (mm)
Style A/B	42,5	24,0	10,0	14,0	1,0	6,0	M6: 6,5 M8: 8,5	M6: 8,5 M8: 10,5	7,0	7,0
Style A/B	42,5	26,0	12,0	14,0	1,0	6,0	M6: 6,5 M8: 8,5	M6: 8,5 M8: 10,5	7,0	7,0
Style A/B	57,5	24,0	10,0	14,0	1,0	6,0	M6: 6,5 M8: 8,5	M6: 8,5 M8: 10,5	7,0	7,0
Style A/B	57,5	37,0	23,0	14,0	1,0	6,0	M6: 6,5 M8: 8,5	M6: 8,5 M8: 10,5	7,0	7,0
Style C	42,5	60,0	38,0	14,0	1,0	6,0	M8: 8,2	M8: 14	8,5	10,0
Style C	57,5	75,0	53,0	14,0	1,0	6,0	M8: 8,2	M8: 14	8,5	10,0

INTERNAL CONSTRUCTION

NO.	ITEM	MATERIAL
1	Single-sided Metallized Film	PP + Al
2	Metal Sprayed Contact	Zn + Sn/Zn
3	Terminal	Sn-coated Cu
4	Potting Compound	Epoxy
5	Case	Flame retardant PBT

MARKING

ORDER CODE

FC	S	3B	IL	105	K	A	FA	60	12	16	1	E 3
Capacitor type	Product shape	DC rated voltage code (V)	Series code	Capacitance Code (µF)	Capacitance tolerance	Plate Style (mm)	Dimension Code (mm)	Pitch P ₁ (mm)	Gap P ₂ (mm)	Width of plates Wp (mm)	Hole Shape	For internal use
Film Cap. = FC	Square box = S	630 2J 700 2Q 850 K2 1000 3A 1200 3B 1600 3C 2000 3D 2500 3E 3000 3F	CBB 165 = IS	0,22 224 0,33 334 0,47 474 0,68 684 0,82 824 1,0 105 1,2 125 1,5 155 2,0 205 2,2 225 2,5 255 3,0 305 3,3 335 4,0 405 4,7 475 5,0 505 6,0 605 6,8 685 10,0 106	+5% J ±10% K	Style A A Style B B Style C C	42,5 x 28 x 24 FA 42,5 x 33 x 33 FB 42,5 x 35,5 x 33,5 FC 42,5 x 36 x 24 FD 42,5 x 43 x 42 FE 42,5 x 45 x 30 FF 57,5 x 43,5 x 29,5 HG 57,5 x 45 x 30 HH 57,5 x 45 x 35 HJ 57,5 x 45 x 45 HK 57,5 x 50 x 35 HL 57,5 x 55 x 40 HM	24 24 26 26 37 37 60 60 75 75	10 10 12 12 23 23 38 38 53 53	14 14	Circular M6 Oval M6: 6,5x8,5 Circular M8 Oval M8: 8,5x10,5 Oval M6: 6,5x10,5 Oval 9x12 Circular ø5,5 Circular ø7,0 Circular ø5,0 Oval 8,5x14,5	0 1 2 3 7 5 A C E D



