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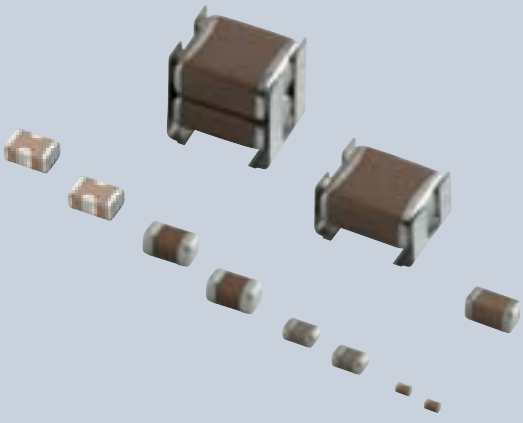
Chip Multilayer Ceramic Capacitors for Automotive

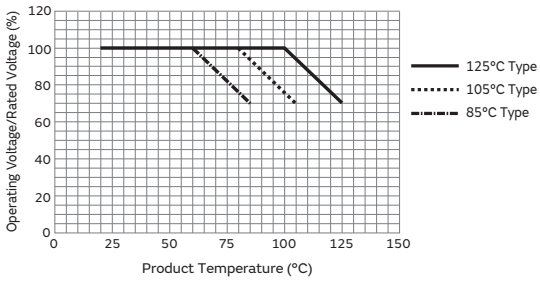
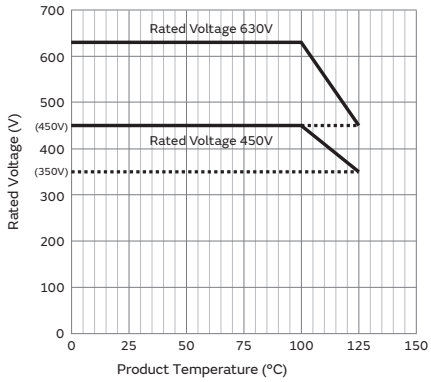
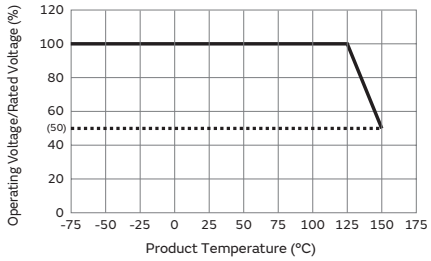


2017

Explanation of Symbols in This Catalog

WEB	Links are provided to the latest information from the PDF version of the catalog, which is available on the web.

General	For applications that do not require the particular reliability such as the general equipment
Info-tainment	Infotainment for Automotive The product for entertainment equipment like car navigations, car audios, and body control equipment like wipers, power windows.
Power-train	Powertrain/Safety for Automotive Product used for applications (running, turning, stopping and safety devices) which particularly concern human life, such as in devices for automobiles.
Medical Device	Medical-grade products for Implanted Medical Devices These products are intended for use in implanted medical devices such as cardiac pacemakers, cochlear implants, insulin pumps and gastric electrostimulators. They are suitable for use in non-critical circuits. *1 *1 Non-critical circuits This term refers to circuits in implanted medical devices that are not directly linked to life support, i.e. circuits that will not directly endanger the life of the patient should the functionality of the device be reduced or halted by failure of the circuit.
AEC-Q200	AEC-Q200 compliant product
Safety standard	Safety Standard Certified Product Products that acquired safety standard certification IEC60384-14 and products based on the Electrical Appliance and Material Safety Law of Japan.
High Q	Low dissipation for high frequency By devising ceramic materials and electrode materials, low dissipation is achieved in frequency bands of VHF, UHF and microwave or beyond.
Low ESL	Low inductance This capacitor is designed so that the parasitic inductance component (ESL) that the capacitor has on the high frequency side becomes lower.
Fail safe	Fail safe product This capacitor is designed to prevent failures as much as possible by short mode.
Deflecting crack	Product resistant to deflection cracking This capacitor is designed to prevent failures as much as possible by short mode caused by cracking when there is board deflection.
Soldering crack	Product with solder cracking suppression This capacitor is configured with metal terminals and leads connected to the chip. The metal terminals and leads relieve the stress from expansion and contraction of the solder, to suppress solder cracking.
Anti-noise	Product suitable for acoustic noise reduction and low distortion This product suppresses acoustic noise, which occurs when a ceramic capacitor is used, by devising the materials and configuration.
Effective Cap	No DC bias characteristics Polymer capacitor is no capacitance change with DC bias due to aluminum oxidized film for dielectric.
EMI FIL®	Low-inductance product suitable for noise suppression. This product has extremely low ESL and is suitable for suppression of noise, including high frequencies. This product can also be used as a low-ESL, high-performance bypass capacitor.
Limited to conductive glue mounting	Limited to Conductive Glue Mounting Since silver palladium is used for the external electrodes,the capacitor can be mounted by conductive adhesive.

D1 Derating 1	Derating 1 This product is suitable when a voltage continuously applied to a capacitor in an operating circuit, is used below (derated) the rated voltage of the capacitor. This model guarantees the test conditions in the endurance test, at a rated voltage x 100% at the maximum operating temperature. A reliability assurance level equivalent to a common product can be secured, by using this product within the voltage and temperature derated conditions recommended in the figure below. Recommended Conditions of the Derating Operating Voltage and Temperature 
D2 Derating 2	Derating 2 When the product temperature exceeds 105°C, please use this product within the voltage and temperature derated conditions in the figure below. 
D3 Derating 3	Derating 3 Please apply the derating curve according to the operating temperature. Please refer to detailed specifications sheet for details.
D4 Derating 4	Derating 4 When the product temperature exceeds 125°C, please use this product within the voltage and temperature derated conditions in the figure below. 
D5 Derating 5	Derating 5 Please apply the rated voltage derating over 150°C. Please refer to detailed specifications sheet for details.

Selection Guide for Capacitors

Infotainment for automotive

Infotainment / AEC-Q200 / SMD / Solder mounting / Chip type

GRT			P23

Powertrain/Safety for automotive

Powertrain / AEC-Q200 / SMD / Solder mounting

Chip type

GCM			P29
GC3	Anti-noise	High effective capacitance & high ripple current	P37
GCJ	Fail safe, Deflecting crack	Soft termination	P39
GGM	Water Repellent		WEB
GCQ	High Q		WEB
GCD	Fail safe, Deflecting crack	MLSC design	P45
GCE	Fail safe, Deflecting crack	Soft termination MLSC design	P47
GGD	Fail safe, Deflecting crack, Water Repellent	MLSC design	WEB
NFM	Low ESL	3 terminals	P49

Metal terminal type

KCM	Anti-noise, Deflecting crack, Soldering crack		P51
KC3	Anti-noise, Deflecting crack, Soldering crack	High effective capacitance & high ripple current	P54
KCA	Safety standard, Anti-noise, Deflecting crack, Soldering crack		P57

Limited to Conductive Glue Mounting

Chip type

GCB	Deflecting crack, Soldering crack	Ni plating + Pd plating termination conductive glue mounting	WEB
GCG	Deflecting crack, Soldering crack	AgPd termination conductive glue mounting	P60

Lead type

Solder mounting

RCE	Anti-noise, Deflecting crack, Soldering crack		WEB
RHE	Anti-noise, Deflecting crack, Soldering crack	150°C operation leaded	WEB
RHS	Anti-noise, Deflecting crack, Soldering crack	200°C operation leaded	WEB
DE6	Safety standard		WEB

