LBB

85ºC Snap-Mount Aluminum Electrolytic Capacitors



FEATURES	Multiple Case Sizes - High Voltage – High Current
APPLICATIONS	Filtering – Switching Power Supplies

Operating Temperature Range		**-40°C to +85°C**												
Capacitance Tolerance		**±20% at 120 Hz, 20°C**												
Surge Voltage	**WVDC**	**16**	**25**	**35**	**50**	**63**	**80**	**100**	**160**	**200**	**250**	**350**	**400**	**450**
	SVDC	20	32	44	63	79	100	120	200	250	300	400	450	500
Dissipation Factor tan δ (120 Hz)	**WVDC**	**16**	**25**	**35**	**50**	**63**	**80**	**100**	**160**	**200**	**250**	**350**	**400**	**450**
	D≤30	.4	.3	.25	.2	.15	.15	.15	.1	.1	.1	.15	.15	.15
	D=35	.4	.3	.25	.2	.15	.15	.15	.15	.15	.15	.15	.15	.15
	D≥40	.5	.45	.4	.35	.3	.25	.2	--	--	--	--	--	--
		For capacitances above 33000uF, add to DF value (Capacitance-33000) *0.1 / 10000												
Leakage Current @20C, Rated WVDC applied		Time	**5 Minutes**											
			3√CV											
Impedance Ratio (120 Hz)	**WVDC**	**16**	**25**	**35**	**50**	**63**	**80**	**100**	**160**	**200**	**250**	**350**	**400**	**450**
	-25°C/+20°C	4	3	3	2	2	2	2	6	6	6	8	8	8
	-40°C/+20°C	15	10	8	6	6	5	5	9	9	9	12	12	12

Load Life	**3000 hours with rated voltage and rated ripple current applied at 85°C**	
	Capacitance Change	≤20% of initial measured value
	Dissipation Factor	≤200% of maximum specified value
	Leakage Current	≤100% of maximum specified value
Shelf Life	**1000 hours at 85°C with no voltage applied**	
	Capacitance Change	≤20% of initial measured value
	Dissipation Factor	≤200% of maximum specified value
	Leakage Current	≤100% of maximum specified value

Ripple Current Multipliers		**Frequency (Hz)**					**Temperature (°C)**			
	WVDC	60	120	400	1k	10k+	40	60	70	85
	≤100	0.8	1.0	1.1	1.15	1.25	1.8	1.4	1.2	1.2
	≥160	0.8	1.0	1.1	1.15	1.47	1.8	1.4	1.2	1.2

Americas / EU
Phone: 1-508-996-8561
Email: cdena@cde.com

CDE ENERGIZING IDEAS
CORNELL DUBILIER
ILLINOIS CAPACITOR

Asia
Phone: 852-2793-0931
Email: cdeasia@cde.com

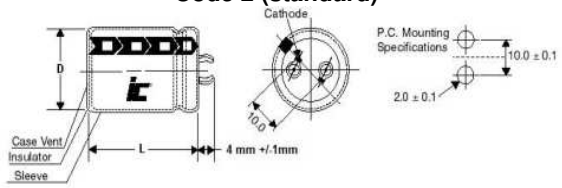
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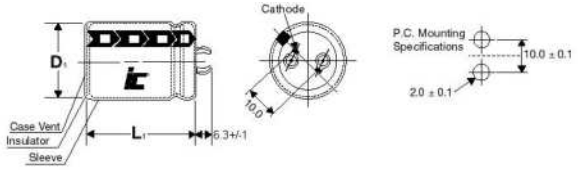
Lead Style Options

Code 2 (standard)



