

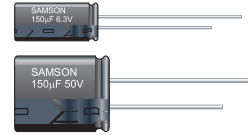
# SAMSON

## SGK Series

+105°C, High Ripple Current(高紋波), Lowest Impedance(更低阻抗品)

### FEATURES

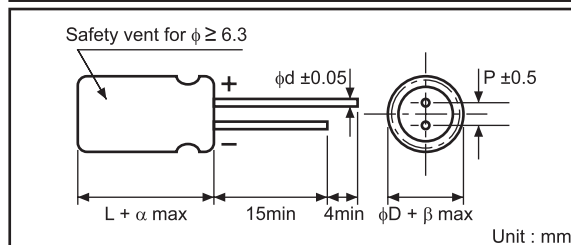
1. Load life of 2000~5000 hours at 105°C.
2. Enabled high ripple current by a reduction of impedance at high frequency range.
3. Lowest impedance for personal computer and storage equipment.



### SPECIFICATIONS

Item	Performance Characteristics									
Operating Temperature Range	-40 to +105°C									
Rated Working Voltage Range	6.3 to 50V									
Nominal Capacitance Range	22 to 6800µF									
Capacitance Tolerance	±20% (120Hz, +20°C)									
Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ whichever is greater measured after 1 minute application of rated working voltage at +20°C									
Dissipation Factor $\tan \delta$ (120Hz, +20°C)	Working Voltage (V)	6.3	10	16	25	35	50			
	$\tan \delta$ (max.)	0.22	0.19	0.16	0.14	0.12	0.10			
	When nominal capacitance is over 1000µF, $\tan \delta$ shall be added 0.02 to the listed value increase with of every 1000µF									
Low Temperature Characteristics	Impedance ratio max. at 120Hz									
	Working Voltage (V)	6.3	10	16	25	35	50			
	Z-25°C / Z+20°C	2	2	2	2	2	2			
	Z-40°C / Z+20°C	3	3	3	3	3	3			
High Temperature Loading	Test conditions									
	Duration :	$\phi D$	5 ~ 6.3	8 ~ 10	12.5 ~					
	Load life	2000h	3000h	4000h						
Ambient temp. : +105°C										
Applied voltage : Rated DC working voltage with max. ripple current										
Post test requirements at +20°C										
Leakage current : $\leq$ Initial specified value										
Cap. change : within $\pm 25\%$ of initial measured value										
$\tan \delta$ : $\leq 200\%$ of initial specified value										
Shelf Life	Test conditions									
	Duration : 1000 hours									
	Ambient temp. : +105°C									
	Applied voltage : (None)									
Post test requirements at +20°C										
Leakage current : $\leq$ Initial specified value										
Cap. change : within $\pm 25\%$ of initial measured value										
$\tan \delta$ : $\leq 200\%$ of initial specified value										
Others	JIS C - 5141 EIJ RC - 2372									

### CASE SIZE TABLE



$\phi D$	5	6.3	8	10	12.5	16	18		
P	2.0	2.5	3.5	5.0	5.0	7.5			
$\phi d$	0.5			0.6		0.8			
$\alpha$	(L $\leq$ 20) 1.5					(L > 20) 2.0			
$\beta$	(D < 20) 0.5					(D $\geq$ 20) 1.0			