Medical-grade products for implanted medical devices

Medical Device / SMD / Solder mounting / Chip type

GCH			WEB

For general

General / SMD / Solder mounting

Chip type

GRM			WEB
GRM		For LCD backlight inverter circuit only	WEB
GR3	Anti-noise	High effective capacitance & high ripple current	WEB
GRJ	Deflecting crack	Soft termination	WEB
GXM	Water Repellent		WEB
GR4		For information devices only	WEB
GR7		For camera flash circuit only	WEB
GJM	High Q		WEB
GQM	High Q	High power	WEB
GA2		Based on the Electrical Appliance and Material Safety Law of Japan	WEB
GA3	Safety standard		WEB
LLL	Low ESL	LW reversed	WEB
LLA	Low ESL	8 terminals	WEB
LLM	Low ESL	10 terminals	WEB
LLR	Low ESL	LW reversed controlled ESR	WEB
NFM	Low ESL	3 terminals	WEB
GJ4	Anti-noise	Low distortion	WEB
GJ8	Anti-noise	Low acoustic noise	WEB

On interposer board

ZRA	Anti-noise		WEB
ZRB	Anti-noise		WEB

Metal terminal type

KRM	Anti-noise, Deflecting crack, Soldering crack		WEB
KR3	Anti-noise, Deflecting crack, Soldering crack	High effective capacitance & high ripple current	WEB

Resin molding SMD type

DK1	Safety standard		WEB

Wire bonding mounting

Bonding / Chip type

GMA		Microchip	WEB
GMD			WEB

Lead type

Solder mounting

RDE	Anti-noise, Deflecting crack, Soldering crack		WEB
DEH		High temperature low loss	WEB
DEA		High temperature Class 1	WEB
DEB		Class 2	WEB
DEC			WEB
DEF		For LCD backlight inverter circuit only	WEB
DHR	Ultrahigh-voltage, Deflecting crack, Soldering crack		WEB
DEJ		Based on the Electrical Appliance and Material Safety Law of Japan	WEB
DE1	Safety standard	X1/Y1 Class certified product	WEB
DE2	Safety standard	X1/Y2 Class certified product	WEB

Screw termination mounting

DHS	Ultrahigh-voltage		WEB
DHK	Ultrahigh-voltage	High voltage AC rated	WEB

Part Numbering

Chip Multilayer Ceramic Capacitors for Automotive

WEB

(Part Number)

GC	M	18	8	R7	1H	102	K	A37	D
❶	❷	❸	❹	❺	❻	❼	❽	❾	❿

❶Product ID

❷Series

Product ID	Code	Series
GC	3	High effective capacitance & High allowable ripple current
	D	Specially designed product to reduce shorts
	E	Specially designed product to reduce shorts & resin electrode product
	G	Limited to conductive glue mounting
	J	Soft termination type
	M	For automotive
GR	T	Meet AEC-Q200 for infotainment
KC	3	Metal terminal type/High effective capacitance & High allowable ripple current
	A	Metel terminal type/ Safety standard certified product
	M	Metal terminal type

❸Chip Dimension (L x W)

Code	Dimension (L x W)	EIA
03	0.6 x 0.3mm	0201
15	1.0 x 0.5mm	0402
18	1.6 x 0.8mm	0603
21	2.0 x 1.25mm	0805
31	3.2 x 1.6mm	1206
32	3.2 x 2.5mm	1210
43	4.5 x 3.2mm	1812
55	5.7 x 5.0mm	2220

❹Height Dimension (T) (Except **KC**□)

Code	Dimension (T)
3	0.3mm
5	0.5mm
6	0.6mm
8	0.8mm
9	0.85mm
A	1.0mm
B	1.25mm
C	1.6mm
D	2.0mm
E	2.5mm
M	1.15mm
Q	1.5mm
X	Depends on individual standards.

❹Height Dimension (T) (**KC**□ Only)

Code	Dimension (T)
L	2.8mm
Q	3.7mm
T	4.8mm
W	6.4mm

❺Temperature Characteristics

Temperature Characteristic Codes			Temperature Characteristics			Operating Temperature Range	Capacitance Change Each Temperature (%)					
							−55°C		*4		−10°C	
Code	Public STD Code		Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient		Max.	Min.	Max.	Min.	Max.	Min.
5C	C0G	EIA	25°C	25 to 125°C	0±30ppm/°C	−55 to 125°C	0.58	−0.24	0.4	−0.17	0.25	−0.11
5G	X8G	*2	25°C	25 to 150°C	0±30ppm/°C	−55 to 150°C	0.58	−0.24	0.4	−0.17	0.25	−0.11
7U	U2J	EIA	25°C	25 to 125°C *3	−750±120ppm/°C	−55 to 125°C	8.78	5.04	6.04	3.47	3.84	2.21
9E	ZLM	*2	20°C	−55 to −40°C	−4700+1000/−2500ppm/°C	−55 to 125°C	-	-	-	-	-	-
				−40 to 20°C	−5350±750ppm/°C		-	-	-	-	-	-
				20 to 85°C	−4700±500ppm/°C		-	-	-	-	-	-
				85 to 125°C	−4700+2000/−1000ppm/°C		-	-	-	-	-	-
C7	X7S	EIA	25°C	−55 to 125°C	±22%	−55 to 125°C	-	-	-	-	-	-
C8	X6S	EIA	25°C	−55 to 105°C	±22%	−55 to 105°C	-	-	-	-	-	-
D7	X7T	EIA	25°C	−55 to 125°C	+22%, −33%	−55 to 125°C	-	-	-	-	-	-
L8	X8L	*2	25°C	−55 to 150°C	+15%, −40%	−55 to 150°C	-	-	-	-	-	-
M8	X8M	*2	25°C	−55 to 150°C	+15%, −50%	−55 to 150°C	-	-	-	-	-	-
R6	X5R	EIA	25°C	−55 to 85°C	±15%	−55 to 85°C	-	-	-	-	-	-
R7	X7R	EIA	25°C	−55 to 125°C	±15%	−55 to 125°C	-	-	-	-	-	-
R9	X8R	EIA	25°C	−55 to 150°C	±15%	−55 to 150°C	-	-	-	-	-	-

*1 Capacitance change is specified with 50% rated voltage applied.
*2 Murata Temperature Characteristic Code.
*3 Rated Voltage 100Vdc max: 25 to 85°C
*4 −25°C (Reference Temperature 20°C) / −30°C (Reference Temperature 25°C)

Continued on the following page.↗

(Part Number)

GC	M	18	8	R7	1H	102	K	A37	D
❶	❷	❸	❹	❺	❻	❼	❽	❾	❿

Continued from the preceding page. ↘

❻Rated Voltage

Code		Rated Voltage
Standard Product	Voltage Derated Product	
0E	-	DC2.5V
0G	-	DC4V
0J	EC	DC6.3V
1A	ED	DC10V
1C	EE	DC16V
1E	EF	DC25V
YA	EG	DC35V
1H	EH	DC50V
1J	-	DC63V
1K	-	DC80V
2A	EL	DC100V
2E	-	DC250V
2W	LP	DC450V
2J	LQ	DC630V
3A	-	DC1kV
MF	-	X1/Y2: AC250V (Safety Standard Certified Type MF)

❼Capacitance

Expressed by three-digit alphanumerics. The unit is pico-farad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros that follow the two numbers.
If there is a decimal point, it is expressed by the capital letter "**R**." In this case, all figures are significant digits.
If any letter, other than "**R**" is included, this indicates the specific part number is a non-standard part.

Ex.)

Code	Capacitance
R50	0.50pF
1R0	1.0pF
100	10pF
103	10000pF

❽Capacitance Tolerance

Code	Capacitance Tolerance
C	±0.25pF
D	±0.5pF (Less than 10pF)
	±0.5% (10pF and over)
J	±5%
K	±10%
M	±20%

❾Individual Specification Code

Expressed by three figures.

❿Package

Code	Package
L	ø180mm Embossed Taping
D/W	ø180mm Paper Taping
K	ø330mm Embossed Taping
J	ø330mm Paper Taping

Please contact us if you find any part number not provided in this table.

3 Terminal Low ESL Multilayer Ceramic Capacitors

WEB

(Part Number)

NF	M	3D	CC	102	R	1H	3	L
❶	❷	❸	❹	❺	❻	❼	❽	❾

❶Product ID ❷Series

Product ID	Series
NFM	3 Terminal Low ESL Type

❸Dimensions (LxW)

Code	Dimensions (LxW)	EIA
21	2.0x1.25mm	0805
31	3.2x1.6mm	1206

❹Features

Code	Features	
HC	Powertrain/Safety for Automotive	For Signal Lines / For Large Current
HK		For Very Large Current

❺Capacitance

Expressed by three figures. The unit is in pico-farad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros that follow the two figures.

