

GR Series

+105°C, High Ripple Current (高纹波), Low Impedance (低阻抗品)

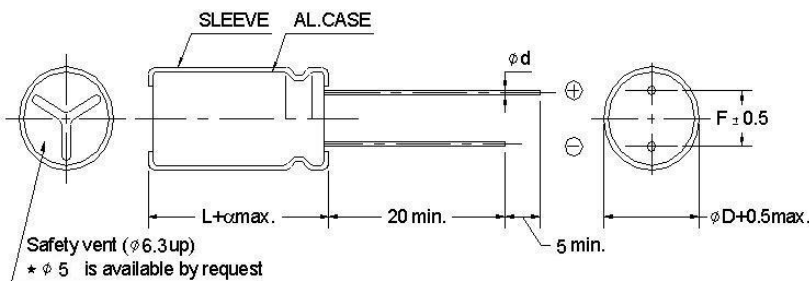
FEATURES

1. Low Impedance for high frequency.
2. Life time: 2000~4000 hours at 105°C.

SPECIFICATIONS

Item	Performance Characteristics									
Operation Temperature Range	-40 to +105°C									
Rated Working Voltage Range	6.3 to 100V									
Nominal Capacitance Range	2.2 to 4700 μ F									
Capacitance Tolerance	$\pm 20\%$ (120Hz, +20°C)									
Leakage Current	$I \leq 0.01CV$ or 3(μ A) Whichever is greater measured after 2 minutes application of rated working voltage at +20 °C									
$\tan \delta$ (120Hz, +20°C)	Working Voltage (V)	6.3	10	16	25	35	50	63	100	
	$\tan \delta$ (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
For capacitance value > 1000 μ F, add 0.02 per another 1000 μ F										
Low Temperature Characteristics	Impedance ratio max. at 120 HZ									
	Working Voltage (V)	6.3	10	16	25	35	50	63	100	
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	
	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3	
High Temperature Loading	Test conditions				Post test requirements at +20°C					
	Duration	ΦD	5-6.3	8-10	12.5	Leakage current : \leq Initial specified value				
	Load life		2000h	3000H	4000H	Cap.change : within $\pm 25\%$ of initial measured value				
Ambient temp. : +105°C				Tan δ : $\leq 150\%$ of initial specified value						
Applied voltage : Rated DC working voltage with rated ripple current										
Shelf Life	Test conditions				Post test requirements at +20°C					
	Duration	: 1000 hours			Same limits for high temperature loading.					
	Ambient temp	: +105°C								
	Applied voltage	:(None)								
Other	JIS C-5101 (IEC 60384)									

CASE SIZE TABLE



ΦD	5	6.3	8 (L < 20)	8 (L \geq 20)	10	12.5
F	2.0	2.5	3.5		5.0	5.0
Φd	0.5		0.6		0.6	
α	(L < 20) 1.5			(L \geq 20) 2.0		
β	(D < 20) 0.5			(D \geq 20) 1.0		

RIPPLE CURRENT MULTIPLIER

Frequency coefficient

Cap (μ F)	Coefficient	Freq (Hz)	120	1k	10k	100k
~180			0.40	0.75	0.90	1.00
220~560			0.50	0.85	0.94	1.00
680~1800			0.60	0.87	0.95	1.00
2200~3900			0.75	0.90	0.95	1.00
4700			0.85	0.95	0.98	1.00

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STANDARD RATINGS										
Voltage(Code)		6.3V(OJ)			10V(1A)			16V(1C)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
100	107							6.3*11	0.220	340
120	127							6.3*11	0.220	340
150	157				6.3*11	0.220	340	6.3*11	0.220	340
								8*12	0.130	640
180	187	6.3*11	0.220	340	6.3*11	0.220	340	6.3*11	0.220	340
220	227	6.3*11	0.220	340	6.3*11	0.220	340	6.3*11	0.220	340
270	277	6.3*11	0.220	340	6.3*11	0.220	340	8*12	0.220	640
330	337	6.3*11	0.220	340	6.3*11	0.220	640	8*12	0.130	640
		8*12	0.130	640						
390	397	8*12	0.130	640	8*12	0.130	640	8*12	0.130	640
470	477	8*12	0.130	640	8*12	0.130	640	8*12	0.130	640
560	567	8*12	0.130	640	8*12	0.130	640	10*12.5	0.080	865
680	687	8*12	0.130	640	8*12	0.130	640	8*16	0.087	640
820	827	8*12	0.130	640	10*12.5	0.080	865	10*16	0.060	1210
		10*12.5	0.080	865						
1000	108	8*12	0.130	640	8*16	0.087	640	10*16	0.060	1210
		10*12.5	0.130	865						
1200	128	8*16	0.130	840	10*20	0.046	1400	10*20	0.046	1400
		10*12.5	0.080	865						
1500	158	8*20	0.069	1050	10*20	0.046	1400	10*20	0.046	1400
		10*16	0.060	1210						
1800	188	10*20	0.046	1400	10*20	0.046	1400	10*25	0.042	1650
2200	228	10*20	0.046	1400	10*20	0.046	1400	12.5*20	0.035	1900
2700	278	10*25	0.042	1650	10*25	0.042	1650	12.5*25	0.030	2124
		12.5*20	0.035	1900	12.5*20	0.035	1900			
3300	338	10*25	0.042	1650	12.5*25	0.030	2124			
		12.5*20	0.035	1900						
3900	398	12.5*20	0.035	1900						
4700	478	12.5*25	0.030	2124						