CBB 165 IS SERIES

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RATINGS

U _R	C _R	dV/dt	I ⁽¹⁾	R _S	L _S	I _{max}	W	H	T	ORDER CODE
≤85°C		20°C		100kHz	20°C	100kHz	±1,0	±1,0	±1,0	"#" to be defined, see ordering code table
(V)	(µF)	(V/µS)	(A)	(mΩ)	(nH)	(A)	(mm)	(mm)	(mm)	
850 V_{DC} 450 V _{AC} K2	1,20	375	450	10	≤20	11,8	42,5	28	24	FCSK2IS125##FA###14#E3
	2,00	375	750	9	≤20	15,6	42,5	36	24	FCSK2IS205##FD###14#E3
	2,50	375	937	8	≤20	17,6	42,5	33	33	FCSK2IS255##FB###14#E3
	2,80	375	1050	7	≤20	19,8	42,5	35,5	33,5	FCSK2IS285##FC###14#E3
	3,30	375	1237	6	≤20	21,5	42,5	45	30	FCSK2IS335##FF###14#E3
	4,00	375	1500	5	≤20	24,0	42,5	43	42	FCSK2IS405##FE###14#E3
	4,50	225	1012	5	≤20	24,0	57,5	43,5	29,5	FCSK2IS455##HG###14#E3
	4,80	225	1080	4	≤20	25,0	57,5	45	30	FCSK2IS485##HH###14#E3
	5,50	225	1237	4	≤20	25,0	57,5	45	35	FCSK2IS555##HJ###14#E3
	6,50	225	1462	3	≤20	26,0	57,5	50	35	FCSK2IS655##HL###14#E3
	7,00	225	1575	3	≤20	26,0	57,5	45	45	FCSK2IS705##HK###14#E3
	8,00	225	1800	3	≤20	29,0	57,5	55	40	FCSK2IS805##HM###14#E3
1000 V_{DC} 500 V _{AC} 3A	1,00	425	425	10	≤20	11,6	42,5	28	24	FCS3AIS105##FA###14#E3
	1,50	425	637	9	≤20	15,5	42,5	36	24	FCS3AIS155##FD###14#E3
	1,80	425	765	8	≤20	17,5	42,5	33	33	FCS3AIS185##FB###14#E3
	2,00	425	850	7	≤20	18,8	42,5	35,5	33,5	FCS3AIS205##FC###14#E3
	2,50	425	1062	6	≤20	21,0	42,5	45	30	FCS3AIS255##FF###14#E3
	3,00	425	1275	5	≤20	23,0	42,5	43	42	FCS3AIS305##FE###14#E3
	3,30	250	825	6	≤20	23,0	57,5	43,5	29,5	FCS3AIS335##HG###14#E3
	3,50	250	875	5	≤20	24,0	57,5	45	30	FCS3AIS355##HH###14#E3
	4,20	250	1050	5	≤20	24,0	57,5	45	35	FCS3AIS425##HJ###14#E3
	4,80	250	1200	4	≤20	25,0	57,5	50	35	FCS3AIS485##HL###14#E3
	5,00	250	1250	4	≤20	25,0	57,5	45	45	FCS3AIS505##HK###14#E3
	6,00	250	1500	4	≤20	28,0	57,5	55	40	FCS3AIS605##HM###14#E3
1200 V_{DC} 600 V _{AC} 3B	0,68	475	323	10	≤20	11,5	42,5	28	24	FCS3BIS684##FA###14#E3
	1,00	475	475	10	≤20	15,4	42,5	36	24	FCS3BIS105##FD###14#E3
	1,30	475	617	8	≤20	18,6	42,5	35,5	33,5	FCS3BIS135##FC###14#E3
	1,60	475	760	7	≤20	20,6	42,5	45	30	FCS3BIS165##FF###14#E3
	2,00	475	950	7	≤20	22,0	42,5	43	42	FCS3BIS205##FE###14#E3
	2,20	300	660	6	≤20	22,0	57,5	43,5	29,5	FCS3BIS225##HG###14#E3
	2,50	300	750	6	≤20	23,0	57,5	45	30	FCS3BIS255##HH###14#E3
	2,80	300	840	6	≤20	24,0	57,5	45	35	FCS3BIS285##HJ###14#E3
	3,30	300	990	5	≤20	24,0	57,5	50	35	FCS3BIS335##HL###14#E3
	3,50	300	1050	5	≤20	25,0	57,5	45	45	FCS3BIS355##HK###14#E3
	4,00	300	1200	5	≤20	26,0	57,5	55	40	FCS3BIS405##HM###14#E3
	1600 V_{DC} 650 V _{AC} 3C	0,45	625	281	11	≤20	11,4	42,5	28	24
0,60		625	375	10	≤20	15,2	42,5	36	24	FCS3CIS604##FD###14#E3
0,70		625	437	10	≤20	17,0	42,5	33	33	FCS3CIS704##FB###14#E3
0,85		625	531	9	≤20	18,4	42,5	35,5	33,5	FCS3CIS854##FC###14#E3
1,00		625	625	8	≤20	20,5	42,5	45	30	FCS3CIS105##FF###14#E3
1,30		625	812	7	≤20	21,0	42,5	43	42	FCS3CIS135##FE###14#E3
1,50		375	562	6	≤20	22,0	57,5	43,5	29,5	FCS3CIS155##HG###14#E3
1,60		375	600	6	≤20	22,0	57,5	45	30	FCS3CIS165##HH###14#E3
1,80		375	675	5	≤20	23,0	57,5	45	35	FCS3CIS185##HJ###14#E3
2,00		375	750	5	≤20	24,0	57,5	50	35	FCS3CIS205##HL###14#E3
2,20		375	825	4	≤20	24,0	57,5	45	45	FCS3CIS225##HK###14#E3
2,50		375	937	4	≤20	25,0	57,5	55	40	FCS3CIS255##HM###14#E3
2000 V_{DC} 700 V _{AC} 3D	1,00	425	425	5	≤20	22,0	57,5	43,5	29,5	FCS3DIS105##HG###14#E3
	1,10	425	467	5	≤20	23,0	57,5	45	30	FCS3DIS115##HH###14#E3
	1,30	425	552	4	≤20	23,0	57,5	45	35	FCS3DIS135##HJ###14#E3
	1,50	425	637	4	≤20	24,0	57,5	50	35	FCS3DIS155##HL###14#E3
	1,70	425	722	4	≤20	25,0	57,5	45	45	FCS3DIS175##HK###14#E3
	1,90	425	807	3	≤20	25,0	57,5	55	40	FCS3DIS195##HM###14#E3
2500 V_{DC} 725 V _{AC} 3E	0,55	600	330	5	≤20	21,0	57,5	43,5	29,5	FCS3EIS554##HG###14#E3
	0,60	600	360	5	≤20	21,0	57,5	45	30	FCS3EIS604##HH###14#E3
	0,75	600	450	4	≤20	23,0	57,5	45	35	FCS3EIS754##HJ###14#E3
	0,80	600	480	4	≤20	23,0	57,5	50	35	FCS3EIS804##HL###14#E3
	0,90	600	540	3	≤20	24,0	57,5	45	45	FCS3EIS904##HK###14#E3
	1,00	600	600	3	≤20	25,0	57,5	55	40	FCS3EIS105##HM###14#E3

(1) Maximum permissible peak current

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JIANGHAI EUROPE

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ENGINEERED SOLUTIONS

Customer specific adaptations needed? Please contact JIANGHAI Europe GmbH:
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