❻Characteristics

Code	Capacitance Temperature Characteristics
R	±15%, +15/-18%

❼Rated Voltage

Code	Rated Voltage
1A	10V
1C	16V
1H	50V
2A	100V

❽Electrode

Code	Electrode
3	Sn Plating

❾Packaging

Code	Packaging
L	Embossed Taping (ø180mm Reel)
D	Paper Taping (ø180mm Reel)

Please contact us if you find any part number not provided in this table.

Chip Multilayer Ceramic Capacitors for Automotive

GCM Series

Power-train AEC-Q200 WEB

Capacitor for automotive applications such as power train and safety equipment.

Features

① Ideal for powertrains and safety devices in automotive.

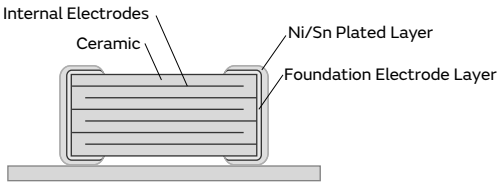
This product can be used for safety devices, such as the drive system control for engine ECU, air bags, and ABS. This product has cleared test conditions more severe than that of general products (GRM Series) even in temperature cycle and humidity load tests.

	General Purpose GRM Series Maximum operating temperature: **125°C**	GCM Series for Automotive Maximum operating temperature: **150°C**
Items	Test Method	Test Method
Temperature Cycle	Temperature Cycle: **5 cycles**	Temperature Cycle: **100 cycles** **(1,000 cycles for AEC-Q200 conforming products)**
Humidity Loading	Test temperature: **40±2°C** Test humidity: **90 to 95%RH** Test time: 500 hours	Test temperature: **85±2°C** Test humidity: **80 to 85%RH** Test time: 500 hours (1,000 hours for AEC-Q200 conforming products)

② Can be used at 125°C and 150°C temperatures.

We also offer a lineup for 150°C that can be used in the engine room.

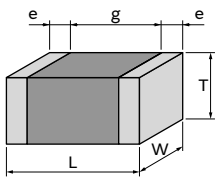
③ Sn plating is applied to the external electrodes; excellent solderability.



<Example of Structure>

Specifications

Size	0.6×0.3mm to 5.7×5.0mm
Rated Voltage	4Vdc to 1000Vdc
Capacitance	0.10pF to 47μF
Main Applications	Safety equipment, such as drive system control, air bags, and ABS of engine ECU



<Dimensions>

GCM Series Temperature Compensating Type Power-train AEC-Q200 Part Number List

1.0×0.5mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
0.55mm	50Vdc	C0G	1.0pF	±0.25pF	GCM1555C1H1R0CA16#	
			2.0pF	±0.25pF	GCM1555C1H2R0CA16#	
			3.0pF	±0.25pF	GCM1555C1H3R0CA16#	
			4.0pF	±0.25pF	GCM1555C1H4R0CA16#	
			5.0pF	±0.25pF	GCM1555C1H5R0CA16#	
			6.0pF	±0.5pF	GCM1555C1H6R0DA16#	
			7.0pF	±0.5pF	GCM1555C1H7R0DA16#	
			8.0pF	±0.5pF	GCM1555C1H8R0DA16#	
			9.0pF	±0.5pF	GCM1555C1H9R0DA16#	
			10pF	±5%	GCM1555C1H100JA16#	
			12pF	±5%	GCM1555C1H120JA16#	
			15pF	±5%	GCM1555C1H150JA16#	
			18pF	±5%	GCM1555C1H180JA16#	
			22pF	±5%	GCM1555C1H220JA16#	
			27pF	±5%	GCM1555C1H270JA16#	
			33pF	±5%	GCM1555C1H330JA16#	
			39pF	±5%	GCM1555C1H390JA16#	
			47pF	±5%	GCM1555C1H470JA16#	
			56pF	±5%	GCM1555C1H560JA16#	
			68pF	±5%	GCM1555C1H680JA16#	
			82pF	±5%	GCM1555C1H820JA16#	
			100pF	±5%	GCM1555C1H101JA16#	
			120pF	±5%	GCM1555C1H121JA16#	
			150pF	±5%	GCM1555C1H151JA16#	
			180pF	±5%	GCM1555C1H181JA16#	
			220pF	±5%	GCM1555C1H221JA16#	
			270pF	±5%	GCM1555C1H271JA16#	
			330pF	±5%	GCM1555C1H331JA16#	
			390pF	±5%	GCM1555C1H391JA16#	
			470pF	±5%	GCM1555C1H471JA16#	
			560pF	±5%	GCM1555C1H561JA16#	
			680pF	±5%	GCM1555C1H681JA16#	
			820pF	±5%	GCM1555C1H821JA16#	
			1000pF	±5%	GCM1555C1H102JA16#	
		X8G	1.0pF	±0.25pF	GCM1555G1H1R0CA16#	
			2.0pF	±0.25pF	GCM1555G1H2R0CA16#	
			3.0pF	±0.25pF	GCM1555G1H3R0CA16#	
			4.0pF	±0.25pF	GCM1555G1H4R0CA16#	
			5.0pF	±0.25pF	GCM1555G1H5R0CA16#	
			12pF	±5%	GCM1555G1H120JA16#	
			15pF	±5%	GCM1555G1H150JA16#	
			18pF	±5%	GCM1555G1H180JA16#	
			22pF	±5%	GCM1555G1H220JA16#	
			27pF	±5%	GCM1555G1H270JA16#	
			33pF	±5%	GCM1555G1H330JA16#	
			39pF	±5%	GCM1555G1H390JA16#	
			47pF	±5%	GCM1555G1H470JA16#	
			56pF	±5%	GCM1555G1H560JA16#	
			68pF	±5%	GCM1555G1H680JA16#	
			82pF	±5%	GCM1555G1H820JA16#	
			100pF	±5%	GCM1555G1H101JA16#	
			120pF	±5%	GCM1555G1H121JA16#	
0.55mm	50Vdc	X8G	150pF	±5%	GCM1555G1H151JA16#	
			180pF	±5%	GCM1555G1H181JA16#	
			220pF	±5%	GCM1555G1H221JA16#	
			270pF	±5%	GCM1555G1H271JA16#	
			330pF	±5%	GCM1555G1H331JA16#	
			390pF	±5%	GCM1555G1H391JA16#	
			470pF	±5%	GCM1555G1H471JA16#	
			560pF	±5%	GCM1555G1H561JA16#	
			680pF	±5%	GCM1555G1H681JA16#	
			820pF	±5%	GCM1555G1H821JA16#	
			1000pF	±5%	GCM1555G1H102JA16#	

