Type 4CMC 85 °C, High Cap, Plug-in, Radial Leaded Aluminum

Rugged Value, High-Capacitance 85 °C Board-Mount Type

Type 4CMC is the PC-mount version of the high-capacitance Type DCMC screw-terminal capacitor and has about 50% more capacitance per can size through 250 V. It's for bus filtering applications where more capacitance or smaller can size is important like welders and energy storage. It delivers higher capacitance than the largest snap-ins and Its heavy gauge can, molded high purity top and 14-gauge reverse proof 3 copper pins provide better performance.

Highlights

- Much better value than large snap-in capacitor
- Ripple Currents to > 50 amps at 55 °C
- 3-leads for reverse proof, strong mounting
- Printed-circuit mounting version of DCMC
- Thermal-Pak™ extended cathode construction

Specifications

Temperature Range	–40 °C to +85 °C
Rated Voltage Range	16 Vdc to 500 Vdc
Capacitance Range	210 µF to 420,000 µF
Capacitance Tolerance	± 20%
Leakage Current	≤6 $\sqrt{CV}$ µA, 4 mA max, 5 minutes
Ripple Current Multipliers	Ambient Temperature

45 °C	55 °C	65 °C	75 °C	85 °C
2.00	2.00	1.73	1.41	1.00

Frequency

	50 Hz	60 Hz	120 Hz	360 Hz	1 kHz	5 kHz	10 kHz & Up
16 to 50 V	0.80	0.85	1.00	1.05	1.08	1.08	1.08
63 to 250 V	0.80	0.83	1.00	1.15	1.20	1.20	1.20
300 to 500 V	0.78	0.80	1.00	1.30	1.40	1.40	1.40

Low Temperature Characteristics	Impedance ratio: $Z_{-20°C}/Z_{+25°C}$ ≤ 8 (16–50 Vdc) ≤ 4 (63–100 Vdc) ≤ 3 (150–500 Vdc)
Endurance Life Test	2000 h at full load at 85 °C Δ Capacitance ±20% ESR 200% of limit DCL 100% of limit
DC Life Test	3000 h at rated voltage, 85 °C Δ Capacitance ±10% ESR 200% of limit DCL 100% of limit
Shelf Life Test	500 h at 85 °C Capacitance 100% of limit ESR 100% of limit DCL 100% of limit
Vibration	10 to 55 Hz, 0.06" and 10 g max, 2 h each plane
Regulatory Information	

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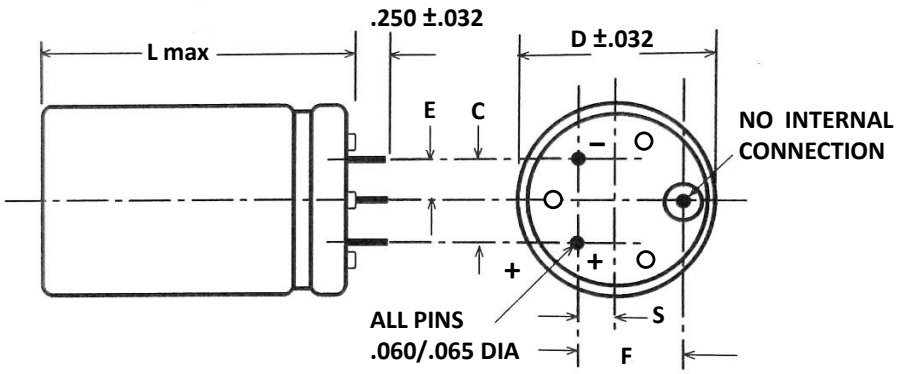
Part Numbering System

4CMC	382	M	250	BH	8
Type	**Capacitance** **382** = 3800 µF **212** = 2100 µF	**Tolerance** **M** = ±20% **T** = –10% +50% **U** = –10 +75%	**Voltage** **6R3** = 6.3 V **063** = 63 V **250** = 250 V	**Case Code** **see table**	**Insulation** **0** = Bare can **8** = PVC **9** = Polyester