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Case Size ΦD xL (mm)

Maximum Impedance (Ω) at 20°C 100kHz

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STANDARD RATINGS										
Voltage(Code)		25V(1E)			35V(1V)			50V(1H)		
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
33	336							6.3*11	0.300	295
39	396							6.3*11	0.300	295
47	476				6.3*11	0.220	340	6.3*11	0.300	295
56	566				6.3*11	0.220	340	8*12	0.170	555
68	686				6.3*11	0.220	340	8*12	0.170	555
82	826	6.3*11	0.220	340	8*12	0.130	640	8*12	0.170	555
100	107	6.3*11	0.220	340	8*12	0.130	640	10*12.5	0.120	760
120	127	8*12	0.130	640	8*12	0.130	640	8*16	0.120	730
								10*12.5	0.120	760
150	157	8*12	0.130	640	8*12	0.130	640	10*16	0.084	1050
180	187	8*12	0.130	640	10*12.5	0.080	865	8*20	0.091	910
								10*16	0.084	1050
220	227	8*12	0.130	640	8*12	0.130	640	10*16	0.084	1050
					8*16	0.087	840			
					10*12.5	0.080	865			
270	277	8*12	0.130	640	10*16	0.060	1210	10*25	0.055	1440
		10.12.5	0.080	865						
330	337	8*12	0.130	640	8*20	0.069	1050	12.5*20	0.045	1660
					10*12.5	0.080	865			
					10*16	0.060	1210			
					10.12.5	0.080	865			
390	397	10.12.5	0.080	865	10*16	0.060	1210	12.5*20	0.045	1660
470	477	8*16	0.087	840	10*16	0.060	1210	12.5*25	0.034	1950
		10*12.5	0.080	865						
560	567	10*16	0.060	1210	10*20	0.046	1400	12.5*25	0.034	1950
680	687	10*16	0.060	1210	10*20	0.046	1400			
820	827	10*20	0.046	1400	10*25	0.042	1650			
					12.5*20	0.035	1900			
1000	108	10*20	0.046	1400	12.5*20	0.035	1900			
					12.5*25	0.030	2124			
1200	128	10*20	0.046	1400						
1500	158	10*25	0.042	1650						
		12.5*20	0.035	1900						
1800	188	12.5*25	0.030	2124						
2200	228	12.5*25	0.030	2124						

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Case Size ΦD xL (mm)

Maximum Impedance (Ω) at 20°C 100kHz

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STANDARD RATINGS										
Voltage(Code)		63V(1J)			100V(2A)					
Cap.(μF)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current			
15	156				6.3*11	0.960	115			
22	226	6.3*11	0.960	115						
27	276	6.3*11	0.960	115	8*12	0.504	232			
33	336	6.3*11	0.960	115						
39	396	8*12	0.504	232	8*16	0.360	300			
47	476	8*12	0.504	232	10*12.5	0.344	314			
56	566	8*12	0.504	232	8*20	0.264	362			
68	686	8*12	0.504	232	10*16	0.248	357			
82	826	10*12.5	0.344	314	10*20	0.168	466			
100	107	8*16	0.360	300	10*20	0.168	466			
		10*12.5	0.344	314						
120	127	10*16	0.248	357	12.5*20	0.128	690			
150	157	8*20	0.264	362						
180	187	10*20	0.168	466	12.5*25	0.096	922			
220	227	10*20	0.168	466	12.5*25	0.096	922			
270	277	12.5*20	0.128	690						
330	337	12.5*20	0.128	690						
390	397	12.5*25	0.096	922						

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Case Size ΦD xL (mm)

Maximum Impedance (Ω) at 20°C 100kHz