

# Automotive Capacitors for Power Train/Safety Applications

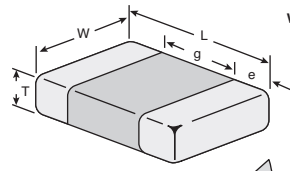


## GCM SERIES

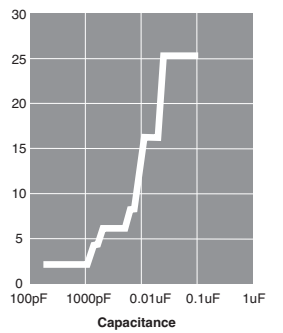
RoHS Compliant This product is RoHS compliant.

Modern vehicle design is driven by the need for increased comfort, safety and security. As a result, automobiles are becoming intelligent and increasingly reliant upon electronics. In the automotive sector, Murata's products are used in communication, safety, information, and power train systems, just to name a few. The acceptance of Murata's capacitor products in these applications is based upon the core competencies of Murata - ceramic material and processing technology. Murata's GCM series is designed for the more rigorous demands of safety, under-hood, and power train systems. The GCM series is designed specifically to meet the test conditions of the AEC-Q200.

- Features:**
- Meets AEC-Q200 requirements
  - GCM15 and 32 types are suited for only reflow soldering
  - GCM18, 21, and 31 types are suited for flow and reflow soldering
  - GCM Series is offered with a nickel (Ni) barrier termination finished with matte tin (Sn) plating
  - Available in paper or embossed tape and reel packaging for automatic placement
  - The GCM Series is RoHS compliant.



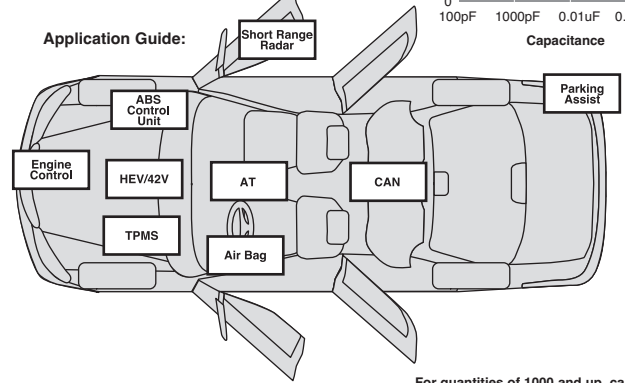
Withstanding ESD (kV)



Ceramic Caps, SMD

Part No.	Dimensions: mm				
	L	W	T	e (Min.)	g (Min.)
GCM155	1.0±0.05	0.5±0.05	0.5±0.05	0.15 to 0.3	0.4
GCM188	1.6±0.1	0.8±0.1	0.8±0.1	0.2 to 0.5	0.5
GCM219	2.0±0.15	1.25±0.15	0.85±0.1	0.2 to 0.7	0.7
GCM21A	2.0±0.2	1.25±0.2	1.0±0.3	0.3	0.7
GCM21B	2.0±0.2	1.25±0.2	1.25±0.15	0.2 to 0.7	0.7
GCM319	3.2±0.15	1.6±0.15	0.85±0.1	0.3 to 0.8	1.5
GCM31M	3.2±0.15	1.6±0.15	1.15±0.1	0.3 to 0.8	1.5
GCM31A	3.2±0.2	1.6±0.2	1.25±0.3	0.3	1.5
GCM31C	3.2±0.2	1.6±0.2	1.6±0.2	0.3 to 0.8	1.5
GCM31B	3.2±0.2	1.6±0.2	1.25±0.3	0.3	1.2
GCM32E	3.2±0.3	2.5±0.2	2.5±0.2	0.3	1.0
GCM32A	3.2±0.2	2.5±0.2	1.0±0.3	0.3	1.5

Application Guide:



Temperature Characteristics				
Code	Temperature Coefficient	Temperature Range	Capacitance Change	Operating Temperature Range
5C	C0G	25° to 125°C	0 ±30ppm/°C	-55°C to +125°C
R7	X7R	-55°C to +125°C	±15%	-55°C to +125°C

For quantities of 1000 and up, call for quote.