1.6×0.8mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
0.9mm	100Vdc	C0G	1.0pF	±0.25pF	GCM1885C2A1R0CA16#	
			2.0pF	±0.25pF	GCM1885C2A2R0CA16#	
			3.0pF	±0.25pF	GCM1885C2A3R0CA16#	
			4.0pF	±0.25pF	GCM1885C2A4R0CA16#	
			5.0pF	±0.25pF	GCM1885C2A5R0CA16#	
			6.0pF	±0.5pF	GCM1885C2A6R0DA16#	
			7.0pF	±0.5pF	GCM1885C2A7R0DA16#	
			8.0pF	±0.5pF	GCM1885C2A8R0DA16#	
			9.0pF	±0.5pF	GCM1885C2A9R0DA16#	
			10pF	±5%	GCM1885C2A100JA16#	
			12pF	±5%	GCM1885C2A120JA16#	
			15pF	±5%	GCM1885C2A150JA16#	
			18pF	±5%	GCM1885C2A180JA16#	
			22pF	±5%	GCM1885C2A220JA16#	
			27pF	±5%	GCM1885C2A270JA16#	
			33pF	±5%	GCM1885C2A330JA16#	
			39pF	±5%	GCM1885C2A390JA16#	
			47pF	±5%	GCM1885C2A470JA16#	
			56pF	±5%	GCM1885C2A560JA16#	
			68pF	±5%	GCM1885C2A680JA16#	
			82pF	±5%	GCM1885C2A820JA16#	
			100pF	±5%	GCM1885C2A101JA16#	
			120pF	±5%	GCM1885C2A121JA16#	
			150pF	±5%	GCM1885C2A151JA16#	
			180pF	±5%	GCM1885C2A181JA16#	
			220pF	±5%	GCM1885C2A221JA16#	
			270pF	±5%	GCM1885C2A271JA16#	
			330pF	±5%	GCM1885C2A331JA16#	
			390pF	±5%	GCM1885C2A391JA16#	
			470pF	±5%	GCM1885C2A471JA16#	
			560pF	±5%	GCM1885C2A561JA16#	
			680pF	±5%	GCM1885C2A681JA16#	
			820pF	±5%	GCM1885C2A821JA16#	
			1000pF	±5%	GCM1885C2A102JA16#	
			1200pF	±5%	GCM1885C2A122JA16#	
			1500pF	±5%	GCM1885C2A152JA16#	
		U2J	1000pF	±5%	GCM1887U2A102JA16#	
			1200pF	±5%	GCM1887U2A122JA16#	

Part number # indicates the package specification code.

GCM Series Temperature Compensating Type Power-train AEC-Q200 Part Number List

(→ 1.6×0.8mm)

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
0.9mm	100Vdc	U2J	1500pF	±5%	GCM1887U2A152JA16#	
			1800pF	±5%	GCM1887U2A182JA16#	
			2200pF	±5%	GCM1887U2A222JA16#	
			2700pF	±5%	GCM1887U2A272JA16#	
			3300pF	±5%	GCM1887U2A332JA16#	
			3900pF	±5%	GCM1887U2A392JA16#	
			4700pF	±5%	GCM1887U2A472JA16#	
			5600pF	±5%	GCM1887U2A562JA16#	
			6800pF	±5%	GCM1887U2A682JA16#	
			8200pF	±5%	GCM1887U2A822JA16#	
			10000pF	±5%	GCM1887U2A103JA16#	
	50Vdc	C0G	1.0pF	±0.25pF	GCM1885C1H1R0CA16#	
			2.0pF	±0.25pF	GCM1885C1H2R0CA16#	
			3.0pF	±0.25pF	GCM1885C1H3R0CA16#	
			4.0pF	±0.25pF	GCM1885C1H4R0CA16#	
			5.0pF	±0.25pF	GCM1885C1H5R0CA16#	
			6.0pF	±0.5pF	GCM1885C1H6R0DA16#	
			7.0pF	±0.5pF	GCM1885C1H7R0DA16#	
			8.0pF	±0.5pF	GCM1885C1H8R0DA16#	
			9.0pF	±0.5pF	GCM1885C1H9R0DA16#	
			10pF	±5%	GCM1885C1H100JA16#	
			12pF	±5%	GCM1885C1H120JA16#	
			15pF	±5%	GCM1885C1H150JA16#	
			18pF	±5%	GCM1885C1H180JA16#	
			22pF	±5%	GCM1885C1H220JA16#	
			27pF	±5%	GCM1885C1H270JA16#	
			33pF	±5%	GCM1885C1H330JA16#	
			39pF	±5%	GCM1885C1H390JA16#	
			47pF	±5%	GCM1885C1H470JA16#	
			56pF	±5%	GCM1885C1H560JA16#	
			68pF	±5%	GCM1885C1H680JA16#	
			82pF	±5%	GCM1885C1H820JA16#	
			100pF	±5%	GCM1885C1H101JA16#	
			120pF	±5%	GCM1885C1H121JA16#	
			150pF	±5%	GCM1885C1H151JA16#	
			180pF	±5%	GCM1885C1H181JA16#	
			220pF	±5%	GCM1885C1H221JA16#	
			270pF	±5%	GCM1885C1H271JA16#	
			330pF	±5%	GCM1885C1H331JA16#	
			390pF	±5%	GCM1885C1H391JA16#	
			470pF	±5%	GCM1885C1H471JA16#	
			560pF	±5%	GCM1885C1H561JA16#	
			680pF	±5%	GCM1885C1H681JA16#	
			820pF	±5%	GCM1885C1H821JA16#	
			1000pF	±5%	GCM1885C1H102JA16#	
			1200pF	±5%	GCM1885C1H122JA16#	
			1500pF	±5%	GCM1885C1H152JA16#	
			1800pF	±5%	GCM1885C1H182JA16#	
			2200pF	±5%	GCM1885C1H222JA16#	
			2700pF	±5%	GCM1885C1H272JA16#	
			3300pF	±5%	GCM1885C1H332JA16#	
			3900pF	±5%	GCM1885C1H392JA16#	
		U2J	1000pF	±5%	GCM1887U1H102JA16#	
			1200pF	±5%	GCM1887U1H122JA16#	
0.9mm	50Vdc	U2J	1500pF	±5%	GCM1887U1H152JA16#	
			1800pF	±5%	GCM1887U1H182JA16#	
			2200pF	±5%	GCM1887U1H222JA16#	
			2700pF	±5%	GCM1887U1H272JA16#	
			3300pF	±5%	GCM1887U1H332JA16#	
			3900pF	±5%	GCM1887U1H392JA16#	
			4700pF	±5%	GCM1887U1H472JA16#	
			5600pF	±5%	GCM1887U1H562JA16#	
			6800pF	±5%	GCM1887U1H682JA16#	
			8200pF	±5%	GCM1887U1H822JA16#	
			10000pF	±5%	GCM1887U1H103JA16#	

2.0×1.25mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
0.7mm	100Vdc	C0G	100pF	±5%	GCM2165C2A101JA16#	
			120pF	±5%	GCM2165C2A121JA16#	
			150pF	±5%	GCM2165C2A151JA16#	
			180pF	±5%	GCM2165C2A181JA16#	
			220pF	±5%	GCM2165C2A221JA16#	
			270pF	±5%	GCM2165C2A271JA16#	
			330pF	±5%	GCM2165C2A331JA16#	
			390pF	±5%	GCM2165C2A391JA16#	
			470pF	±5%	GCM2165C2A471JA16#	
			560pF	±5%	GCM2165C2A561JA16#	
			680pF	±5%	GCM2165C2A681JA16#	
			820pF	±5%	GCM2165C2A821JA16#	
			1000pF	±5%	GCM2165C2A102JA16#	
			1200pF	±5%	GCM2165C2A122JA16#	
			1500pF	±5%	GCM2165C2A152JA16#	
			1800pF	±5%	GCM2165C2A182JA16#	
			2200pF	±5%	GCM2165C2A222JA16#	
			2700pF	±5%	GCM2165C2A272JA16#	
			3300pF	±5%	GCM2165C2A332JA16#	
	50Vdc	C0G	4700pF	±5%	GCM2165C1H472JA16#	
0.95mm	100Vdc	ZLM	1000pF	±10%	GCM2199E2A102KA05#	
				±20%	GCM2199E2A102MA05#	
			1100pF	±10%	GCM2199E2A112KA05#	
				±20%	GCM2199E2A112MA05#	
			1200pF	±10%	GCM2199E2A122KA05#	
				±20%	GCM2199E2A122MA05#	
			1300pF	±10%	GCM2199E2A132KA05#	
				±20%	GCM2199E2A132MA05#	
			1500pF	±10%	GCM2199E2A152KA05#	
				±20%	GCM2199E2A152MA05#	
	80Vdc	C0G	15000pF	±5%	GCM2195C1K153JA16#	
	63Vdc	C0G	15000pF	±5%	GCM2195C1J153JA16#	
	50Vdc	C0G	5600pF	±5%	GCM2195C1H562JA16#	
			6800pF	±5%	GCM2195C1H682JA16#	
			8200pF	±5%	GCM2195C1H822JA16#	
			10000pF	±5%	GCM2195C1H103JA16#	
			12000pF	±5%	GCM2195C1H123JA16#	
			15000pF	±5%	GCM2195C1H153JA16#	

Part number # indicates the package specification code.

