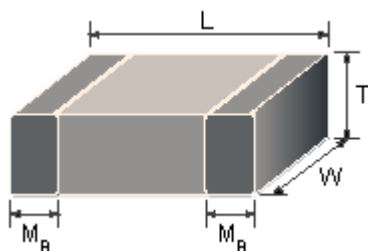


Automotive Capacitors Qualified to AEC-Q200



Dimensions Table



Size	L (mm)	W (mm)	Thickness (mm)/Symbol		Remark	M _B (mm)
0402 (1005)	1.00±0.05	0.50±0.05	0.50±0.05	N	#	0.25 +0.05/-0.10
0603 (1608)	1.60±0.20	0.80±0.10	0.80±0.07	S	-	0.40±0.15
	1.60+0.20/-0.10	0.80+0.15/-0.10	0.80+0.15/-0.10	X	-	
0805 (2012)	2.00±0.15	1.25±0.10	0.50±0.10	H		0.50±0.20
			0.60±0.10	A		
			0.80±0.10	B	-	
			1.25±0.10	D	#	
	2.00±0.20	1.25±0.20	0.85±0.10	T		
			1.25±0.20	I	#	

Dimensions : Millimetres

General Information

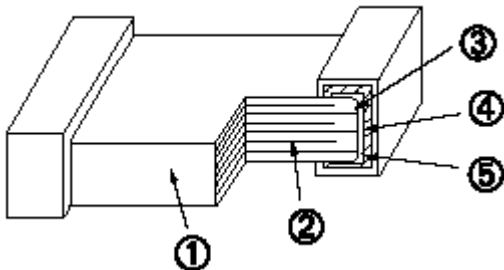


Fig 1. Construction of MLCC

Constructions

No	Name		NP0	NP0
1	Ceramic material		BaTiO ₃ based	
2	Inner electrode		AgPd alloy	Ni
3		Inner layer	Ag	Cu
4	Termination	Middle layer	Ni	
5	1	Outer layer	Sn (Matt)	

Storage and handling conditions:

- (1) To store products at 5 to 40°C ambient temperature and 20 to 70% related humidity conditions.
 (2) The product is recommended to be used within 6 months after shipment. Check solderability in case of shelf life extension is needed.

Cautions:

- Don't store products in a corrosive environment such as sulfide, chloride gas, or acid. It may cause oxidization of electrode, which easily be resulted in poor soldering.
- To store products on the shelf and avoid exposure to moisture.
- Don't expose products to excessive shock, vibration, direct sunlight and so on.

Capacitance Range

Dielectric		NP0													
Size		0402				0603					0805				
Rated Voltage		10	16	25	50	10	16	25	50	100	10	16	25	50	100
Capacitance	10pF (100)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	15pF (150)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	22pF (220)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	33pF (330)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	47pF (470)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	68pF (680)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	100pF (101)	N	N	N	N	S	S	S	S	S	A	A	A	A	A
	1.0pF (1R0)					S	S	S	S	S	A	A	A	A	A
	1.5pF (1R5)					S	S	S	S	S	A	A	A	A	A
	2.2pF (2R2)					S	S	S	S	S	A	A	A	A	A
	3.3pF (3R3)					S	S	S	S	S	A	A	A	A	A
	4.7pF (4R7)					S	S	S	S	S	A	A	A	A	A
	6.8pF (6R8)					S	S	S	S	S	A	A	A	A	A
	150pF (151)					S	S	S	S		A	A	A	A	A
	220pF (221)					S	S	S	S		A	A	A	A	A
	330pF (331)					S	S	S	S		A	A	A	A	A
	470pF (471)					S	S	S	S		B	B	B	B	B
	680pF (681)					S	S	S	S		B	B	B	B	B
	1,000pF (102)					S	S	S	S		B	B	B	B	B

1. The letter in cell is expressed the symbol of product thickness.
2. For more information about products with special capacitance or other data, please contact WTC local representative.