Outline Drawing



Insulated Case Dimensions

Case	Inches						Millimeters					
Code	D ± .031	L MAX	C ± .015	S ± .031	E ± .031	F ± .015	D ± .78	L MAX	C ± .78	S ± .78	E ± .78	F ± .38
AK	1.375	1.75	0.50	0.175	0.25	0.55	34.93	44.45	12.70	4.45	6.35	13.97
AA	1.375	2.25	0.50	0.175	0.25	0.55	34.93	57.15	12.70	4.45	6.35	13.97
AH	1.375	2.75	0.50	0.175	0.25	0.55	34.98	69.85	12.70	4.45	6.35	13.97
AB	1.375	3.25	0.50	0.175	0.25	0.55	34.93	82.55	12.70	4.45	6.35	13.97
AJ	1.375	3.75	0.50	0.175	0.25	0.55	34.93	95.25	12.70	4.45	6.35	13.97
AC	1.375	4.25	0.50	0.175	0.25	0.55	34.93	107.95	12.70	4.45	6.35	13.97
AD	1.375	4.75	0.50	0.175	0.25	0.55	34.93	120.65	12.70	4.45	6.35	13.97
AE	1.375	5.25	0.50	0.175	0.25	0.55	34.93	133.35	12.70	4.45	6.35	13.97
AF	1.375	5.75	0.50	0.175	0.25	0.55	34.93	146.05	12.70	4.45	6.35	13.97
EA	1.75	2.25	0.70	0.375	0.35	0.90	44.45	57.15	17.78	9.53	8.89	22.86
EH	1.75	2.75	0.70	0.375	0.35	0.90	44.45	69.85	17.78	9.53	8.89	22.86
EB	1.75	3.25	0.70	0.375	0.35	0.90	44.45	82.55	17.78	9.53	8.89	22.86
EJ	1.75	3.75	0.70	0.375	0.35	0.90	44.45	95.25	17.78	9.53	8.89	22.86
EC	1.75	4.25	0.70	0.375	0.35	0.90	44.45	107.95	17.78	9.53	8.89	22.86
ED	1.75	4.75	0.70	0.375	0.35	0.90	44.45	120.65	17.78	9.53	8.89	22.86
EE	1.75	5.25	0.70	0.375	0.35	0.90	44.45	133.35	17.78	9.53	8.89	22.86
EF	1.75	5.75	0.70	0.375	0.35	0.90	44.45	146.05	17.78	9.53	8.89	22.86
BA	2.00	2.25	0.80	0.425	0.40	1.00	50.80	57.15	20.32	10.80	10.16	25.40
BH	2.00	2.75	0.80	0.425	0.40	1.00	50.80	69.85	20.32	10.80	10.16	25.40
BB	2.00	3.25	0.80	0.425	0.40	1.00	50.80	82.55	20.32	10.80	10.16	25.40
BJ	2.00	3.75	0.80	0.425	0.40	1.00	50.80	95.25	20.32	10.80	10.16	25.40
BC	2.00	4.25	0.80	0.425	0.40	1.00	50.80	107.95	20.32	10.80	10.16	25.40
BD	2.00	4.75	0.80	0.425	0.40	1.00	50.80	120.65	20.32	10.80	10.16	25.40
BE	2.00	5.25	0.80	0.425	0.40	1.00	50.80	133.25	20.32	10.80	10.16	25.40
BF	2.00	5.75	0.80	0.425	0.40	1.00	50.80	146.05	20.32	10.80	10.16	25.40

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Rugged Value, High-Capacitance 85 °C Board-Mount Type