GCM Series Temperature Compensating Type Power-train AEC-Q200 Part Number List

(→ 2.0×1.25mm)

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.0mm	630Vdc	C0G	10pF	±5%	GCM21A5C2J100JX01#	
			12pF	±5%	GCM21A5C2J120JX01#	
			15pF	±5%	GCM21A5C2J150JX01#	
			18pF	±5%	GCM21A5C2J180JX01#	
			22pF	±5%	GCM21A5C2J220JX01#	
			27pF	±5%	GCM21A5C2J270JX01#	
			33pF	±5%	GCM21A5C2J330JX01#	
			39pF	±5%	GCM21A5C2J390JX01#	
			47pF	±5%	GCM21A5C2J470JX01#	
			56pF	±5%	GCM21A5C2J560JX01#	
			68pF	±5%	GCM21A5C2J680JX01#	
			82pF	±5%	GCM21A5C2J820JX01#	
			100pF	±5%	GCM21A5C2J101JX01#	
			120pF	±5%	GCM21A5C2J121JX01#	
			150pF	±5%	GCM21A5C2J151JX01#	
			180pF	±5%	GCM21A5C2J181JX01#	
			220pF	±5%	GCM21A5C2J221JX01#	
			270pF	±5%	GCM21A5C2J271JX01#	
			330pF	±5%	GCM21A5C2J331JX01#	
			390pF	±5%	GCM21A5C2J391JX01#	
			470pF	±5%	GCM21A5C2J471JX01#	
			560pF	±5%	GCM21A5C2J561JX01#	
	250Vdc	C0G	10pF	±5%	GCM21A5C2E100JX01#	
			12pF	±5%	GCM21A5C2E120JX01#	
			15pF	±5%	GCM21A5C2E150JX01#	
			18pF	±5%	GCM21A5C2E180JX01#	
			22pF	±5%	GCM21A5C2E220JX01#	
			27pF	±5%	GCM21A5C2E270JX01#	
			33pF	±5%	GCM21A5C2E330JX01#	
			39pF	±5%	GCM21A5C2E390JX01#	
			47pF	±5%	GCM21A5C2E470JX01#	
			56pF	±5%	GCM21A5C2E560JX01#	
			68pF	±5%	GCM21A5C2E680JX01#	
			82pF	±5%	GCM21A5C2E820JX01#	
			100pF	±5%	GCM21A5C2E101JX01#	
			120pF	±5%	GCM21A5C2E121JX01#	
			150pF	±5%	GCM21A5C2E151JX01#	
			180pF	±5%	GCM21A5C2E181JX01#	
			220pF	±5%	GCM21A5C2E221JX01#	
			270pF	±5%	GCM21A5C2E271JX01#	
			330pF	±5%	GCM21A5C2E331JX01#	
			390pF	±5%	GCM21A5C2E391JX01#	
			470pF	±5%	GCM21A5C2E471JX01#	
			560pF	±5%	GCM21A5C2E561JX01#	
			680pF	±5%	GCM21A5C2E681JX01#	
			820pF	±5%	GCM21A5C2E821JX01#	
			1000pF	±5%	GCM21A5C2E102JX01#	
			1200pF	±5%	GCM21A5C2E122JX01#	
			1500pF	±5%	GCM21A5C2E152JX01#	
			1800pF	±5%	GCM21A5C2E182JX01#	
			2200pF	±5%	GCM21A5C2E222JX01#	
			2700pF	±5%	GCM21A5C2E272JX01#	
		U2J	100pF	±5%	GCM21A7U2E101JX01#	
			120pF	±5%	GCM21A7U2E121JX01#	
1.0mm	250Vdc	U2J	150pF	±5%	GCM21A7U2E151JX01#	
			180pF	±5%	GCM21A7U2E181JX01#	
			220pF	±5%	GCM21A7U2E221JX01#	
			270pF	±5%	GCM21A7U2E271JX01#	
			330pF	±5%	GCM21A7U2E331JX01#	
			390pF	±5%	GCM21A7U2E391JX01#	
			470pF	±5%	GCM21A7U2E471JX01#	
			560pF	±5%	GCM21A7U2E561JX01#	
			680pF	±5%	GCM21A7U2E681JX01#	
			820pF	±5%	GCM21A7U2E821JX01#	
			1000pF	±5%	GCM21A7U2E102JX01#	
			1200pF	±5%	GCM21A7U2E122JX01#	
			1500pF	±5%	GCM21A7U2E152JX01#	
			1800pF	±5%	GCM21A7U2E182JX01#	
			2200pF	±5%	GCM21A7U2E222JX01#	
1.4mm	80Vdc	C0G	18000pF	±5%	GCM21B5C1K183JA16#	
			20000pF	±5%	GCM21B5C1K203JA16#	
			22000pF	±5%	GCM21B5C1K223JA16#	
	63Vdc	C0G	18000pF	±5%	GCM21B5C1J183JA16#	
			20000pF	±5%	GCM21B5C1J203JA16#	
			22000pF	±5%	GCM21B5C1J223JA16#	
	50Vdc	C0G	18000pF	±5%	GCM21B5C1H183JA16#	
			22000pF	±5%	GCM21B5C1H223JA16#	
1.45mm	630Vdc	C0G	680pF	±5%	GCM21B5C2J681JX03#	
			820pF	±5%	GCM21B5C2J821JX03#	
			1000pF	±5%	GCM21B5C2J102JX03#	
			1200pF	±5%	GCM21B5C2J122JX03#	
	250Vdc	C0G	3300pF	±5%	GCM21B5C2E332JX01#	
			3900pF	±5%	GCM21B5C2E392JX01#	
			4700pF	±5%	GCM21B5C2E472JX01#	
		U2J	2700pF	±5%	GCM21B7U2E272JX03#	
			3300pF	±5%	GCM21B7U2E332JX03#	
			3900pF	±5%	GCM21B7U2E392JX03#	
			4700pF	±5%	GCM21B7U2E472JX03#	
			5600pF	±5%	GCM21B7U2E562JX03#	

3.2×1.6mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
0.95mm	100Vdc	C0G	3900pF	±5%	GCM3195C2A392JA16#	
			4700pF	±5%	GCM3195C2A472JA16#	
			5600pF	±5%	GCM3195C2A562JA16#	
			6800pF	±5%	GCM3195C2A682JA16#	
			8200pF	±5%	GCM3195C2A822JA16#	
			10000pF	±5%	GCM3195C2A103JA16#	
	80Vdc	C0G	33000pF	±5%	GCM3195C1K333JA16#	
1.0mm	1000Vdc	C0G	10pF	±5%	GCM31A5C3A100JX01#	
			12pF	±5%	GCM31A5C3A120JX01#	
			15pF	±5%	GCM31A5C3A150JX01#	
			18pF	±5%	GCM31A5C3A180JX01#	
			22pF	±5%	GCM31A5C3A220JX01#	
			27pF	±5%	GCM31A5C3A270JX01#	
			33pF	±5%	GCM31A5C3A330JX01#	

Part number # indicates the package specification code.