Part Number Table

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number			
Capacitor, 0402, NP0, 10V, 10pF	0402 (1005)	NP0 (C0G)	10pF	±1%	10V	Cu/Ni/Sn	MCCA000892			
Capacitor, 0402, NP0, 10V, 15pF			15pF				MCCA000893			
Capacitor, 0402, NP0, 10V, 22pF			22pF				MCCA000894			
Capacitor, 0402, NP0, 10V, 33pF			33pF				MCCA000895			
Capacitor, 0402, NP0, 10V, 47pF			47pF				MCCA000896			
Capacitor, 0402, NP0, 10V, 68pF			68pF				MCCA000897			
Capacitor, 0402, NP0, 10V, 100pF			100pF				MCCA000898			
Capacitor, 0402, NP0, 16V, 10pF			10pF		16V		MCCA000899			
Capacitor, 0402, NP0, 16V, 15pF			15pF				MCCA000900			
Capacitor, 0402, NP0, 16V, 22pF			22pF				MCCA000901			
Capacitor, 0402, NP0, 16V, 33pF			33pF				MCCA000902			
Capacitor, 0402, NP0, 16V, 47pF			47pF				MCCA000903			
Capacitor, 0402, NP0, 16V, 68pF			68pF				MCCA000904			
Capacitor, 0402, NP0, 16V, 100pF			100pF				MCCA000905			
Capacitor, 0402, NP0, 25V, 10pF			10pF		25V		MCCA000906			
Capacitor, 0402, NP0, 25V, 15pF			15pF				MCCA000907			
Capacitor, 0402, NP0, 25V, 22pF			22pF				MCCA000908			
Capacitor, 0402, NP0, 25V, 33pF			33pF				MCCA000909			
Capacitor, 0402, NP0, 25V, 47pF			47pF				MCCA000910			
Capacitor, 0402, NP0, 25V, 68pF			68pF				MCCA000911			
Capacitor, 0402, NP0, 25V, 100pF			100pF				MCCA000912			
Capacitor, 0402, NP0, 50V, 10pF			10pF		50V		MCCA000913			
Capacitor, 0402, NP0, 50V, 15pF			15pF				MCCA000914			
Capacitor, 0402, NP0, 50V, 22pF			22pF				MCCA000915			
Capacitor, 0402, NP0, 50V, 33pF			33pF				MCCA000916			
Capacitor, 0402, NP0, 50V, 47pF			47pF				MCCA000917			
Capacitor, 0402, NP0, 50V, 68pF			68pF				MCCA000918			
Capacitor, 0402, NP0, 50V, 100pF			100pF				MCCA000919			
Capacitor, 0603, NP0, 10V, 1.0pF							1.0pF	±0.25pF	10V	MCCA000920
Capacitor, 0603, NP0, 10V, 1.5pF							1.5pF			MCCA000921
Capacitor, 0603, NP0, 10V, 2.2pF			2.2pF	MCCA000922						
Capacitor, 0603, NP0, 10V, 3.3pF			3.3pF	MCCA000923						
Capacitor, 0603, NP0, 10V, 4.7pF			4.7pF	MCCA000924						
Capacitor, 0603, NP0, 10V, 6.8pF			6.8pF	MCCA000925						