Ratings

Additional Low Voltages Available at http://www.cde.com/catalogs/4CMC.pdf

Cap. (µF)	Catalog Part Number	ESR Max. 25 °C 120 Hz (mΩ)	ESR Max. 25 °C 20 kHz (mΩ)	Ripple Amps, 85 °C 120 Hz (A)	Ripple Amps, 85 °C 20 kHz (A)	Nom Size D X L (in)
200 Vdc (250 Vdc Surge)						
1200	4CMC122M200AK8	105.2	60.4	3.1	4.1	1 3/8 X 1 3/4
1900	4CMC192M200AA8	66.6	38.2	4.5	5.9	1 3/8 X 2 1/4
2700	4CMC272M200AH8	48.0	27.6	5.4	7.2	1 3/8 X 2 3/4
2700	4CMC272M200EA8	60.0	34.4	5.3	7.0	1 3/4 X 2 1/4
3500	4CMC352M200AB8	37.8	21.7	6.6	8.7	1 3/8 X 3 1/4
3500	4CMC352M200BA8	44.2	30.7	6.6	7.9	2 X 2 1/4
3700	4CMC372M200EH8	38.1	21.9	6.9	9.1	1 3/4 X 2 3/4
4300	4CMC432M200AJ8	29.9	17.2	7.8	10.2	1 3/8 X 3 3/4
4800	4CMC482M200EB8	29.4	16.9	8.5	11.2	1 3/4 X 3 1/4
5000	4CMC502M200BH8	33.1	23.0	8.2	9.8	2 X 2 3/4
5100	4CMC512M200AC8	25.7	14.7	8.8	11.7	1 3/8 X 4 1/4
5800	4CMC582M200AD8	22.6	13.0	9.8	12.9	1 3/8 X 4 3/4
5900	4CMC592M200EJ8	24.1	13.8	9.7	12.7	1 3/4 X 3 3/4
6600	4CMC662M200AE8	20.3	11.6	10.9	14.4	1 3/8 X 5 1/4
6800	4CMC682M200BB8	25.6	17.8	9.8	11.8	2 X 3 1/4
7100	4CMC712M200EC8	20.5	11.8	10.8	14.3	1 3/4 X 4 1/4
7400	4CMC742M200AF8	23.1	13.3	10.7	14.2	1 3/8 X 5 3/4
8100	4CMC812M200BJ8	21.0	14.6	12.2	14.6	2 X 3 3/4
8200	4CMC822M200ED8	17.9	10.3	12.2	16.1	1 3/4 X 4 3/4
9300	4CMC932M200EE8	16.0	9.2	13.7	18.1	1 3/4 X 5 1/4
9500	4CMC952M200BC8	19.1	13.3	12.8	15.4	2 X 4 1/4
10000	4CMC103M200EF8	14.5	8.3	15.4	20.3	1 3/4 X 5 3/4
11000	4CMC113M200BD8	15.7	10.9	14.6	17.5	2 X 4 3/4
12000	4CMC123M200BE8	14.1	9.8	16.0	19.2	2 X 5 1/4
14000	4CMC143M200BF8	12.8	8.9	17.3	20.8	2 X 5 3/4
250 Vdc (300 Vdc Surge)						
890	4CMC891M250AK8	137.0	78.6	2.6	3.4	1 3/8 X 1 3/4
1500	4CMC152M250AA8	86.5	49.7	3.7	4.9	1 3/8 X 2 1/4
1900	4CMC192M250EA8	68.7	39.4	4.8	6.3	1 3/4 X 2 1/4
2100	4CMC212M250AH8	62.3	35.7	4.5	6.0	1 3/8 X 2 3/4
2700	4CMC272M250BA8	54.2	37.6	5.8	7.0	2 X 2 1/4
2700	4CMC272M250AB8	48.8	28.0	5.5	7.2	1 3/8 X 3 1/4
2800	4CMC282M250EH8	47.8	27.4	6.1	8.1	1 3/4 X 2 3/4
3200	4CMC322M250AJ8	38.6	22.1	6.5	8.5	1 3/8 X 3 3/4
3700	4CMC372M250EB8	36.8	21.1	7.6	10.0	1 3/4 X 3 1/4
3800	4CMC382M250BH8	40.5	28.1	7.2	8.7	2 X 2 3/4
3900	4CMC392M250AC8	33.0	18.9	7.4	9.7	1 3/8 X 4 1/4
4400	4CMC442M250AD8	29.0	16.6	8.2	10.8	1 3/8 X 4 3/4
4500	4CMC452M250EJ8	30.1	17.3	8.6	11.4	1 3/4 X 3 3/4