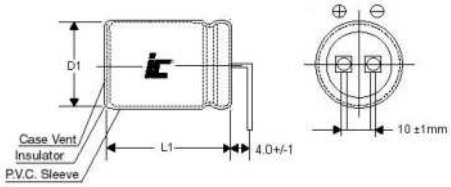
Diameter 20 to 40 mm

Code W



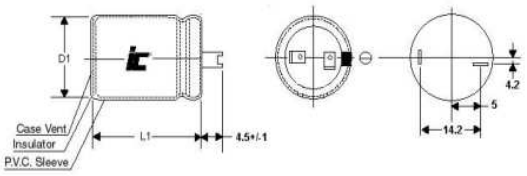
Diameter 20 to 40 mm

Code P



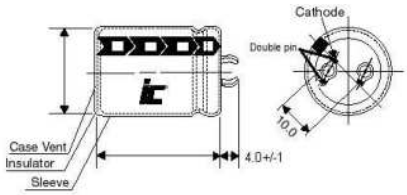
Diameter 22 to 35 mm

Code D



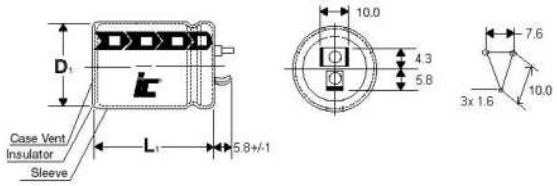
Diameter 30 to 40 mm

Code 9



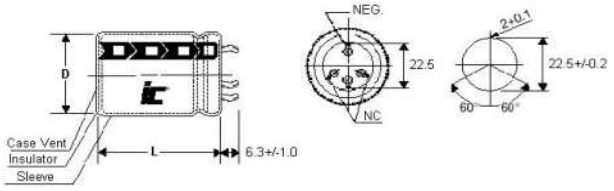
Diameter 25 to 35 mm

Code T



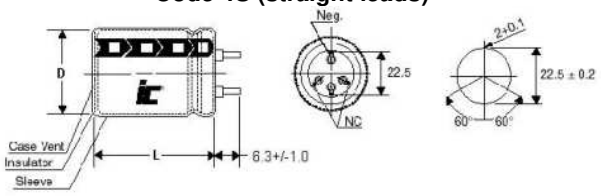
Diameter 25 to 35 mm

Code 4



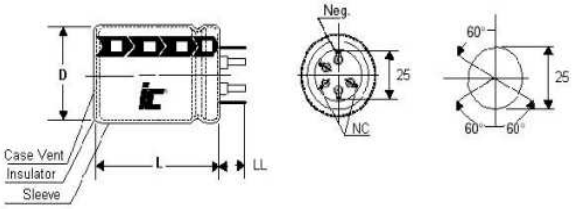
Diameter 35 to 45 mm

Code 4S (straight leads)



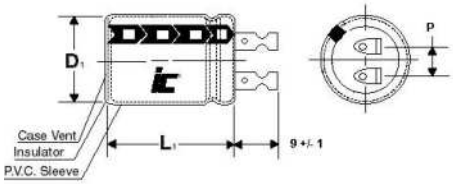
Diameter 35 to 45 mm

Code 5



Diameter 40 to 50 mm

Code G



D	35	40	50	63	76
P	14	14	18	25	25

Diameter 35 to 76 mm

Americas / EU
Phone: 1-508-996-8561
Email: cdena@cde.com

CDE CORNELL DUBILIER
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Asia
Phone: 852-2793-0931
Email: cdeasia@cde.com

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+85°C, Extended Life, 3000 hours