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number
Capacitor, 0603, NP0, 10V, 10pF	0603 (1608)	NP0 (C0G)	10pF	±1%	10V	Cu/Ni/Sn	MCCA000926
Capacitor, 0603, NP0, 10V, 15pF			15pF				MCCA000927
Capacitor, 0603, NP0, 10V, 22pF			22pF				MCCA000928
Capacitor, 0603, NP0, 10V, 33pF			33pF				MCCA000929
Capacitor, 0603, NP0, 10V, 47pF			47pF				MCCA000930
Capacitor, 0603, NP0, 10V, 68pF			68pF				MCCA000931
Capacitor, 0603, NP0, 10V, 100pF			100pF				MCCA000932
Capacitor, 0603, NP0, 10V, 150pF			150pF				MCCA000933
Capacitor, 0603, NP0, 10V, 220pF			220pF				MCCA000934
Capacitor, 0603, NP0, 10V, 330pF			330pF				MCCA000935
Capacitor, 0603, NP0, 10V, 470pF			470pF				MCCA000936
Capacitor, 0603, NP0, 10V, 680pF			680pF				MCCA000937
Capacitor, 0603, NP0, 10V, 1nF			1nF				MCCA000938
Capacitor, 0603, NP0, 16V, 1.0pF			1.0pF	±0.25pF	16V		MCCA000939
Capacitor, 0603, NP0, 16V, 1.5pF			1.5pF				MCCA000940
Capacitor, 0603, NP0, 16V, 2.2pF			2.2pF				MCCA000941
Capacitor, 0603, NP0, 16V, 3.3pF			3.3pF				MCCA000942
Capacitor, 0603, NP0, 16V, 4.7pF			4.7pF				MCCA000943
Capacitor, 0603, NP0, 16V, 6.8pF			6.8pF				MCCA000944
Capacitor, 0603, NP0, 16V, 10pF			10pF	±1%			MCCA000945
Capacitor, 0603, NP0, 16V, 15pF			15pF				MCCA000946
Capacitor, 0603, NP0, 16V, 22pF			22pF				MCCA000947
Capacitor, 0603, NP0, 16V, 33pF			33pF				MCCA000948
Capacitor, 0603, NP0, 16V, 47pF			47pF				MCCA000949
Capacitor, 0603, NP0, 16V, 68pF			68pF				MCCA000950
Capacitor, 0603, NP0, 16V, 100pF			100pF				MCCA000951
Capacitor, 0603, NP0, 16V, 150pF			150pF				MCCA000952
Capacitor, 0603, NP0, 16V, 220pF			220pF				MCCA000953
Capacitor, 0603, NP0, 16V, 330pF			330pF				MCCA000954
Capacitor, 0603, NP0, 16V, 470pF			470pF				MCCA000955
Capacitor, 0603, NP0, 16V, 680pF			680pF				MCCA000956
Capacitor, 0603, NP0, 16V, 1nF			1nF				MCCA000957
Capacitor, 0603, NP0, 25V, 1.0pF			1.0pF	±0.25pF	25V		MCCA000958
Capacitor, 0603, NP0, 25V, 1.5pF			1.5pF				MCCA000959

