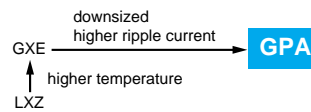


GPA Series

- Downsized, low impedance and High-Ripple Current version of GXE series
- For automobile modules and other high temperature applications
- Endurance with ripple current : 125°C 3,000 to 5,000 hours
- High heat-resistance at 150°C
- Solvent-proof type
- Pb-free design

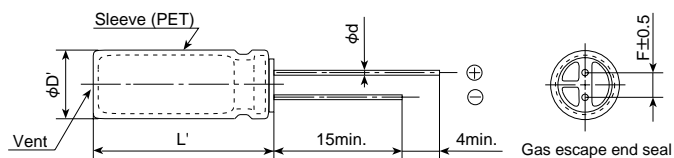


◆ SPECIFICATIONS

Items	Characteristics				
Category	-40 to +125°C				
Temperature Range	-40 to +125°C				
Rated Voltage Range	25 to 63V _{dc}				
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)				
Leakage Current	I=0.03CV or 4μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C, 1 minute)				
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	25	35	50	63
	tanδ (Max.)	0.14	0.12	0.10	0.10
	When nominal capacitance exceeds 1000μF, add 0.02 to the above value for each 1000μF increase. (at 20°C, 120Hz)				
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	25	35	50	63
	Z(-25°C)/Z(+20°C)	2	2	2	2
	Z(-40°C)/Z(+20°C)	4	4	4	4
(at 120Hz)					
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after any one of the following test condition.				
	① DC voltage with the rated ripple current is applied for 5,000 hours (3,000 hours for 25L and less) at 125°C				
	② The rated voltage is applied for 500 hours (250 hours for 25L and less) at 150°C + DC voltage with the rated ripple current is applied for 3,000 hours (2,000 hours for 25L and less) at 125°C.				
	Capacitance change	≤±30% of the initial value			
D.F. (tanδ)	≤±300% of the initial specified value				
Leakage current	≤The initial specified value				
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 125°C without voltage applied.				
	Capacitance change	≤±30% of the initial value			
	D.F. (tanδ)	≤±300% of the initial specified value			
	Leakage current	≤The initial specified value			

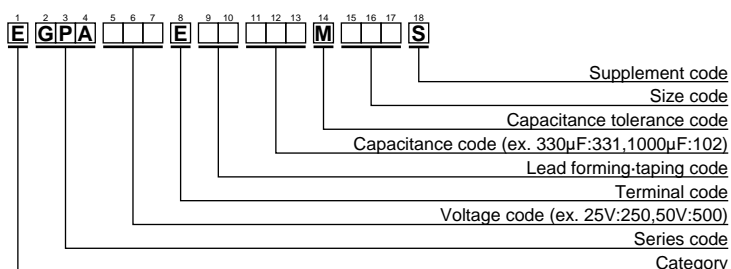
◆ DIMENSIONS [mm]

- Terminal Code : E



φD	12.5	14.5	16	18
φd	0.6	0.8	0.8	0.8
F	5.0	7.5	7.5	7.5
φD'	φD+0.5max.			
L'	L+1.5max.			

