

GMV Series, SMD type, 105°C Standard

- Low ESR & high ripple current capability
- Endurance: 3,000 hours at 105°C
- Rated Voltage : 16V ~ 125V
- Rated capacitance : 6.8 ~ 680 μ F

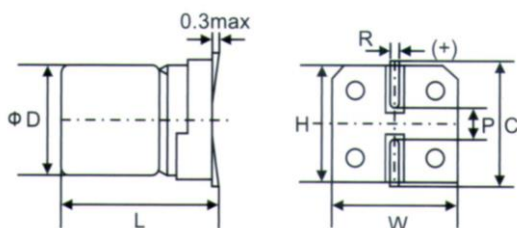


Specifications

Item	Performance Characteristics	
Operating Temperature range	-55 + 105°C	
Rated Voltage Range	16V ~ 125V	
Capacitance Tolerance	$\pm 20\%$ (at 120 Hz / 20°C)	
Surge Voltage	Rated Voltage x 1.15	
Leakage Current	Within the specified value as in standard rating	
Dissipation Factor (tan δ)	0.12, Less than or equal to the specified value at 20°C, 120 Hz	
Temperature Characteristics (Impedance ratio at 100 KHz)	Z (-25°C) / Z (+20°C)	≤ 1.15
	Z (-55°C) / Z (+20°C)	≤ 1.25
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated Voltage is applied for 3,000 hours at 105°C.	
	Capacitance change	$\leq \pm 20\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours.	
	Capacitance change	$\leq \pm 20\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Surge Voltage Test	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105°C for 30 seconds through a protective resistor (R=1K Ω) and discharge for 5 minutes 30 seconds.	
	Capacitance change	$\leq \pm 20\%$ of the initial value
	D. F. (Tan δ)	$\leq 150\%$ of initial specified value
	ESR	$\leq 150\%$ of initial specified value
	Leakage current	Initial specified value or less
Failure Rate	0.5% per 1,000 hours maximum (Confidence level 60% at 105°C)	

※ In case of any doubt arises, measure the leakage current after voltage applied for 120 minutes at 105°C.

Dimension



Unit: mm

D $\phi \pm 0.5$	L ± 1.0	W ± 0.2	H ± 0.2	C ± 0.2	R	P ± 0.2
6.3	6.0	6.6	6.6	7.3	0.5~0.8	2.1
6.3	9.5	6.6	6.6	7.3	0.5~0.8	2.1
8	7.0	8.3	8.3	9.0	0.8~1.1	3.2
8	10.5	8.3	8.3	9.0	0.8~1.1	3.2
8	12.5	8.3	8.3	9.0	0.8~1.1	3.2
10	8.0	10.3	10.3	11.0	0.8~1.1	4.6
10	10.5	10.3	10.3	11.0	0.8~1.1	4.6
10	12.7	10.3	10.3	11.0	0.8~1.1	4.6