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number
Capacitor, 0603, NP0, 25V, 2.2pF	0603 (1608)	NP0 (C0G)	2.2pF	±0.25pF	25V	Cu/Ni/Sn	MCCA000960
Capacitor, 0603, NP0, 25V, 3.3pF			3.3pF				MCCA000961
Capacitor, 0603, NP0, 25V, 4.7pF			4.7pF				MCCA000962
Capacitor, 0603, NP0, 25V, 6.8pF			6.8pF				MCCA000963
Capacitor, 0603, NP0, 25V, 10pF			10pF	MCCA000964			
Capacitor, 0603, NP0, 25V, 15pF			15pF	MCCA000965			
Capacitor, 0603, NP0, 25V, 22pF			22pF	MCCA000966			
Capacitor, 0603, NP0, 25V, 33pF			33pF	MCCA000967			
Capacitor, 0603, NP0, 25V, 47pF			47pF	MCCA000968			
Capacitor, 0603, NP0, 25V, 68pF			68pF	MCCA000969			
Capacitor, 0603, NP0, 25V, 100pF			100pF	MCCA000970			
Capacitor, 0603, NP0, 25V, 150pF			150pF	MCCA000971			
Capacitor, 0603, NP0, 25V, 220pF			220pF	MCCA000972			
Capacitor, 0603, NP0, 25V, 330pF			330pF	MCCA000973			
Capacitor, 0603, NP0, 25V, 470pF			470pF	MCCA000974			
Capacitor, 0603, NP0, 25V, 680pF			680pF	MCCA000975			
Capacitor, 0603, NP0, 25V, 1nF			1nF	MCCA000976			
Capacitor, 0603, NP0, 50V, 1.0pF			1.0pF	±0.25pF	50V		MCCA000977
Capacitor, 0603, NP0, 50V, 1.5pF			1.5pF				MCCA000978
Capacitor, 0603, NP0, 50V, 2.2pF			2.2pF				MCCA000979
Capacitor, 0603, NP0, 50V, 3.3pF			3.3pF				MCCA000980
Capacitor, 0603, NP0, 50V, 4.7pF			4.7pF	MCCA000981			
Capacitor, 0603, NP0, 50V, 6.8pF			6.8pF	MCCA000982			
Capacitor, 0603, NP0, 50V, 10pF			10pF	MCCA000983			
Capacitor, 0603, NP0, 50V, 15pF			15pF	MCCA000984			
Capacitor, 0603, NP0, 50V, 22pF			22pF	MCCA000985			
Capacitor, 0603, NP0, 50V, 33pF			33pF	MCCA000986			
Capacitor, 0603, NP0, 50V, 47pF			47pF	MCCA000987			
Capacitor, 0603, NP0, 50V, 68pF			68pF	MCCA000988			
Capacitor, 0603, NP0, 50V, 100pF			100pF	MCCA000989			
Capacitor, 0603, NP0, 50V, 150pF			150pF	MCCA000990			
Capacitor, 0603, NP0, 50V, 220pF			220pF	MCCA000991			
Capacitor, 0603, NP0, 50V, 330pF			330pF	MCCA000992			
Capacitor, 0603, NP0, 50V, 470pF			470pF	MCCA000993			
Capacitor, 0603, NP0, 50V, 680pF			680pF	MCCA000994			
Capacitor, 0603, NP0, 50V, 1nF			1nF	MCCA000995			
Capacitor, 0603, NP0, 100V, 1.0pF			1.0pF	±0.25pF	100V		MCCA000996

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number
Capacitor, 0603, NP0, 100V, 2.2pF	0603 (1608)	NP0 (COG)	2.2pF	±0.25pF	100V	Cu/Ni/Sn	MCCA000998
Capacitor, 0603, NP0, 100V, 3.3pF			3.3pF				MCCA000999
Capacitor, 0603, NP0, 100V, 4.7pF			4.7pF				MCCA001000
Capacitor, 0603, NP0, 100V, 6.8pF			6.8pF				MCCA001001
Capacitor, 0603, NP0, 100V, 10pF			10pF	±1%			MCCA001002
Capacitor, 0603, NP0, 100V, 15pF			15pF				MCCA001003
Capacitor, 0603, NP0, 100V, 22pF			22pF				MCCA001004
Capacitor, 0603, NP0, 100V, 33pF			33pF				MCCA001005
Capacitor, 0603, NP0, 100V, 47pF			47pF				MCCA001006
Capacitor, 0603, NP0, 100V, 68pF			68pF				MCCA001007
Capacitor, 0603, NP0, 100V, 100pF			100pF				MCCA001008
Capacitor, 0805, NP0, 10V, 1.0pF			1.0pF				±0.25pF
Capacitor, 0805, NP0, 10V, 1.5pF	1.5pF		MCCA001010				
Capacitor, 0805, NP0, 10V, 2.2pF	2.2pF		MCCA001011				
Capacitor, 0805, NP0, 10V, 3.3pF	3.3pF		MCCA001012				
Capacitor, 0805, NP0, 10V, 4.7pF	4.7pF		MCCA001013				
Capacitor, 0805, NP0, 10V, 6.8pF	6.8pF		MCCA001014				
Capacitor, 0805, NP0, 10V, 10pF	10pF		MCCA001015				
Capacitor, 0805, NP0, 10V, 15pF	15pF		±1%	MCCA001016			
Capacitor, 0805, NP0, 10V, 22pF	22pF			MCCA001017			
Capacitor, 0805, NP0, 10V, 33pF	33pF			MCCA001018			
Capacitor, 0805, NP0, 10V, 47pF	47pF			MCCA001019			
Capacitor, 0805, NP0, 10V, 68pF	68pF			MCCA001020			
Capacitor, 0805, NP0, 10V, 100pF	100pF			MCCA001021			
Capacitor, 0805, NP0, 10V, 150pF	150pF			MCCA001022			
Capacitor, 0805, NP0, 10V, 220pF	220pF			MCCA001023			
Capacitor, 0805, NP0, 10V, 330pF	330pF			MCCA001024			
Capacitor, 0805, NP0, 10V, 470pF	470pF			MCCA001025			
Capacitor, 0805, NP0, 10V, 680pF	680pF			MCCA001026			
Capacitor, 0805, NP0, 10V, 1nF	1nF			MCCA001027			
Capacitor, 0805, NP0, 16V, 1.0pF	1.0pF			±0.25pF	16V		MCCA001028
Capacitor, 0805, NP0, 16V, 1.5pF	1.5pF						MCCA001029
Capacitor, 0805, NP0, 16V, 2.2pF	2.2pF						MCCA001030
Capacitor, 0805, NP0, 16V, 3.3pF	3.3pF						MCCA001031