GCM Series Temperature Compensating Type Powertrain AEC-Q200 Part Number List

(→ 3.2×1.6mm)

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.0mm	1000Vdc	C0G	39pF	±5%	GCM31A5C3A390JX01#	
			47pF	±5%	GCM31A5C3A470JX01#	
			56pF	±5%	GCM31A5C3A560JX01#	
			68pF	±5%	GCM31A5C3A680JX01#	
			82pF	±5%	GCM31A5C3A820JX01#	
			100pF	±5%	GCM31A5C3A101JX01#	
			120pF	±5%	GCM31A5C3A121JX01#	
			150pF	±5%	GCM31A5C3A151JX01#	
			180pF	±5%	GCM31A5C3A181JX01#	
			220pF	±5%	GCM31A5C3A221JX01#	
			270pF	±5%	GCM31A5C3A271JX01#	
			330pF	±5%	GCM31A5C3A331JX01#	
			390pF	±5%	GCM31A5C3A391JX01#	
			470pF	±5%	GCM31A5C3A471JX01#	
		U2J	10pF	±5%	GCM31A7U3A100JX01#	
			12pF	±5%	GCM31A7U3A120JX01#	
			15pF	±5%	GCM31A7U3A150JX01#	
			18pF	±5%	GCM31A7U3A180JX01#	
			22pF	±5%	GCM31A7U3A220JX01#	
			27pF	±5%	GCM31A7U3A270JX01#	
			33pF	±5%	GCM31A7U3A330JX01#	
			39pF	±5%	GCM31A7U3A390JX01#	
			47pF	±5%	GCM31A7U3A470JX01#	
			56pF	±5%	GCM31A7U3A560JX01#	
			68pF	±5%	GCM31A7U3A680JX01#	
			82pF	±5%	GCM31A7U3A820JX01#	
			100pF	±5%	GCM31A7U3A101JX01#	
			120pF	±5%	GCM31A7U3A121JX01#	
			150pF	±5%	GCM31A7U3A151JX01#	
			180pF	±5%	GCM31A7U3A181JX01#	
			220pF	±5%	GCM31A7U3A221JX01#	
			270pF	±5%	GCM31A7U3A271JX01#	
			330pF	±5%	GCM31A7U3A331JX01#	
	630Vdc	C0G	10pF	±5%	GCM31A5C2J100JX01#	
			12pF	±5%	GCM31A5C2J120JX01#	
			15pF	±5%	GCM31A5C2J150JX01#	
			18pF	±5%	GCM31A5C2J180JX01#	
			22pF	±5%	GCM31A5C2J220JX01#	
			27pF	±5%	GCM31A5C2J270JX01#	
			33pF	±5%	GCM31A5C2J330JX01#	
			39pF	±5%	GCM31A5C2J390JX01#	
			47pF	±5%	GCM31A5C2J470JX01#	
			56pF	±5%	GCM31A5C2J560JX01#	
			68pF	±5%	GCM31A5C2J680JX01#	
			82pF	±5%	GCM31A5C2J820JX01#	
			100pF	±5%	GCM31A5C2J101JX01#	
			120pF	±5%	GCM31A5C2J121JX01#	
			150pF	±5%	GCM31A5C2J151JX01#	
			180pF	±5%	GCM31A5C2J181JX01#	
			220pF	±5%	GCM31A5C2J221JX01#	
			270pF	±5%	GCM31A5C2J271JX01#	
			330pF	±5%	GCM31A5C2J331JX01#	
			390pF	±5%	GCM31A5C2J391JX01#	
			470pF	±5%	GCM31A5C2J471JX01#	

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.0mm	630Vdc	C0G	560pF	±5%	GCM31A5C2J561JX01#	
			680pF	±5%	GCM31A5C2J681JX01#	
			820pF	±5%	GCM31A5C2J821JX01#	
			1000pF	±5%	GCM31A5C2J102JX01#	
			1200pF	±5%	GCM31A5C2J122JX01#	
			1500pF	±5%	GCM31A5C2J152JX01#	
			1800pF	±5%	GCM31A5C2J182JX01#	
		U2J	10pF	±5%	GCM31A7U2J100JX01#	
			12pF	±5%	GCM31A7U2J120JX01#	
			15pF	±5%	GCM31A7U2J150JX01#	
			18pF	±5%	GCM31A7U2J180JX01#	
			22pF	±5%	GCM31A7U2J220JX01#	
			27pF	±5%	GCM31A7U2J270JX01#	
			33pF	±5%	GCM31A7U2J330JX01#	
			39pF	±5%	GCM31A7U2J390JX01#	
			47pF	±5%	GCM31A7U2J470JX01#	
			56pF	±5%	GCM31A7U2J560JX01#	
			68pF	±5%	GCM31A7U2J680JX01#	
			82pF	±5%	GCM31A7U2J820JX01#	
			100pF	±5%	GCM31A7U2J101JX01#	
			120pF	±5%	GCM31A7U2J121JX01#	
			150pF	±5%	GCM31A7U2J151JX01#	
			180pF	±5%	GCM31A7U2J181JX01#	
			220pF	±5%	GCM31A7U2J221JX01#	
			270pF	±5%	GCM31A7U2J271JX01#	
			330pF	±5%	GCM31A7U2J331JX01#	
			390pF	±5%	GCM31A7U2J391JX01#	
			470pF	±5%	GCM31A7U2J471JX01#	
			560pF	±5%	GCM31A7U2J561JX01#	
			680pF	±5%	GCM31A7U2J681JX01#	
			820pF	±5%	GCM31A7U2J821JX01#	
			1000pF	±5%	GCM31A7U2J102JX01#	
			1200pF	±5%	GCM31A7U2J122JX01#	
			1500pF	±5%	GCM31A7U2J152JX01#	
			1800pF	±5%	GCM31A7U2J182JX01#	
			2200pF	±5%	GCM31A7U2J222JX01#	
	250Vdc	C0G	10pF	±5%	GCM31A5C2E100JX01#	
			12pF	±5%	GCM31A5C2E120JX01#	
			15pF	±5%	GCM31A5C2E150JX01#	
			18pF	±5%	GCM31A5C2E180JX01#	
			22pF	±5%	GCM31A5C2E220JX01#	
			27pF	±5%	GCM31A5C2E270JX01#	
			33pF	±5%	GCM31A5C2E330JX01#	
			39pF	±5%	GCM31A5C2E390JX01#	
			47pF	±5%	GCM31A5C2E470JX01#	
			56pF	±5%	GCM31A5C2E560JX01#	
			68pF	±5%	GCM31A5C2E680JX01#	
			82pF	±5%	GCM31A5C2E820JX01#	
			100pF	±5%	GCM31A5C2E101JX01#	
			120pF	±5%	GCM31A5C2E121JX01#	
			150pF	±5%	GCM31A5C2E151JX01#	
			180pF	±5%	GCM31A5C2E181JX01#	
			220pF	±5%	GCM31A5C2E221JX01#	
			270pF	±5%	GCM31A5C2E271JX01#	

Part number # indicates the package specification code.

GCM Series Temperature Compensating Type Power-train AEC-Q200 Part Number List

(→ 3.2×1.6mm)