◆ PART NUMBERING SYSTEM



Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	ESR (Ωmax/100kHz)		Rated ripple current (mA _{rms} / 125°C, 100kHz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	ESR (Ωmax/100kHz)		Rated ripple current (mA _{rms} / 125°C, 100kHz)	Part No.
			20°C	-40°C						20°C	-40°C		
25	1200	12.5×20	0.044	0.22	1820	EGPA250E□□122MK20S	50	470	12.5×20	0.065	0.33	1500	EGPA500E□□471MK20S
	1500	14.5×20	0.037	0.19	2100	EGPA250E□□152MU20S		560	14.5×20	0.055	0.28	1740	EGPA500E□□561MU20S
	1800	12.5×25	0.033	0.17	2280	EGPA250E□□182MK25S		680	12.5×25	0.048	0.24	1900	EGPA500E□□681MK25S
	1800	16×20	0.034	0.17	2280	EGPA250E□□182ML20S		680	16×20	0.043	0.22	2040	EGPA500E□□681ML20S
	2200	12.5×30	0.029	0.13	2560	EGPA250E□□222MK30S		820	12.5×30	0.041	0.18	2150	EGPA500E□□821MK30S
	2200	14.5×25	0.028	0.14	2620	EGPA250E□□222MU25S		820	14.5×25	0.040	0.20	2190	EGPA500E□□821MU25S
	2700	12.5×35	0.024	0.11	2970	EGPA250E□□272MK35S		1000	12.5×35	0.034	0.15	2510	EGPA500E□□102MK35S
	2700	14.5×30	0.023	0.10	3060	EGPA250E□□272MU30S		1000	14.5×30	0.036	0.16	2470	EGPA500E□□102MU30S
	2700	16×25	0.026	0.13	2860	EGPA250E□□272ML25S		1000	16×25	0.031	0.16	2620	EGPA500E□□102ML25S
	2700	18×20	0.032	0.16	2490	EGPA250E□□272MM20S		1000	18×20	0.039	0.20	2240	EGPA500E□□102MM20S
	3300	12.5×40	0.021	0.095	3340	EGPA250E□□332MK40S		1200	12.5×40	0.028	0.13	2870	EGPA500E□□122MK40S
	3300	14.5×35	0.021	0.095	3380	EGPA250E□□332MU35S		1200	14.5×35	0.029	0.13	2840	EGPA500E□□122MU35S
	3300	16×30	0.023	0.100	3160	EGPA250E□□332ML30S		1200	16×30	0.027	0.13	2940	EGPA500E□□122ML30S
	3900	16×35	0.020	0.090	3590	EGPA250E□□392ML35S		1200	18×25	0.029	0.15	2750	EGPA500E□□122MM25S
	3900	18×25	0.024	0.120	3010	EGPA250E□□392MM25S		1500	16×35	0.023	0.10	3300	EGPA500E□□152ML35S
	4700	14.5×40	0.018	0.081	3730	EGPA250E□□472MU40S		1800	14.5×40	0.024	0.11	3230	EGPA500E□□182MU40S
	4700	18×30	0.022	0.099	3390	EGPA250E□□472MM30S		1800	18×30	0.026	0.12	3140	EGPA500E□□182MM30S
	5600	16×40	0.017	0.077	3970	EGPA250E□□562ML40S		2200	16×40	0.020	0.090	3720	EGPA500E□□222ML40S
5600	18×35	0.019	0.086	3840	EGPA250E□□562MM35S	2200	18×35	0.022	0.100	3510	EGPA500E□□222MM35S		
6800	18×40	0.016	0.072	4230	EGPA250E□□682MM40S	2700	18×40	0.018	0.080	3940	EGPA500E□□272MM40S		
35	680	12.5×20	0.044	0.22	1820	EGPA350E□□681MK20S	63	330	12.5×20	0.130	0.78	1090	EGPA630E□□331MK20S
	1000	12.5×25	0.033	0.17	2280	EGPA350E□□102MK25S		470	12.5×25	0.089	0.54	1390	EGPA630E□□471MK25S
	1000	14.5×20	0.037	0.19	2100	EGPA350E□□102MU20S		470	14.5×20	0.104	0.63	1270	EGPA630E□□471MU20S
	1200	12.5×30	0.029	0.13	2560	EGPA350E□□122MK30S		560	12.5×30	0.076	0.42	1600	EGPA630E□□561MK30S
	1200	16×20	0.034	0.17	2280	EGPA350E□□122ML20S		560	14.5×25	0.076	0.46	1600	EGPA630E□□561MU25S
	1200	14.5×25	0.028	0.14	2620	EGPA350E□□122MU25S		560	16×20	0.070	0.42	1600	EGPA630E□□561ML20S
	1500	12.5×35	0.024	0.11	2970	EGPA350E□□152MK35S		680	12.5×35	0.063	0.35	1860	EGPA630E□□681MK35S
	1500	14.5×30	0.023	0.10	3060	EGPA350E□□152MU30S		680	14.5×30	0.064	0.36	1840	EGPA630E□□681MU30S
	1500	18×20	0.032	0.16	2490	EGPA350E□□152MM20S		680	16×25	0.051	0.31	2030	EGPA630E□□681ML25S
	1800	12.5×40	0.021	0.095	3340	EGPA350E□□182MK40S		680	18×20	0.067	0.41	1720	EGPA630E□□681MM20S
	1800	16×25	0.026	0.130	2860	EGPA350E□□182ML25S		820	12.5×40	0.050	0.28	2160	EGPA630E□□821MK40S
	2200	14.5×35	0.021	0.095	3380	EGPA350E□□222MU35S		820	14.5×35	0.054	0.30	2100	EGPA630E□□821MU35S
	2200	16×30	0.023	0.100	3160	EGPA350E□□222ML30S		820	16×30	0.045	0.25	2290	EGPA630E□□821ML30S
	2200	18×25	0.024	0.120	3010	EGPA350E□□222MM25S		1000	16×35	0.037	0.21	2630	EGPA630E□□102ML35S
	2700	14.5×40	0.018	0.081	3730	EGPA350E□□272MU40S		1000	18×25	0.050	0.30	2110	EGPA630E□□102MM25S
	2700	16×35	0.020	0.090	3590	EGPA350E□□272ML35S		1200	14.5×40	0.042	0.24	2470	EGPA630E□□122MU40S
	2700	18×30	0.022	0.099	3390	EGPA350E□□272MM30S		1200	18×30	0.044	0.25	2420	EGPA630E□□122MM30S
	3300	16×40	0.017	0.077	3970	EGPA350E□□332ML40S		1500	16×40	0.030	0.17	3000	EGPA630E□□152ML40S
3300	18×35	0.019	0.086	3840	EGPA350E□□332MM35S	1500	18×35	0.036	0.20	2770	EGPA630E□□152MM35S		
4700	18×40	0.016	0.072	4230	EGPA350E□□472MM40S	1800	18×40	0.029	0.16	3150	EGPA630E□□182MM40S		

□□ : Lead forming / Taping code

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
330 to 560	0.50	0.85	0.94	1.00
680 to 1800	0.60	0.87	0.95	1.00
2200 to 3900	0.75	0.90	0.95	1.00
4700 to 6800	0.85	0.95	0.98	1.00

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