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (mΩ) 120 Hz, +20°C	Maximum RMS Ripple Current (A) 120 Hz, +85°C	Dims DxL (mm)
16	6800	688LBB016M2BC	121.9	2.4	22x25
16	10000	109LBB016M2BC	82.89	2.77	22x25
16	10000	109LBB016M2CC	66.3	2.67	25x25
16	15000	159LBB016M2BE	55.26	3.29	22x35
16	15000	159LBB016M2CD	55.26	3.46	25x30
16	15000	159LBB016M2DC	55.26	3.66	30x25
16	22000	229LBB016M2BH	37.68	4.37	22x50
16	22000	229LBB016M2CF	37.68	4.26	25x40
16	22000	229LBB016M2DD	37.68	4.21	30x30
16	22000	229LBB016M2EC	37.68	4.15	35x25
16	33000	339LBB016M2DF	25.12	5.36	30x40
16	33000	339LBB016M2ED	25.12	5.15	35x30
16	47000	479LBB016M2DH	17.64	6.79	30x50
16	47000	479LBB016M2EF	17.64	6.76	35x40
25	4700	478LBB025M2BC	105.82	2.25	22x25
25	6800	688LBB025M2BD	73.14	2.4	22x30
25	6800	688LBB025M2CC	73.14	2.56	25x25
25	10000	109LBB025M2BE	49.736	3.2	22x35
25	10000	109LBB025M2CD	49.736	3.12	25x30
25	10000	109LBB025M2DC	49.736	3.21	30x25
25	15000	159LBB025M2BG	33.16	3.7	22x45
25	15000	159LBB025M2CE	33.16	3.45	25x35
25	15000	159LBB025M2DD	33.16	4	30x30
25	15000	159LBB025M2EC	33.16	3.95	35x25
25	22000	229LBB025M2CG	22.61	4.48	25x45
25	22000	229LBB025M2DE	22.61	4.52	30x35
25	22000	229LBB025M2ED	22.61	4.61	35x30
25	33000	339LBB025M2DH	15.07	6.15	30x50
25	33000	339LBB025M2EF	15.07	6.33	35x40
35	3300	338LBB035M2BC	125.6	2.05	22x25
35	4700	478LBB035M2BD	88.18	2.41	22x30
35	4700	478LBB035M2CC	88.18	2.42	25x25
35	6800	688LBB035M2BE	60.95	2.82	22x35
35	6800	688LBB035M2CD	60.95	2.74	25x30
35	6800	688LBB035M2DC	60.95	2.97	30x25
35	10000	109LBB035M2BG	49.736	3.34	22x45
35	10000	109LBB035M2CE	41.45	3.06	25x35
35	10000	109LBB035M2DD	41.45	3.46	30x30
35	10000	109LBB035M2EC	41.45	3.02	35x25
35	15000	159LBB035M2CH	27.63	4.54	25x50
35	15000	159LBB035M2DE	27.63	3.67	30x35
35	15000	159LBB035M2ED	27.63	3.98	35x30
35	22000	229LBB035M2DG	18.84	4.94	30x45
35	22000	229LBB035M2EF	18.84	5.41	35x40
35	33000	339LBB035M2EH	12.56	7.27	35x50
50	2200	228LBB050M2BC	150.71	1.91	22x25
50	3300	338LBB050M2BD	100.48	2.37	22x30
50	3300	338LBB050M2CC	100.48	2.38	25x25
50	4700	478LBB050M2BE	70.55	2.72	22x35
50	4700	478LBB050M2CD	70.55	2.98	25x30
50	4700	478LBB050M2DC	70.55	2.81	30x25
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50	6800	688LBB050M2CF	48.76	3.81	25x40
50	6800	688LBB050M2DD	48.76	3	30x30
50	6800	688LBB050M2EC	48.76	3.23	35x25
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50	10000	109LBB050M2DE	33.16	3.35	30x35
50	10000	109LBB050M2ED	33.16	3.64	35x30
50	15000	159LBB050M2DH	22.1	4.61	30x50
50	15000	159LBB050M2EF	22.1	4.83	35x40
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63	2200	228LBB063M2BD	113.04	2.31	22x30
63	2200	228LBB063M2CC	113.04	2.3	25x25
63	3300	338LBB063M2BE	75.36	2.62	22x35
63	3300	338LBB063M2CD	75.36	2.64	25x30
63	3300	338LBB063M2DC	75.36	2.78	30x25
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63	4700	478LBB063M2CE	52.91	2.79	25x35
63	4700	478LBB063M2DD	52.91	3.32	30x30
63	4700	478LBB063M2EC	52.91	3.36	35x25
63	6800	688LBB063M2CH	36.57	4.27	25x50
63	6800	688LBB063M2DE	48.76	3.46	30x35
63	6800	688LBB063M2ED	48.76	4.15	35x30
63	10000	109LBB063M2DG	24.87	3.72	30x45
63	10000	109LBB063M2EF	24.87	5.47	35x40
63	15000	159LBB063M2EH	16.58	5.3	35x50
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80	1500	158LBB080M2BD	165.786	2	22x30
80	1500	158LBB080M2CC	165.786	2	25x25
80	2200	228LBB080M2BF	113.04	2.44	22x40
80	2200	228LBB080M2CD	113.04	2.46	25x30
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80	3300	338LBB080M2BH	75.36	3.16	22x50
80	3300	338LBB080M2CF	75.36	3.21	25x40
80	3300	338LBB080M2DD	75.36	3.17	30x30
80	3300	338LBB080M2EC	75.36	3.5	35x25
80	4700	478LBB080M2CH	52.91	4.05	25x50
80	4700	478LBB080M2DF	52.91	4.05	30x40
80	4700	478LBB080M2ED	52.91	4.09	35x30
80	6800	688LBB080M2DH	36.57	5.16	30x50
80	6800	688LBB080M2EF	36.57	5.14	35x40
100	1000	108LBB100M2BD	248.68	2	22x30
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100	1500	158LBB100M2BE	165.786	2.41	22x35
100	1500	158LBB100M2CD	165.786	2.43	25x30
100	1500	158LBB100M2DC	165.786	2.46	30x25
100	1800	188LBB100M2BF	138.16	2.77	22x40
100	1800	188LBB100M2CE	138.16	2.75	25x35
100	1800	188LBB100M2DD	138.16	2.35	30x30
100	2200	228LBB100M2BH	113.04	3.08	22x50
100	2200	228LBB100M2CF	113.04	3.13	25x40
100	2200	228LBB100M2DD	113.04	3.09	30x30
100	2200	228LBB100M2EC	113.04	3.14	35x25
100	3300	338LBB100M2CH	75.36	4.06	25x50
100	3300	338LBB100M2DF	75.36	4.05	30x40
100	3300	338LBB100M2ED	75.36	4.05	35x30
100	4700	478LBB100M2DH	52.91	5.13	30x50
100	4700	478LBB100M2EF	52.91	5.11	35x40
100	6800	688LBB100M2EH	36.57	6.5	35x50
160	330	337LBB160M2BC	502.38	1.4	22x25
160	390	397LBB160M2BC	425.09	1.44	22x25
160	470	477LBB160M2BD	352.74	1.73	22x30
160	470	477LBB160M2CC	352.74	1.74	25x25
160	560	567LBB160M2BE	296.05	1.99	22x35