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.0mm	250Vdc	C0G	330pF	±5%	**GCM31A5C2E331JX01#**	
			390pF	±5%	**GCM31A5C2E391JX01#**	
			470pF	±5%	**GCM31A5C2E471JX01#**	
			560pF	±5%	**GCM31A5C2E561JX01#**	
			680pF	±5%	**GCM31A5C2E681JX01#**	
			820pF	±5%	**GCM31A5C2E821JX01#**	
			1000pF	±5%	**GCM31A5C2E102JX01#**	
			1200pF	±5%	**GCM31A5C2E122JX01#**	
			1500pF	±5%	**GCM31A5C2E152JX01#**	
			1800pF	±5%	**GCM31A5C2E182JX01#**	
			2200pF	±5%	**GCM31A5C2E222JX01#**	
			2700pF	±5%	**GCM31A5C2E272JX01#**	
			3300pF	±5%	**GCM31A5C2E332JX01#**	
			3900pF	±5%	**GCM31A5C2E392JX01#**	
			4700pF	±5%	**GCM31A5C2E472JX01#**	
			5600pF	±5%	**GCM31A5C2E562JX01#**	
			6800pF	±5%	**GCM31A5C2E682JX01#**	
		U2J	2700pF	±5%	**GCM31A7U2E272JX01#**	
			3300pF	±5%	**GCM31A7U2E332JX01#**	
			3900pF	±5%	**GCM31A7U2E392JX01#**	
			4700pF	±5%	**GCM31A7U2E472JX01#**	
			5600pF	±5%	**GCM31A7U2E562JX01#**	
1.25mm	1000Vdc	C0G	560pF	±5%	**GCM31B5C3A561JX01#**	
			680pF	±5%	**GCM31B5C3A681JX01#**	
		U2J	390pF	±5%	**GCM31B7U3A391JX01#**	
			470pF	±5%	**GCM31B7U3A471JX01#**	
			560pF	±5%	**GCM31B7U3A561JX01#**	
			680pF	±5%	**GCM31B7U3A681JX01#**	
	630Vdc	C0G	2200pF	±5%	**GCM31B5C2J222JX01#**	
			2700pF	±5%	**GCM31B5C2J272JX01#**	
		U2J	2700pF	±5%	**GCM31B7U2J272JX01#**	
			3300pF	±5%	**GCM31B7U2J332JX01#**	
	250Vdc	C0G	8200pF	±5%	**GCM31B5C2E822JX01#**	
			10000pF	±5%	**GCM31B5C2E103JX01#**	
			12000pF	±5%	**GCM31B5C2E123JX01#**	
		U2J	6800pF	±5%	**GCM31B7U2E682JX01#**	
			8200pF	±5%	**GCM31B7U2E822JX01#**	
			10000pF	±5%	**GCM31B7U2E103JX01#**	
1.8mm	1000Vdc	C0G	820pF	±5%	**GCM31C5C3A821JX03#**	
			1000pF	±5%	**GCM31C5C3A102JX03#**	
		U2J	820pF	±5%	**GCM31C7U3A821JX03#**	
			1000pF	±5%	**GCM31C7U3A102JX03#**	
	630Vdc	C0G	3300pF	±5%	**GCM31C5C2J332JX03#**	
		U2J	3900pF	±5%	**GCM31C7U2J392JX03#**	
			4700pF	±5%	**GCM31C7U2J472JX03#**	
	250Vdc	C0G	15000pF	±5%	**GCM31C5C2E153JX03#**	

3.2×2.5mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.0mm	630Vdc	U2J	1200pF	±5%	**GCM32A7U2J122JX01#**	
			1500pF	±5%	**GCM32A7U2J152JX01#**	
			1800pF	±5%	**GCM32A7U2J182JX01#**	
			2200pF	±5%	**GCM32A7U2J222JX01#**	
1.25mm	1000Vdc	U2J	1200pF	±5%	**GCM32B7U3A122JX01#**	
	630Vdc	U2J	5600pF	±5%	**GCM32B7U2J562JX01#**	
1.5mm	1000Vdc	U2J	1500pF	±5%	**GCM32Q7U3A152JX01#**	
	630Vdc	U2J	6800pF	±5%	**GCM32Q7U2J682JX01#**	
2.0mm	1000Vdc	U2J	1800pF	±5%	**GCM32D7U3A182JX01#**	
			2200pF	±5%	**GCM32D7U3A222JX01#**	
	630Vdc	U2J	8200pF	±5%	**GCM32D7U2J822JX01#**	
			10000pF	±5%	**GCM32D7U2J103JX01#**	

4.5×3.2mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.5mm	1000Vdc	U2J	2700pF	±5%	**GCM43Q7U3A272JX01#**	
			3300pF	±5%	**GCM43Q7U3A332JX01#**	
	630Vdc	U2J	12000pF	±5%	**GCM43Q7U2J123JX01#**	
2.0mm	1000Vdc	U2J	3900pF	±5%	**GCM43D7U3A392JX01#**	
			4700pF	±5%	**GCM43D7U3A472JX01#**	
	630Vdc	U2J	15000pF	±5%	**GCM43D7U2J153JX01#**	
			18000pF	±5%	**GCM43D7U2J183JX01#**	
			22000pF	±5%	**GCM43D7U2J223JX01#**	

5.7×5.0mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number	
1.5mm	1000Vdc	U2J	5600pF	±5%	**GCM55Q7U3A562JX01#**	
			6800pF	±5%	**GCM55Q7U3A682JX01#**	
	630Vdc	U2J	27000pF	±5%	**GCM55Q7U2J273JX01#**	
2.0mm	1000Vdc	U2J	8200pF	±5%	**GCM55D7U3A822JX01#**	
			10000pF	±5%	**GCM55D7U3A103JX01#**	
	630Vdc	U2J	33000pF	±5%	**GCM55D7U2J333JX01#**	
			39000pF	±5%	**GCM55D7U2J393JX01#**	
			47000pF	±5%	**GCM55D7U2J473JX01#**	

Part number # indicates the package specification code.

GCM Series High Dielectric Constant Type Power-train AEC-Q200 Part Number List

0.6×0.3mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
0.33mm	25Vdc	X7R	100pF	±10%	**GCM033R71E101KA03#**
			150pF	±10%	**GCM033R71E151KA03#**
			220pF	±10%	**GCM033R71E221KA03#**
			330pF	±10%	**GCM033R71E331KA03#**
			470pF	±10%	**GCM033R71E471KA03#**
			680pF	±10%	**GCM033R71E681KA03#**
			1000pF	±10%	**GCM033R71E102KA03#**
			1500pF	±10%	**GCM033R71E152KA03#**
			2200pF	±10%	**GCM033R71E222KE02#**
			3300pF	±10%	**GCM033R71E332KE02#**
	16Vdc	X7R	330pF	±10%	**GCM033R71C331KA03#**
			680pF	±10%	**GCM033R71C681KA03#**
			2200pF	±10%	**GCM033R71C222KA55#**
			3300pF	±10%	**GCM033R71C332KA55#**
	10Vdc	X7R	4700pF	±10%	**GCM033R71A472KA03#**
			6800pF	±10%	**GCM033R71A682KA03#**
			10000pF	±10%	**GCM033R71A103KA03#**

1.0×0.5mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
0.55mm	100Vdc	X7R	220pF	±10%	**GCM155R72A221KA37#**
			330pF	±10%	**GCM155R72A331KA37#**
			470pF	±10%	**GCM155R72A471KA37#**
			680pF	±10%	**GCM155R72A681KA37#**
			1000pF	±10%	**GCM155R72A102KA37#**
			1500pF	±10%	**GCM155R72A152KA37#**
			2200pF	±10%	**GCM155R72A222KA37#**
			3300pF	±10%	**GCM155R72A332KA37#**
			4700pF	±10%	**GCM155R72A472KA37#**
	50Vdc	X8L	33000pF	±10%	**GCM155L8EH333KE07#**
			47000pF	±10%	**GCM155L8EH473KE07#**
			68000pF	±10%	**GCM155L8EH683KE07#**
			0.10μF	±10%	**GCM155L8EH104KE07#**
		X7R	220pF	±10%	**GCM155R71H221KA37#**
			330pF	±10%	**GCM155R71H331KA37#**
			470pF	±10%	**GCM155R71H471KA37#**
			680pF	±10%	**GCM155R71H681KA37#**
			1000pF	±10%	**GCM155R71H102KA37#**
			1500pF	±10%	**GCM155R71H152KA37#**
			2200pF	±10%	**GCM155R71H222KA37#**
			3300pF	±10%	**GCM155R71H332KA37#**
			4700pF	±10%	**GCM155R71H472KA37#**
			6800pF	±10%	**GCM155R71H682KA55#**
			10000pF	±10%	**GCM155R71H103KA55#**
			15000pF	±10%	**GCM155R71H153KA55#**
			22000pF	±10%	**GCM155R71H223KA55#**
			33000pF	±10%	**GCM155R71H333KE02#**
			47000pF	±10%	**GCM155R71H473KE02#**
			68000pF	±10%	**GCM155R71H683KE02#**
			0.10μF	±10%	**GCM155R71H104KE02#**
0.55mm	25Vdc	X8L	0.10μF	±10%	**GCM155L81E104KE02#**
		X7R	10000pF	±10%	**GCM155R71E103KA37#**
			15000pF	±10%	**GCM155R71E153KA55#**
			22000pF	±10%	**GCM155R71E223KA55#**
			33000pF	±10%	**GCM155R71E333KA55#**
			47000pF	±10%	**GCM155R71E473KA55#**
	16Vdc	X7R	33000pF	±10%	**GCM155R71C333KA37#**
			47000pF	±10%	**GCM155R71C473KA37#**
			68000pF	±10%	**GCM155R71C683KA55#**
			0.10μF	±10%	**GCM155R71C104KA55#**
			0.15μF	±10%	**GCM155R71C154KE02#**
			0.22μF	±10%	**GCM155R71C224KE02#**
0.6mm	10Vdc	X7S	0.47μF	±10%	**GCM155C71A474KE36#**
0.7mm	10Vdc	X7S	0.68μF	±10%	**GCM155C71A684KE38#**
			1.0μF	±10%	**GCM155C71A105KE38#**