5000	4CMC502M250AE8	25.9	14.9	9.1	12.0	1 3/8 X 5 1/4
5000	4CMC502M250BB8	31.2	21.7	8.7	10.4	2 X 3 1/4
5400	4CMC542M250EC8	25.5	14.7	9.7	12.8	1 3/4 X 4 1/4
250 Vdc (300 Vdc Surge)						
5600	4CMC562M250AF8	29.4	16.9	9.0	11.9	1 3/8 X 5 3/4
6200	4CMC622M250BJ8	25.5	17.7	10.7	12.9	2 X 3 3/4
6300	4CMC632M250ED8	22.3	12.8	11.0	14.5	1 3/4 X 4 3/4
7200	4CMC722M250EE8	19.8	11.4	12.3	16.3	1 3/4 X 5 1/4
7300	4CMC732M250BC8	21.7	15.1	11.7	14.0	2 X 4 1/4
8100	4CMC812M250EF8	18.0	10.3	13.8	18.3	1 3/4 X 5 3/4
8500	4CMC852M250BD8	19.0	13.2	12.9	15.5	2 X 4 3/4
9700	4CMC972M250BE8	17.0	11.8	14.2	17.0	2 X 5 1/4
11000	4CMC113M250BF8	15.4	10.7	15.4	18.4	2 X 5 3/4
300 Vdc (350 Vdc Surge)						
520	4CMC521M300AK8	245.0	141.0	2.2	2.9	1 3/8 X 1 3/4
870	4CMC871M300AA8	148.0	84.7	3.1	4.1	1 3/8 X 2 1/4
1200	4CMC122M300AH8	106.0	60.7	4.0	5.3	1 3/8 X 2 3/4
1300	4CMC132M300EA8	111.0	63.8	4.2	5.5	1 3/4 X 2 1/4
1600	4CMC162M300BA8	93.2	51.9	5.0	6.7	2 X 2 1/4
1600	4CMC162M300AB8	82.7	47.5	4.8	6.3	1 3/8 X 3 1/4
1800	4CMC182M300EH8	99.2	56.9	4.8	6.3	1 3/4 X 2 3/4
1900	4CMC192M300AJ8	68.0	39.0	5.6	7.4	1 3/8 X 3 3/4
2200	4CMC222M300BH8	67.1	37.4	6.3	8.4	2 X 2 3/4
2300	4CMC232M300AC8	57.9	33.2	6.4	8.4	1 3/8 X 4 1/4
2300	4CMC232M300EB8	76.1	43.7	5.8	7.7	1 3/4 X 3 1/4
2600	4CMC262M300AD8	50.6	29.0	7.1	9.4	1 3/8 X 4 3/4
2900	4CMC292M300AE8	45.0	25.8	7.8	10.3	1 3/8 X 5 1/4
2900	4CMC292M300BB8	51.6	28.7	7.6	10.2	2 X 3 1/4
2900	4CMC292M300EJ8	61.9	35.5	6.8	8.9	1 3/4 X 3 3/4
3300	4CMC332M300AF8	50.7	29.1	7.6	10.1	1 3/8 X 5 3/4
3500	4CMC352M300EC8	52.2	30.0	7.7	10.2	1 3/4 X 4 1/4
3600	4CMC362M300BJ8	51.2	28.5	8.1	10.8	2 X 3 3/4
4000	4CMC402M300ED8	45.3	26.0	8.6	11.4	1 3/4 X 4 3/4
4300	4CMC432M300BC8	43.3	24.1	9.2	12.3	2 X 4 1/4
4600	4CMC462M300EE8	40.1	23.0	9.5	12.6	1 3/4 X 5 1/4
4900	4CMC492M300BD8	38.0	21.2	10.2	13.7	2 X 4 3/4
5100	4CMC512M300EF8	36.0	20.6	10.4	13.7	1 3/4 X 5 3/4
5700	4CMC572M300BE8	33.3	18.5	11.3	15.1	2 X 5 1/4
6400	4CMC642M300BF8	29.9	16.7	12.3	16.5	2 X 5 3/4
350 Vdc (400 Vdc Surge)						
430	4CMC431M350AK8	264.1	151.6	2.1	2.8	1 3/8 X 1 3/4
710	4CMC711M350AA8	158.9	91.2	3.1	4.0	1 3/8 X 2 1/4
1000	4CMC102M350EA8	119.2	68.4	4.1	5.4	1 3/4 X 2 1/4
1000	4CMC102M350AH8	113.9	65.4	3.7	4.9	1 3/8 X 2 3/4
1200	4CMC122M350BA8	98.1	54.6	4.8	6.4	2 X 2 1/4
1300	4CMC132M350EH8	105.1	60.3	4.6	6.1	1 3/4 X 2 3/4