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LBB

+85°C, Extended Life, 3000 hours

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (mΩ) 120 Hz, +20°C	Maximum RMS Ripple Current (A) 120 Hz, +85°C	Dims DxL (mm)
160	560	567LBB160M2CC	296.05	1.95	25x25
160	680	687LBB160M2BF	243.8	2.32	22x40
160	680	687LBB160M2CD	243.8	2.21	25x30
160	680	687LBB160M2DC	243.8	2.29	30x25
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160	820	827LBB160M2CE	202.18	2.58	25x35
160	820	827LBB160M2DD	202.18	2.7	30x30
160	1000	108LBB160M2BH	165.79	3.11	22x50
160	1000	108LBB160M2CF	165.79	3.02	25x40
160	1000	108LBB160M2DD	165.79	2.98	30x30
160	1000	108LBB160M2EC	248.68	3.05	35x25
160	1200	128LBB160M2CG	138.16	3.49	25x45
160	1200	128LBB160M2DE	138.16	3.48	30x35
160	1200	128LBB160M2ED	207.23	3.59	35x30
160	1500	158LBB160M2DF	110.52	4.11	30x40
160	1500	158LBB160M2EE	165.786	4.26	35x35
160	1800	188LBB160M2DG	92.1	4.73	30x45
160	1800	188LBB160M2EE	138.16	4.67	35x35
160	2200	228LBB160M2EG	113.04	4.96	35x45
200	220	227LBB200M2BC	753.57	1.25	22x25
200	270	277LBB200M2BC	614.02	1.67	22x25
200	330	337LBB200M2BD	502.38	1.66	22x30
200	330	337LBB200M2CC	502.38	1.66	25x25
200	390	397LBB200M2BD	425.09	1.8	22x30
200	390	397LBB200M2CC	425.09	1.8	25x25
200	470	477LBB200M2BE	352.74	1.78	22x35
200	470	477LBB200M2CD	352.74	2.13	25x30
200	470	477LBB200M2DC	352.74	2.21	30x25
200	560	567LBB200M2BF	296.05	2.44	22x40
200	560	567LBB200M2CE	296.05	2.48	25x35
200	560	567LBB200M2DC	296.05	2.41	30x25
200	680	687LBB200M2BG	243.8	2.83	22x45
200	680	687LBB200M2CE	243.8	2.73	25x35
200	680	687LBB200M2DD	243.8	2.85	30x30
200	680	687LBB200M2EC	365.71	2.92	35x25
200	820	827LBB200M2CF	202.18	3.17	25x40
200	820	827LBB200M2DD	202.18	3.13	30x30
200	820	827LBB200M2EC	303.27	3.21	35x25
200	1000	108LBB200M2CH	165.79	3.87	25x50
200	1000	108LBB200M2DE	165.79	3.68	30x35
200	1000	108LBB200M2ED	248.68	3.8	35x30
200	1200	128LBB200M2DF	138.16	4.26	30x40
200	1200	128LBB200M2EE	207.23	4.42	35x35
200	1500	158LBB200M2EF	165.786	5.02	35x40
200	1800	188LBB200M2EG	138.16	4.32	35x45
200	2200	228LBB200M2EH	113.04	4.92	35x50
250	220	227LBB250M2BC	753.57	1.31	22x25
250	270	277LBB250M2BD	614.02	1.57	22x30
250	270	277LBB250M2CC	614.02	1.57	25x25
250	330	337LBB250M2BE	502.38	1.85	22x35
250	330	337LBB250M2CD	502.38	1.87	25x30
250	390	397LBB250M2BE	425.09	2.01	22x35
250	390	397LBB250M2CD	425.09	2.03	25x30
250	390	397LBB250M2DC	425.09	2.1	30x25
250	470	477LBB250M2BF	352.74	2.34	22x40
250	470	477LBB250M2CE	352.74	2.38	25x35
250	470	477LBB250M2DC	352.74	2.31	30x25
250	470	477LBB250M2EC	529.11	2.54	35x25