MOUSER STOCK NO.	Murata Part No.	Value (pF)	Volt (DC)	Temperature Coefficient	Case Size	Tolerance	Price Each				Reel Quantity	Price Per Piece
							1	50	100	500		
81-GCM1555C1H1R0CZ3D	GCM1555C1H1R0CZ13D	1.0	50	C0G	0402	±0.25pF	.08	.05	.033	.019	10000	.009
81-GCM1555C1H1R5C13D	GCM1555C1H1R5CZ13D	1.5	50	C0G	0402	±0.25pF	.09	.05	.033	.019	10000	.009
81-GCM1555C1H2R2C13D	GCM1555C1H2R2CZ13D	2.2	50	C0G	0402	±0.25pF	.09	.05	.033	.019	10000	.009
81-GCM1555C1H3R3C13D	GCM1555C1H3R3CZ13D	3.3	50	C0G	0402	±0.25pF	.09	.05	.033	.019	10000	.009
81-GCM1555C1H4R7C13D	GCM1555C1H4R7CZ13D	4.7	50	C0G	0402	±0.25pF	.09	.05	.033	.019	10000	.009
81-GCM1555C1H6R8D13D	GCM1555C1H6R8DZ13D	6.8	50	C0G	0402	±0.5pF	.09	.05	.033	.019	10000	.009
81-GCM1555C1H100JZ3D	GCM1555C1H100JZ13D	10	50	C0G	0402	5%	.08	.05	.033	.019	10000	.009
81-GCM1555C1H150J13D	GCM1555C1H150JZ13D	15	50	C0G	0402	5%	.09	.05	.033	.019	10000	.009
81-GCM1555C1H220J13D	GCM1555C1H220JZ13D	22	50	C0G	0402	5%	.09	.05	.033	.019	10000	.009
81-GCM1555C1H330J13D	GCM1555C1H330JZ13D	33	50	C0G	0402	5%	.09	.05	.033	.019	10000	.009
81-GCM1555C1H470J13D	GCM1555C1H470JZ13D	47	50	C0G	0402	5%	.09	.05	.033	.019	10000	.009
81-GCM1555C1H680J13D	GCM1555C1H680JZ13D	68	50	C0G	0402	5%	.09	.06	.036	.021	10000	.01
81-GCM1555C1H101JZ3D	GCM1555C1H101JZ13D	100	50	C0G	0402	5%	.07	.04	.035	.02	10000	.01
81-GCM1555C1H151JA16D	GCM1555C1H151JA16D	150	50	C0G	0402	5%	.09	.04	.023	.013	10000	.006
81-GCM1555C1H221JA16D	GCM1555C1H221JA16D	220	50	C0G	0402	5%	.09	.04	.027	.015	10000	.008
81-GCM1555C1H331JA16D	GCM1555C1H331JA16D	330	50	C0G	0402	5%	.09	.05	.031	.018	10000	.009
81-GCM1555C1H471JA16D	GCM1555C1H471JA16D	470	50	C0G	0402	5%	.07	.05	.03	.017	10000	.009
81-GCM155R71H221K37D	GCM155R71H221KA37D	220	50	X7R	0402	10%	.09	.03	.02	.011	10000	.006
81-GCM155R72A221K37D	GCM155R72A221KA37D	220	100	X7R	0402	10%	.09	.03	.022	.012	10000	.006
81-GCM155R71H471K37D	GCM155R71H471KA37D	470	50	X7R	0402	10%	.09	.03	.02	.011	10000	.006
81-GCM155R72A471K37D	GCM155R72A471KA37D	470	100	X7R	0402	10%	.09	.03	.022	.012	10000	.006
81-GCM155R71H102KA7D	GCM155R71H102KA37D	1,000	50	X7R	0402	10%	.07	.02	.016	.009	10000	.005
81-GCM155R72A102KA7D	GCM155R72A102KA37D	1,000	100	X7R	0402	10%	.05	.03	.022	.012	10000	.006
81-GCM155R71H222K37D	GCM155R71H222KA37D	2,200	50	X7R	0402	10%	.09	.03	.017	.01	10000	.005
81-GCM155R72A222K37D	GCM155R72A222KA37D	2,200	100	X7R	0402	10%	.09	.03	.019	.011	10000	.005
81-GCM155R71H472K37D	GCM155R71H472KA37D	4,700	50	X7R	0402	10%	.09	.02	.016	.009	10000	.005
81-GCM155R72A472K37D	GCM155R72A472KA37D	4,700	100	X7R	0402	10%	.09	.02	.019	.009	10000	.005