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number
Capacitor, 0805, NP0, 16V, 4.7pF	0805 (2012)	NP0 (C0G)	4.7pF	±0.25pF	16V	Cu/Ni/Sn	MCCA001032
Capacitor, 0805, NP0, 16V, 6.8pF			6.8pF				MCCA001033
Capacitor, 0805, NP0, 16V, 10pF			10pF	MCCA001034			
Capacitor, 0805, NP0, 16V, 15pF			15pF	MCCA001035			
Capacitor, 0805, NP0, 16V, 22pF			22pF	MCCA001036			
Capacitor, 0805, NP0, 16V, 33pF			33pF	MCCA001037			
Capacitor, 0805, NP0, 16V, 47pF			47pF	MCCA001038			
Capacitor, 0805, NP0, 16V, 68pF			68pF	MCCA001039			
Capacitor, 0805, NP0, 16V, 100pF			100pF	MCCA001040			
Capacitor, 0805, NP0, 16V, 150pF			150pF	MCCA001041			
Capacitor, 0805, NP0, 16V, 220pF			220pF	MCCA001042			
Capacitor, 0805, NP0, 16V, 330pF			330pF	MCCA001043			
Capacitor, 0805, NP0, 16V, 470pF			470pF	MCCA001044			
Capacitor, 0805, NP0, 16V, 680pF			680pF	MCCA001045			
Capacitor, 0805, NP0, 16V, 1nF			1nF	MCCA001046			
Capacitor, 0805, NP0, 25V, 1.0pF			1.0pF	±0.25pF	25V		MCCA001047
Capacitor, 0805, NP0, 25V, 1.5pF			1.5pF				MCCA001048
Capacitor, 0805, NP0, 25V, 2.2pF			2.2pF	MCCA001049			
Capacitor, 0805, NP0, 25V, 3.3pF			3.3pF	MCCA001050			
Capacitor, 0805, NP0, 25V, 4.7pF			4.7pF	MCCA001051			
Capacitor, 0805, NP0, 25V, 6.8pF			6.8pF	MCCA001052			
Capacitor, 0805, NP0, 25V, 10pF			10pF	MCCA001053			
Capacitor, 0805, NP0, 25V, 15pF			15pF	MCCA001054			
Capacitor, 0805, NP0, 25V, 22pF			22pF	MCCA001055			
Capacitor, 0805, NP0, 25V, 33pF			33pF	MCCA001056			
Capacitor, 0805, NP0, 25V, 47pF			47pF	MCCA001057			
Capacitor, 0805, NP0, 25V, 68pF			68pF	MCCA001058			
Capacitor, 0805, NP0, 25V, 100pF			100pF	±1%			MCCA001059
Capacitor, 0805, NP0, 25V, 150pF			150pF				MCCA001060
Capacitor, 0805, NP0, 25V, 220pF			220pF				MCCA001061
Capacitor, 0805, NP0, 25V, 330pF			330pF		MCCA001062		
Capacitor, 0805, NP0, 25V, 470pF			470pF		MCCA001063		
Capacitor, 0805, NP0, 25V, 680pF			680pF		MCCA001064		
Capacitor, 0805, NP0, 25V, 1nF			1nF	±0.25pF	50V		MCCA001065
Capacitor, 0805, NP0, 50V, 1.0pF			1.0pF				MCCA001066
Capacitor, 0805, NP0, 50V, 1.5pF			1.5pF				MCCA001067