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (mΩ) 120 Hz, +20°C	Maximum RMS Ripple Current (A) 120 Hz, +85°C	Dims DxL (mm)
250	560	567LBB250M2BH	296.05	2.82	22x50
250	560	567LBB250M2CF	296.05	2.74	25x40
250	560	567LBB250M2DD	296.05	2.71	30x30
250	560	567LBB250M2EC	444.07	2.78	35x25
250	680	687LBB250M2CG	243.8	3.19	25x45
250	680	687LBB250M2DE	243.8	3.18	30x35
250	680	687LBB250M2ED	365.71	3.28	35x30
250	820	827LBB250M2CH	202.18	3.67	25x50
250	820	827LBB250M2DF	202.18	3.69	30x40
250	820	827LBB250M2ED	303.27	3.6	35x30
250	1000	108LBB250M2DG	165.79	4.28	30x45
250	1000	108LBB250M2EE	248.68	4.22	35x35
250	1200	128LBB250M2DH	138.16	4.91	30x50
250	1200	128LBB250M2EF	207.23	4.88	35x40
250	1500	158LBB250M2EH	165.786	5.74	35x50
350	100	107LBB350M2BC	2486.8	0.86	22x25
350	120	127LBB350M2BD	2072.33	0.86	22x30
350	120	127LBB350M2CC	2072.33	0.86	25x25
350	150	157LBB350M2BD	1657.86	0.96	22x30
350	150	157LBB350M2CC	1657.86	1.1	25x25
350	180	187LBB350M2BE	1381.55	1.13	22x35
350	180	187LBB350M2CD	1381.55	1.14	25x30
350	180	187LBB350M2DC	1381.55	1.18	30x25
350	220	227LBB350M2BF	1130.36	1.32	22x40
350	220	227LBB350M2CE	1130.36	1.44	25x35
350	220	227LBB350M2DC	1130.36	1.3	30x25
350	270	277LBB350M2BH	921.04	1.61	22x50
350	270	277LBB350M2CF	921.04	1.57	25x40
350	270	277LBB350M2DD	921.04	1.55	30x30
350	270	277LBB350M2EC	921.04	1.59	35x25
350	330	337LBB350M2CG	753.57	1.82	25x45
350	330	337LBB350M2DD	753.57	1.8	30x30
350	330	337LBB350M2DE	753.57	1.83	30x35
350	390	397LBB350M2CH	637.64	2.08	25x50
350	390	397LBB350M2DF	637.64	2.1	30x40
350	390	397LBB350M2ED	637.64	2.04	35x30
350	470	477LBB350M2DF	529.11	2.3	30x40
350	470	477LBB350M2EE	529.11	2.38	35x35
350	560	567LBB350M2DH	444.07	2.76	30x50
350	560	567LBB350M2EF	444.07	2.75	35x40
350	680	687LBB350M2EG	365.71	3.18	35x45
400	82	826LBB400M2BC	3032.68	0.76	22x25
400	100	107LBB400M2BD	2486.8	0.91	22x30
400	100	107LBB400M2CC	2486.8	0.91	25x25
400	120	127LBB400M2BD	2072.33	1	22x30
400	120	127LBB400M2CC	2072.33	1	25x25
400	150	157LBB400M2BE	1657.86	1.19	22x35
400	150	157LBB400M2CD	1657.86	1.2	25x30
400	150	157LBB400M2DC	1657.86	1.25	30x25
400	180	187LBB400M2BF	1381.55	1.38	22x40
400	180	187LBB400M2CE	1381.55	1.4	25x35
400	180	187LBB400M2DC	1381.55	1.37	30x25
400	220	227LBB400M2BH	1130.36	1.69	22x50
400	220	227LBB400M2CF	1130.36	1.64	25x40
400	220	227LBB400M2DD	1130.36	1.62	30x30
400	220	227LBB400M2EC	1130.36	1.66	35x25
400	270	277LBB400M2CG	921.04	1.92	25x45
400	270	277LBB400M2DE	921.04	1.91	30x35