■ Standard Products Table

Rated voltage (V.DC)	Rated Capacitance (μF)	Case Size D x L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ max./20°C 100KHz-300KHz)	Rated ripple current (mA rms/105°C,100KHz)	Part Number
16V	56	6.3 x 6	0.12	179	50	1,000	GMV056M016-0606TR
	82	6.3 x 6	0.12	262	47	1,300	GMV082M016-0606TR
	100	8 x 7	0.12	320	36	1,500	GMV100M016-0807TR
	150	8 x 7	0.12	480	34	1,700	GMV150M016-0807TR
	220	8 x 10	0.12	704	27	2,000	GMV220M016-0810TR
		10 x 8	0.12	704	31	2,000	GMV220M016-1008TR
	270	8 x 10	0.12	864	21	3,800	GMV270M016-0810TR
		8 x 12	0.12	864	26	2,300	GMV270M016-0812TR
		10 x 8	0.12	864	24	3,200	GMV270M016-1008TR
	330	10 x 10	0.12	1,056	26	2,400	GMV330M016-1010TR
	390	8 x 12	0.12	1,248	20	4,100	GMV390M016-0812TR
	470	10 x 10	0.12	1,504	21	3,900	GMV470M016-1010TR
		8 x 12	0.12	1,504	25	2,800	GMV470M016-0812TR
680	10 x 12.7	0.12	2,176	19	4,400	GMV680M016-1012TR	
20V	47	6.3 x 6	0.12	188	55	1,000	GMV047M020-0606TR
	56	6.3 x 6	0.12	224	46	1,300	GMV056M020-0606TR
	68	8 x 7	0.12	272	45	1,300	GMV068M020-0807TR
	100	8 x 7	0.12	400	42	1,400	GMV100M020-0807TR
	150	8 x 10	0.12	600	28	2,000	GMV150M020-0810TR
		10 x 8	0.12	600	33	1,900	GMV150M020-1008TR
	180	10 x 8	0.12	720	25	3,100	GMV180M020-1008TR
	220	8 x 12	0.12	880	27	2,300	GMV220M010-0812TR
	270	8 x 12	0.12	1,080	21	4,000	GMV270M020-0812TR
		10 x 10	0.12	1,080	27	2,300	GMV270M020-1010TR
	330	10 x 10	0.12	1,320	22	3,800	GMV330M020-1010TR
		10 x 12.7	0.12	1,320	26	2,700	GMV300M020-1012TR
	470	10 x 12.7	0.12	1,880	20	4,300	GMV470M020-1012TR
560	10 x 12.7	0.12	2,240	16	5,600	GMV560M020-1012TR	
25V	33	6.3 x 6	0.12	165	60	1,000	GMV033M025-0606TR
	47	6.3 x 6	0.12	235	49	1,300	GMV047M025-0606TR
	56	8 x 7	0.12	280	50	1,300	GMV056M025-0807TR
	82	8 x 7	0.12	410	47	1,400	GMV082M025-0807TR
	100	8 x 9	0.12	500	29	1,900	GMV100M025-0809TR
	120	8 x 9	0.12	600	29	1,900	GMV120M025-0809TR
	150	8 x 12	0.12	750	28	2,200	GMV150M025-0812TR
		10 x 8	0.12	750	26	3,000	GMV150M025-1008TR
	180	10 x 10	0.12	900	28	3,800	GMV180M025-1010TR
	220	8 x 12	0.12	1,100	22	3,800	GMV220M025-0812TR
	270	10 x 10	0.12	1,350	23	3,700	GMV270M025-1010TR
		10 x 12.7	0.12	1,350	27	2,700	GMV270M025-1012TR
	390	10 x 12.7	0.12	1,950	21	4,200	GMV390M025-1012TR
470	10 x 12.7	0.12	2,350	9	6,100	GMV470M025-1012TR	
560	10 x 12.7	0.12	2,800	9	6,100	GMV560M025-1012TR	
35V	18	6.3 x 6	0.12	126	64	900	GMV018M035-0606TR
	22	6.3 x 6	0.12	154	50	1,300	GMV022M035-0606TR
	27	8 x 7	0.12	189	55	1,200	GMV027M035-0807TR
	39	8 x 7	0.12	273	52	1,400	GMV039M035-0807TR
	56	6.3 x 6.5	0.12	392	49	1,600	GMV056M035-0606TR
		8 x 10	0.12	392	31	1,900	GMV056M035-0810TR
	68	10 x 8	0.12	476	37	1,800	GMV068M035-1008TR
	82	8 x 12	0.12	574	29	2,200	GMV082M035-0812TR
		10 x 8	0.12	574	27	3,000	GMV082M035-1008TR
	100	6.3 x 9	0.12	700	35	1,450	GMV100M035-0609TR
	120	8 x 12	0.12	840	23	3,800	GMV120M035-0812TR
		10 x 10	0.12	840	24	3,700	GMV120M035-1010TR
	150	8 x 9	0.12	1,050	23	2,400	GMV150M035-0809TR
10 x 12.7		0.12	1,050	28	2,600	GMV150M035-1012TR	
180	10 x 12.7	0.12	1,260	22	4,100	GMV180M035-1012TR	