1.6×0.8mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
0.9mm	100Vdc	X7R	1000pF	±10%	**GCM188R72A102KA37#**
			1500pF	±10%	**GCM188R72A152KA37#**
			2200pF	±10%	**GCM188R72A222KA37#**
			3300pF	±10%	**GCM188R72A332KA37#**
			4700pF	±10%	**GCM188R72A472KA37#**
			6800pF	±10%	**GCM188R72A682KA37#**
			10000pF	±10%	**GCM188R72A103KA37#**
			15000pF	±10%	**GCM188R72A153KA37#**
			22000pF	±10%	**GCM188R72A223KA37#**
	50Vdc	X7R	0.22μF	±10%	**GCM188R71H224KA64#**
	25Vdc	X7R	0.22μF	±10%	**GCM188R71E224KA55#**
			0.47μF	±10%	**GCM188R71E474KA64#**
			1.0μF	±10%	**GCM188R71E105KA64#**
	16Vdc	X7R	0.33μF	±10%	**GCM188R71C334KA37#**
			0.47μF	±10%	**GCM188R71C474KA55#**
			1.0μF	±10%	**GCM188R71C105KA64#**
	6.3Vdc	X7R	2.2μF	±10%	**GCM188R70J225KE22#**

2.0×1.25mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
0.7mm	100Vdc	X7R	6800pF	±10%	**GCM216R72A682KA37#**
			10000pF	±10%	**GCM216R72A103KA37#**
			15000pF	±10%	**GCM216R72A153KA37#**
			22000pF	±10%	**GCM216R72A223KA37#**
0.95mm	100Vdc	X7R	33000pF	±10%	**GCM219R72A333KA37#**
	50Vdc	X7R	0.33μF	±10%	**GCM219R71H334KA55#**
	25Vdc	X7R	0.47μF	±10%	**GCM219R71E474KA55#**
	16Vdc	X7R	0.68μF	±10%	**GCM219R71C684KA37#**
			1.0μF	±10%	**GCM219R71C105KA37#**
1.4mm	100Vdc	X7R	47000pF	±10%	**GCM21BR72A473KA37#**
			68000pF	±10%	**GCM21BR72A683KA37#**
			0.10μF	±10%	**GCM21BR72A104KA37#**

Part number # indicates the package specification code.

GCM Series High Dielectric Constant Type Power-train AEC-Q200 Part Number List

(→ 2.0×1.25mm)

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
1.4mm	50Vdc	X7R	0.22μF	±10%	**GCM21BR71H224KA37#**
			0.47μF	±10%	**GCM21BR71H474KA55#**
			1.0μF	±10%	**GCM21BR71H105KA03#**
	35Vdc	X8L	2.2μF	±10%	**GCM21BL8EG225KE07#**
		X7R	0.68μF	±10%	**GCM21BR7YA684KA55#**
			1.0μF	±10%	**GCM21BR7YA105KA55#**
			1.5μF	±10%	**GCM21BR7YA155KA54#**
		X7S	2.2μF	±10%	**GCM21BC7YA225KE02#**
	25Vdc	X8L	1.5μF	±10%	**GCM21BL8EF155KA07#**
		X7R	0.15μF	±10%	**GCM21BR71E154KA37#**
			0.22μF	±10%	**GCM21BR71E224KA37#**
			0.33μF	±10%	**GCM21BR71E334KA37#**
			0.68μF	±10%	**GCM21BR71E684KA55#**
			1.0μF	±10%	**GCM21BR71E105KA56#**
			1.5μF	±10%	**GCM21BR71E155KA54#**
			2.2μF	±10%	**GCM21BR71E225KA73#**
	16Vdc	X7R	2.2μF	±10%	**GCM21BR71C225KA64#**
			4.7μF	±10%	**GCM21BR71C475KA73#**
	10Vdc	X7R	2.2μF	±10%	**GCM21BR71A225KA37#**
			10μF	±10%	**GCM21BR71A106KE22#**
		X7S	4.7μF	±10%	**GCM21BC71A475KA73#**
	6.3Vdc	X7R	10μF	±10%	**GCM21BR70J106KE22#**
1.45mm	100Vdc	X7S	1.0μF	±10%	**GCM21BC72A105KE36#**
	35Vdc	X8L	4.7μF	±10%	**GCM21BL8EG475KE08#**
		X7S	4.7μF	±10%	**GCM21BC7YA475KE36#**
	25Vdc	X8L	4.7μF	±10%	**GCM21BL8EF475KE08#**
		X7S	4.7μF	±10%	**GCM21BC71E475KE36#**
	16Vdc	X7S	10μF	±10%	**GCM21BC71C106KE36#**

3.2×1.6mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
1.25mm	100Vdc	X7R	0.22μF	±10%	**GCM31MR72A224KA37#**
	50Vdc	X7R	0.33μF	±10%	**GCM31MR71H334KA37#**
			0.47μF	±10%	**GCM31MR71H474KA37#**
			0.68μF	±10%	**GCM31MR71H684KA55#**
1.8mm	100Vdc	X8L	2.2μF	±10%	**GCM31CL8EL225KE07#**
		X7R	1.0μF	±10%	**GCM31CR72A105KA03#**
		X7S	2.2μF	±10%	**GCM31CC72A225KE02#**
	50Vdc	X7R	2.2μF	±10%	**GCM31CR71H225KA55#**
		X7S	4.7μF	±10%	**GCM31CC71H475KA03#**
	25Vdc	X7R	4.7μF	±10%	**GCM31CR71E475KA55#**
	16Vdc	X7R	4.7μF	±10%	**GCM31CR71C475KA37#**
			10μF	±10%	**GCM31CR71C106KA64#**
	10Vdc	X7R	10μF	±10%	**GCM31CR71A106KA64#**
			22μF	±10%	**GCM31CR71A226KE02#**
	6.3Vdc	X7R	22μF	±20%	**GCM31CR70J226ME23#**
1.9mm	25Vdc	X7S	10μF	±10%	**GCM31CC71E106KA03#**

3.2×2.5mm

T max.	Rated Voltage	TC Code	Cap.	Tol.	Part Number
2.2mm	100Vdc	X8L	4.7μF	±10%	**GCM32DL8EL475KE07#**
		X7S	4.7μF	±10%	**GCM32DC72A475KE02#**
	16Vdc	X7R	10μF	±10%	**GCM32DR71C106KA37#**
2.7mm	50Vdc	X8L	10μF	±10%	**GCM32EL8EH106KA07#**
		X7R	4.7μF	±10%	**GCM32ER71H475KA55#**
		X7S	10μF	±10%	**GCM32EC71H106KA03#**
	35Vdc	X7S	10μF	±10%	**GCM32EC7YA106KA03#**
	25Vdc	X7R	10μF	±10%	**GCM32ER71E106KA57#**
	16Vdc	X7R	22μF	±20%	**GCM32ER71C226ME19#**
	10Vdc	X7R	22μF	±20%	**GCM32ER71A226ME12#**
	6.3Vdc	X7R	47μF	±20%	**GCM32ER70J476ME19#**
2.85mm	25Vdc	X8L	22μF	±10%	**GCM32EL8EF226KE08#**
		X7S	22μF	±10%	**GCM32EC71E226KE36#**

Part number # indicates the package specification code.

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