Americas / EU
Phone: 1-508-996-8561
Email: cdena@cde.com

CDE CORNELL DUBILIER
ENERGIZING IDEAS
ILLINOIS CAPACITOR

Asia
Phone: 852-2793-0931
Email: cdeasia@cde.com

LBB

+85°C, Extended Life, 3000 hours

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (mΩ) 120 Hz, +20°C	Maximum RMS Ripple Current (A) 120 Hz, +85°C	Dims DxL (mm)
400	270	277LBB400M2ED	921.04	1.97	35x30
400	330	337LBB400M2CH	753.57	2.22	25x50
400	330	337LBB400M2DF	753.57	2.23	30x40
400	330	337LBB400M2ED	753.57	2.18	35x30
400	390	397LBB400M2DG	637.64	2.55	30x45
400	390	397LBB400M2EE	637.64	2.52	35x35
400	470	477LBB400M2EF	529.11	2.92	35x40
400	560	567LBB400M2EG	444.07	3.34	35x45
400	680	687LBB400M2EH	365.71	3.85	35x50
450	82	826LBB450M2BD	3032.68	0.83	22x30
450	100	107LBB450M2BE	2486.8	0.97	22x35
450	100	107LBB450M2CC	2486.8	0.9	25x25
450	100	107LBB450M2CD	2486.8	0.98	25x30
450	100	107LBB450M2DC	2486.8	1.02	30x25
450	120	127LBB450M2BF	2072.33	1.13	22x40
450	120	127LBB450M2CD	2072.33	1.08	25x30
450	120	127LBB450M2DC	2072.33	1.12	30x25

WVDC	Capacitance (µF)	IC PART NUMBER	Maximum ESR (mΩ) 120 Hz, +20°C	Maximum RMS Ripple Current (A) 120 Hz, +85°C	Dims DxL (mm)
450	150	157LBB450M2BG	1657.86	1.33	22x45
450	150	157LBB450M2CE	1657.86	1.28	25x35
450	150	157LBB450M2DD	1657.86	1.34	30x30
450	180	187LBB450M2BH	1381.55	1.53	22x50
450	180	187LBB450M2CF	1381.55	1.49	25x40
450	180	187LBB450M2DD	1381.55	1.47	30x30
450	180	187LBB450M2EC	1381.55	1.5	35x25
450	220	227LBB450M2CG	1130.36	1.73	25x45
450	220	227LBB450M2DE	1130.36	1.72	30x35
450	220	227LBB450M2ED	1130.36	1.78	35x30
450	270	277LBB450M2DF	921.04	2.02	30x40
450	270	277LBB450M2EE	921.04	2.1	35x35
450	330	337LBB450M2DG	753.57	2.35	30x45
450	330	337LBB450M2EE	753.57	2.32	35x35
450	390	397LBB450M2EF	637.64	2.66	35x40
450	470	477LBB450M2EG	529.11	3.07	35x45

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Email: cdeasia@cde.com