Description	Size Inch (mm)	Dielectric	Capacitance	Tolerance	Rated Voltage (VDC)	Termination	Part Number
Capacitor, 0805, NP0, 50V, 2.2pF	0805 (2012)	NP0 (C0G)	2.2pF	±0.25pF	50V	Cu/Ni/Sn	MCCA001068
Capacitor, 0805, NP0, 50V, 3.3pF			3.3pF				MCCA001069
Capacitor, 0805, NP0, 50V, 4.7pF			4.7pF				MCCA001070
Capacitor, 0805, NP0, 50V, 6.8pF			6.8pF				MCCA001071
Capacitor, 0805, NP0, 50V, 10pF			10pF	MCCA001072			
Capacitor, 0805, NP0, 50V, 15pF			15pF	MCCA001073			
Capacitor, 0805, NP0, 50V, 22pF			22pF	MCCA001074			
Capacitor, 0805, NP0, 50V, 33pF			33pF	MCCA001075			
Capacitor, 0805, NP0, 50V, 47pF			47pF	MCCA001076			
Capacitor, 0805, NP0, 50V, 68pF			68pF	MCCA001077			
Capacitor, 0805, NP0, 50V, 100pF			100pF	MCCA001078			
Capacitor, 0805, NP0, 50V, 150pF			150pF	MCCA001079			
Capacitor, 0805, NP0, 50V, 220pF			220pF	MCCA001080			
Capacitor, 0805, NP0, 50V, 330pF			330pF	MCCA001081			
Capacitor, 0805, NP0, 50V, 470pF			470pF	MCCA001082			
Capacitor, 0805, NP0, 50V, 680pF			680pF	MCCA001083			
Capacitor, 0805, NP0, 50V, 1nF			1nF	MCCA001084			
Capacitor, 0805, NP0, 100V, 1.0pF			1.0pF	±0.25pF	100V		MCCA001085
Capacitor, 0805, NP0, 100V, 1.5pF			1.5pF				MCCA001086
Capacitor, 0805, NP0, 100V, 2.2pF			2.2pF				MCCA001087
Capacitor, 0805, NP0, 100V, 3.3pF			3.3pF				MCCA001088
Capacitor, 0805, NP0, 100V, 4.7pF			4.7pF	MCCA001089			
Capacitor, 0805, NP0, 100V, 6.8pF			6.8pF	MCCA001090			
Capacitor, 0805, NP0, 100V, 10pF			10pF	MCCA001091			
Capacitor, 0805, NP0, 100V, 15pF			15pF	MCCA001092			
Capacitor, 0805, NP0, 100V, 22pF			22pF	MCCA001093			
Capacitor, 0805, NP0, 100V, 33pF			33pF	MCCA001094			
Capacitor, 0805, NP0, 100V, 47pF			47pF	MCCA001095			
Capacitor, 0805, NP0, 100V, 68pF			68pF	MCCA001096			
Capacitor, 0805, NP0, 100V, 100pF			100pF	MCCA001097			
Capacitor, 0805, NP0, 100V, 150pF			150pF	MCCA001098			
Capacitor, 0805, NP0, 100V, 220pF			220pF	MCCA001099			
Capacitor, 0805, NP0, 100V, 330pF			330pF	MCCA001100			
Capacitor, 0805, NP0, 100V, 470pF			470pF	MCCA001101			
Capacitor, 0805, NP0, 100V, 680pF			680pF	MCCA001102			
Capacitor, 0805, NP0, 100V, 1nF			1nF	MCCA001103			

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