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Cap. (µF)	Catalog Part Number	ESR Max. 25 °C 120 Hz (mΩ)	ESR Max. 25 °C 20 kHz (mΩ)	Ripple Amps, 85 °C 120 Hz (A)	Ripple Amps, 85 °C 20 kHz (A)	Nom Size D X L (in)
350 Vdc (400 Vdc Surge)						
1300	4CMC132M350AB8	89.0	51.1	4.5	6.0	1 3/8 X 3 1/4
1600	4CMC162M350BH8	71.8	40.0	6.0	8.1	2 X 2 3/4
1600	4CMC162M350AJ8	73.2	42.0	5.2	6.9	1 3/8 X 3 3/4
1700	4CMC172M350EB8	80.6	46.3	5.7	7.5	1 3/4 X 3 1/4
1800	4CMC182M350AC8	62.3	35.8	6.0	7.9	1 3/8 X 4 1/4
2100	4CMC212M350BB8	55.1	30.7	7.3	9.7	2 X 3 1/4
2100	4CMC212M350AD8	54.4	31.2	6.7	8.8	1 3/8 X 4 3/4
2100	4CMC212M350EJ8	65.5	37.6	6.5	8.6	1 3/4 X 3 3/4
2400	4CMC242M350AE8	48.3	27.7	7.4	9.8	1 3/8 X 5 1/4
2500	4CMC252M350EC8	55.3	31.7	7.4	9.7	1 3/4 X 4 1/4
2600	4CMC262M350BJ8	47.9	26.7	8.7	11.7	2 X 3 3/4
2700	4CMC272M350AF8	54.5	31.3	7.4	9.7	1 3/8 X 5 3/4
2900	4CMC292M350ED8	47.9	27.5	8.3	11.0	1 3/4 X 4 3/4
3100	4CMC312M350BC8	45.7	25.5	9.0	12.1	2 X 4 1/4
3300	4CMC332M350EE8	42.4	24.3	9.4	12.4	1 3/4 X 5 1/4
3600	4CMC362M350BD8	40.1	22.4	9.9	13.3	2 X 4 3/4
3700	4CMC372M350EF8	38.0	21.8	10.6	14.0	1 3/4 X 5 3/4
4200	4CMC422M350BE8	35.1	19.6	11.0	14.7	2 X 5 1/4
4700	4CMC472M350BF8	31.6	17.6	12.0	16.0	2 X 5 3/4
400 Vdc (450 Vdc Surge)						
320	4CMC321M400AK28	382.0	195.0	1.7	2.4	1 3/8 X 1 3/4
590	4CMC591M400AA28	212.0	108.0	2.6	3.7	1 3/8 X 2 1/4
800	4CMC801M400AH28	156.0	79.4	3.2	4.5	1 3/8 X 2 3/4
840	4CMC841M400EA8	154.0	78.8	3.6	5.0	1 3/4 X 2 1/4
1000	4CMC102M400BA8	130.0	72.2	4.2	5.6	2 X 2 1/4
1000	4CMC102M400AB28	119.0	60.9	3.9	5.5	1 3/8 X 3 1/4
1200	4CMC122M400EH8	107.0	54.6	4.6	6.4	1 3/4 X 2 3/4
1300	4CMC132M400AJ28	96.9	49.5	4.5	6.4	1 3/8 X 3 3/4
1400	4CMC142M400BH8	93.6	52.1	5.3	7.1	2 X 2 3/4
1500	4CMC152M400EB8	87.4	44.6	5.5	7.7	1 3/4 X 3 1/4
1500	4CMC152M400AC28	81.8	41.7	0.5	0.8	1 3/8 X 4 1/4
1600	4CMC162M400AD28	78.6	40.1	5.5	7.8	1 3/8 X 4 3/4
1800	4CMC182M400EJ8	71.0	36.2	6.3	8.8	1 3/4 X 3 3/4
1800	4CMC182M400AE28	69.5	35.4	6.2	8.7	1 3/8 X 5 1/4
1900	4CMC192M400BB8	71.9	40.0	6.4	8.5	2 X 3 1/4
2000	4CMC202M400AF28	77.9	39.7	6.2	8.6	1 3/8 X 5 3/4
2100	4CMC212M400EC8	59.9	30.5	7.1	9.9	1 3/4 X 4 1/4
2300	4CMC232M400BJ8	58.4	32.5	7.9	10.6	2 X 3 3/4
2500	4CMC252M400ED8	51.9	26.5	8.0	11.2	1 3/4 X 4 3/4
2700	4CMC272M400BC8	49.3	27.5	8.7	11.6	2 X 4 1/4