81-GCM155R71H103KA5D	GCM155R71H103KA55D	0.01uF	50	X7R	0402	10%	.05	.02	.016	.009	10000	.005
81-GCM155R71H223KA5D	GCM155R71H223KA55D	0.022uF	50	X7R	0402	10%	.09	.04	.021	.009	10000	.007
81-GCM155R71E473KA5D	GCM155R71E473KA55D	0.047uF	25	X7R	0402	10%	.07	.05	.03	.017	10000	.008
81-GCM155R71C104KA5D	GCM155R71C104KA55D	0.1uF	16	X7R	0402	10%	.08	.04	.024	.013	10000	.007
81-GCM1885C1H1R0CZ3D	GCM1885C1H1R0CZ13D	1.0	50	C0G	0603	±0.25pF	.09	.06	.033	.029	4000	.02
81-GCM1885C2A1R0CZ3D	GCM1885C2A1R0CZ13D	1.0	100	C0G	0603	±0.25pF	.18	.08	.074	.07	4000	.037
81-GCM1885C1H1R5C13D	GCM1885C1H1R5CZ13D	1.5	50	C0G	0603	±0.25pF	.12	.06	.033	.029	4000	.02
81-GCM1885C2A1R5C13D	GCM1885C2A1R5CZ13D	1.5	100	C0G	0603	±0.25pF	.23	.11	.096	.079	4000	.038
81-GCM1885C1H2R2C13D	GCM1885C1H2R2CZ13D	2.2	50	C0G	0603	±0.25pF	.12	.09	.072	.042	4000	.02
81-GCM1885C2A2R2C13D	GCM1885C2A2R2CZ13D	2.2	100	C0G	0603	±0.25pF	.23	.11	.096	.079	4000	.038
81-GCM1885C1H3R3C13D	GCM1885C1H3R3CZ13D	3.3	50	C0G	0603	±0.25pF	.12	.09	.072	.042	4000	.02
81-GCM1885C2A3R3C13D	GCM1885C2A3R3CZ13D	3.3	100	C0G	0603	±0.25pF	.23	.11	.096	.079	4000	.038
81-GCM1885C1H4R7C13D	GCM1885C1H4R7CZ13D	4.7	50	C0G	0603	±0.25pF	.12	.09	.072	.042	4000	.02
81-GCM1885C2A4R7C13D	GCM1885C2A4R7CZ13D	4.7	100	C0G	0603	±0.25pF	.23	.11	.096	.079	4000	.038
81-GCM1885C1H6R8D13D	GCM1885C1H6R8DZ13D	6.8	50	C0G	0603	±0.5pF	.12	.09	.072	.042	4000	.02
81-GCM1885C2A6R8D13D	GCM1885C2A6R8DZ13D	6.8	100	C0G	0603	±0.5pF	.23	.11	.096	.079	4000	.038
81-GCM1885C1H100JA6D	GCM1885C1H100JA16D	10	50	C0G	0603	5%	.09	.05	.031	.018	4000	.009
81-GCM1885C2A100JA6D	GCM1885C2A100JA16D	10	100	C0G	0603	5%	.09	.06	.039	.022	4000	.011
81-GCM1885C1H150J16D	GCM1885C1H150JA16D	15	50	C0G	0603	5%	.09	.05	.031	.018	4000	.009
81-GCM1885C2A150J16D	GCM1885C2A150JA16D	15	100	C0G	0603	5%	.09	.06	.038	.022	4000	.011
81-GCM1885C1H220J16D	GCM1885C1H220JA16D	22	50	C0G	0603	5%	.09	.05	.033	.019	4000	.009
81-GCM1885C2A220J16D	GCM1885C2A220JA16D	22	100	C0G	0603	5%	.09	.06	.038	.022	4000	.011
81-GCM1885C1H330J16D	GCM1885C1H330JA16D	33	50	C0G	0603	5%	.09	.05	.033	.019	4000	.009
81-GCM1885C2A330J16D	GCM1885C2A330JA16D	33	100	C0G	0603	5%	.09	.06	.036	.021	4000	.01
81-GCM1885C1H470J16D	GCM1885C1H470JA16D	47	50	C0G	0603	5%	.09	.05	.033	.019	4000	.009
81-GCM1885C2A470J16D	GCM1885C2A470JA16D	47	100	C0G	0603	5%	.09	.06	.038	.022	4000	.011
81-GCM1885C1H680J16D	GCM1885C1H680JA16D	68	50	C0G	0603	5%	.09	.05	.033	.019	4000	.009
81-GCM1885C2A680J16D	GCM1885C2A680JA16D	68	100	C0G	0603	5%	.09	.06	.038	.022	4000	.011