### RIPPLE CURRENT MULTIPLIER

Temperature Coefficient						Frequency Coefficient						
Temperature(°C)	~ 55	60	70	85	105	Cap(µF)	Freq.(Hz)	120	1K	10K	100K	
Factor	2.23	2.17	2.00	1.75	1.00	20 ~ 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			10V			16V		
Cap.( $\mu$ F)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
56	566							5 x 11	0.300	250
100	107				5 x 11	0.300	250			
120	127							6.3 x 11	0.130	405
150	157	5 x 11	0.300	250						
180	187									
220	227	6.3 x 11	0.130	405	6.3 x 11	0.130	405	8 x 12	0.072	760
330	337	6.3 x 11	0.130	405	8 x 12	0.072	622	8 x 12	0.072	760
470	477	8 x 12	0.072	622	8 x 12	0.072	760	8 x 16	0.056	995
								10 x 12.5	0.053	1030
560	567	8 x 12	0.072	760						
680	687				8 x 16	0.056	995	8 x 20	0.041	1250
					10 x 12.5	0.053	1030	10 x 16	0.038	1430
820	827	8 x 16	0.056	995						
1000	108	10 x 12.5	0.053	1030	8 x 20	0.041	1250	10 x 20	0.023	1820
					10 x 16	0.038	1430			
1200	128	8 x 20	0.041	1250	10 x 20	0.023	1820	10 x 25	0.022	2150
		10 x 16	0.038	1430						
1500	158	10 x 20	0.023	1820	10 x 25	0.022	2150	12.5 x 20	0.021	2360
2200	228	10 x 25	0.022	2150	12.5 x 20	0.021	2360	12.5 x 25	0.018	2770
2700	278							12.5 x 30	0.016	3290
								16 x 20	0.018	3140
3300	338	12.5 x 20	0.021	2360	12.5 x 25	0.018	2770	12.5 x 35	0.015	3400
3900	398	12.5 x 25	0.018	2770	12.5 x 30	0.016	3290	16 x 25	0.016	3460
					16 x 20	0.018	3140			
4700	478	12.5 x 30	0.016	3290	12.5 x 35	0.015	3400			
5600	568	12.5 x 35	0.015	3400	16 x 25	0.016	3460			
		16 x 20	0.018	3140						
6800	688	16 x 25	0.016	3460						

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

Case Size  $\phi$ D x L(mm)

Maximum Impedance ( $\Omega$ ) at 20°C 100KHz

STANDARD RATINGS										
Voltage (Code)		25V			35V			50V		
Cap.( $\mu$ F)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
22	226							5 x 11	0.340	238
33	336				5 x 11	0.300	250	6.3 x 11	0.140	385
47	476	5 x 11	0.300	250	6.3 x 11	0.130	405	6.3 x 11	0.140	385
56	566				6.3 x 11	0.130	405	6.3 x 11	0.140	385
100	107	6.3 x 11	0.130	405	8 x 12	0.072	760	8 x 12	0.074	724
120	127							8 x 16	0.061	950
150	157				8 x 12	0.072	760	10 x 12.5	0.061	979
180	187							8 x 20	0.046	1190
220	227	8 x 12	0.072	760	8 x 16	0.056	995	10 x 16	0.042	1370
					10 x 12.5	0.053	1030			
270	227				8 x 20	0.041	1250	10 x 20	0.030	1580
330	337	8 x 16	0.056	995	10 x 16	0.038	1430	10 x 25	0.028	1870
		10 x 12.5	0.053	1030						
470	477	8 x 20	0.041	1250	10 x 20	0.023	1820	12.5 x 20	0.027	2050
		10 x 16	0.038	1430						
560	567				10 x 25	0.022	2150	12.5 x 25	0.023	2410
680	687	10 x 20	0.023	1820	12.5 x 20	0.021	2360	12.5 x 30	0.021	2860
820	827	10 x 25	0.022	2150				12.5 x 35	0.019	2960
								16 x 20	0.023	2730
1000	108	12.5 x 20	0.021	2360	12.5 x 25	0.018	2770	16 x 25	0.021	3010
1200	128				12.5 x 30	0.016	3290			
					16 x 20	0.018	3140			
1500	158	12.5 x 25	0.018	2770	12.5 x 35	0.015	3400			
1800	188	12.5 x 30	0.016	3290	16 x 25	0.016	3460			
		16 x 20	0.018	3140						
2200	228	12.5 x 35	0.015	3400						
		16 x 30	0.015	3633						
2700	278	16 x 25	0.016	3460						

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

Case Size  $\phi$ D x L(mm)

Maximum Impedance ( $\Omega$ ) at 20°C 100KHz