2900	4CMC292M400EE8	45.8	23.4	9.0	12.7	1 3/4 X 5 1/4
3200	4CMC322M400EF8	41.1	21.0	10.2	14.3	1 3/4 X 5 3/4
400 Vdc (450 Vdc Surge)						
3200	4CMC322M400BD8	42.8	23.8	9.6	12.9	2 X 4 3/4
3600	4CMC362M400BE8	37.9	21.1	10.6	14.2	2 X 5 1/4
4100	4CMC412M400BF8	34.0	18.9	11.5	15.4	2 X 5 3/4
450 Vdc (500 Vdc Surge)						
330	4CMC331M450AK8	281.0	143.0	1.8	2.5	1 3/8 X 1 3/4
490	4CMC491M450AA8	188.0	95.7	2.5	3.4	1 3/8 X 2 1/4
600	4CMC601M450AH8	138.0	70.4	3.0	4.1	1 3/8 X 2 3/4
690	4CMC691M450EA8	163.0	83.3	3.3	4.6	1 3/4 X 2 1/4
860	4CMC861M450BA8	116.0	64.8	4.1	5.6	2 X 2 1/4
860	4CMC861M450AB8	106.0	54.0	3.6	5.1	1 3/8 X 3 1/4
930	4CMC931M450EH8	121.0	61.5	4.1	5.7	1 3/4 X 2 3/4
1000	4CMC102M450AJ8	86.1	43.9	4.2	5.9	1 3/8 X 3 3/4
1100	4CMC112M450BH8	98.9	55.1	4.8	6.5	2 X 2 3/4
1200	4CMC122M450EB8	92.4	47.1	5.0	7.0	1 3/4 X 3 1/4
1200	4CMC122M450AC8	72.7	37.1	4.8	6.8	1 3/8 X 4 1/4
1300	4CMC132M450AD8	69.9	35.7	5.1	7.2	1 3/8 X 4 3/4
1500	4CMC152M450BB8	75.9	42.2	5.8	7.8	2 X 3 1/4
1500	4CMC152M450AE8	61.8	31.5	5.7	8.0	1 3/8 X 5 1/4
1500	4CMC152M450EJ8	75.1	38.3	5.7	8.0	1 3/4 X 3 3/4
1600	4CMC162M450AF8	69.3	35.4	5.7	8.0	1 3/8 X 5 3/4
1800	4CMC182M450EC8	63.3	32.3	6.5	9.1	1 3/4 X 4 1/4
1900	4CMC192M450BJ8	61.7	34.3	7.2	9.7	2 X 3 3/4
2100	4CMC212M450ED8	54.8	28.0	7.3	10.3	1 3/4 X 4 3/4
2200	4CMC222M450BC8	52.1	29.0	7.9	10.6	2 X 4 1/4
2300	4CMC232M450EE8	48.4	24.7	8.3	11.6	1 3/4 X 5 1/4
2600	4CMC262M450EF8	43.5	22.2	9.3	13.0	1 3/4 X 5 3/4
2600	4CMC262M450BD8	45.7	25.4	8.7	11.7	2 X 4 3/4
3100	4CMC312M450BE8	38.8	21.6	9.8	13.1	2 X 5 1/4
3400	4CMC342M450BF8	35.0	19.5	10.7	14.3	2 X 5 3/4
500 Vdc (550 Vdc Surge)						
210	4CMC211M500AK8	487.0	287.0	1.5	2.1	1 3/8 X 1 3/4
310	4CMC311M500AA8	325.0	191.0	2.1	3.0	1 3/8 X 2 1/4
440	4CMC441M500EA8	238.0	140.0	2.9	4.0	1 3/4 X 2 1/4
450	4CMC451M500AH8	225.0	133.0	2.6	3.7	1 3/8 X 2 3/4
560	4CMC561M500BA8	193.0	114.0	3.4	4.6	2 X 2 1/4
590	4CMC591M500AB8	173.0	102.0	3.2	4.5	1 3/8 X 3 1/4
630	4CMC631M500EH8	165.0	97.2	3.7	5.2	1 3/4 X 2 3/4
730	4CMC731M500AJ8	140.0	82.6	3.8	5.3	1 3/8 X 3 3/4
780	4CMC781M500BH8	134.0	78.7	4.4	5.9	2 X 2 3/4
820	4CMC821M500EB8	126.0	74.4	4.5	6.4	1 3/4 X 3 1/4
820	4CMC821M500AC8	125.0	73.6	4.2	5.9	1 3/8 X 4 1/4
900	4CMC901M500AD8	113.0	66.4	4.6	6.5	1 3/8 X 4 3/4

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