■ Standard Products Table

Rated voltage (V.DC)	Rated Capacitance (μF)	Case Size D x L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ max./20°C 100KHz-300KHz)	Rated ripple current (mA rms/105°C,100KHz)	Part Number	
50V	8.2	6.3 x 6	0.12	82	81	800	GMV8R2M050-0606TR	
	12	6.3 x 6	0.12	120	55	1,200	GMV012M050-0606TR	
	15	8 x 7	0.12	150	63	1,100	GMV015M050-0807TR	
	22	8 x 7	0.12	220	60	1,300	GMV022M050-0807TR	
	33	33	8 x 10	0.12	330	36	1,700	GMV033M050-0810TR
			10 x 8	0.12	330	49	1,500	GMV033M050-1008TR
	39	8 x 12	0.12	390	34	2,000	GMV039M050-0812TR	
	47	47	8 x 10	0.12	470	29	3,300	GMV047M050-0810TR
			10 x 8	0.12	470	37	2,600	GMV047M050-1008TR
	56	8 x 12	0.12	560	28	3,400	GMV056M050-0812TR	
68	68	10 x 10	0.12	680	29	3,400	GMV068M050-1010TR	
		10 x 12.7	0.12	680	29	2,600	GMV068M050-1012TR	
100	10 x 12.7	0.12	1,000	27	3,600	GMV100M050-1012TR		
63V	5.6	6.3 x 6	0.12	71	105	700	GMV5R6M063-0606TR	
	8.2	6.3 x 6	0.12	103	56	1,200	GMV8R2M063-0606TR	
	10	8 x 7	0.12	126	75	1,000	GMV010M063-0807TR	
	12	8 x 7	0.12	151	70	1,100	GMV012M063-0807TR	
	22	22	8 x 10	0.12	277	37	1,700	GMV022M063-0810TR
			10 x 8	0.12	277	56	1,400	GMV022M063-1008TR
	27	27	8 x 10	0.12	340	30	3,200	GMV027M063-0810TR
			8 x 12	0.12	340	35	2,000	GMV027M063-0812TR
			10 x 8	0.12	340	38	2,500	GMV027M063-1008TR
	33	10 x 10	0.12	416	31	2,200	GMV033M063-1010TR	
	39	8 x 12	0.12	491	29	3,400	GMV039M063-0812TR	
	47	47	10 x 10	0.12	592	30	3,300	GMV047M063-1010TR
10 x 12.7			0.12	592	30	2,500	GMV047M063-1012TR	
56	10 x 12.7	0.12	706	28	3,400	GMV056M063-1012TR		
80V	10	8 x 10	0.12	160	43	1,600	GMV010M080-0810TR	
	12	8 x 12	0.12	192	41	1,800	GMV012M080-0812TR	
	15	10 x 10	0.12	240	39	1,900	GMV015M080-0812TR	
	22	10 x 12.7	0.12	352	35	2,200	GMV022M080-1012TR	
100V	6.8	8 x 10	0.12	136	48	1,500	GMV6R8M100-0810TR	
	10	8 x 12	0.12	200	45	1,700	GMV010M100-0812TR	
	12	10 x 10	0.12	240	42	1,900	GMV012M100-1010TR	
	18	10 x 12.7	0.12	360	41	2,100	GMV018M100-1012TR	
125V	6.8	8 x 10	0.12	170	93	1,100	GMV6R8M125-0810TR	
	8.2	8 x 12	0.12	206	84	1,300	GMV8R2M125-0812TR	
	12	10 x 10	0.12	300	69	1,400	GMV012M125-1010TR	
	15	10 x 12.7	0.12	375	48	2,000	GMV015M125-1012TR	

■ Frequency coefficient of allowable ripple current

Frequency	120 Hz ≤ f < 1 KHz	1 KHz ≤ f < 10 KHz	10 KHz ≤ f < 100 KHz	100 KHz ≤ f ≤ 300 KHz
Coefficient	0.05	0.30	0.70	1.00