

SG SERIES ▪ 7/9 MM HEIGHT, AUTOMOTIVE 105°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ▪ THT type
- Endurance: 105°C ▪ 4 000 hours
- Miniaturized for space critical applications
- Low height ▪ 7mm and 9mm
- AEC-Q200 version available



SPECIFICATIONS

Items		Performance Characteristics						
Operating Temperature Range		-40 ~ +105°C						
Rated Voltage Range	V_R	6.3 ~ 50V DC						
Surge Voltage	V_S	$V_S = 1.15 \cdot V_R$						
Capacitance Range	C_R	1 ~ 470μF						
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)						
Leakage Current (20°C ▪ V_R applied)	I_{LEAK}	≤ 0.01 · $C_R \cdot V_R$ or 3μA, whichever is greater After 2 minutes						
Dissipation Factor % (20°C ▪ 120Hz)	$\tan \delta$	V_R (V DC)	6.3	10	16	25	35	50
		$\tan \delta$ (%)	24	20	17	15	13	12
Low Temperature Characteristics at 120Hz	Z ratio max.	V_R (V DC)	6.3	10	16	25	35	50
		Z-25°C/Z+20°C	4	3	2	2	2	2
		Z-40°C/Z+20°C	8	6	4	3	3	3

Lifetime Test								
Endurance 105°C (V_R applied)	Test	4 000 hours						
	$\Delta C/C_R$	≤ ±30% of initial measured value						
	$\tan \delta$	≤ 300% of initial specified value						
	I_{Leak}	≤ the initial specified value						
Shelf Life 105°C ($V_R = 0$)	Test	1 000 hours						
	$\Delta C/C_R$	≤ ±30% of initial measured value						
	$\tan \delta$	≤ 300% of initial specified value						
	I_{Leak}	≤ the initial specified value						
		Before measurement: Restore capacitor to 20°C, apply V_R for 30 min according JIS-C-5101-4						

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

C_R (μF) / Frequency (Hz)	50/60	100/120	1k	50k ~ 100k
$1 < C_R \leq 470$	0.65	1	1.35	1.5

STANDARD RATINGS

Part number shows bulk version with straight leads

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
6.3	22	4	7	35	SG220M6R3B070A
	33	5	7	43	SG330M6R3C070A
	47	5	7	50	SG470M6R3C070A
	100	6.3	7	76	SG101M6R3E070A
	220	8	7	131	SG221M6R3F070A
	330	8	9	145	SG331M6R3F090A
	470	8	9	145	SG471M6R3F090A
10	22	5	7	42	SG220M010C070A
	33	5	7	50	SG330M010C070A
	47	6.3	7	60	SG470M010E070A
	100	8	7	96	SG101M010F070A
	220	8	9	145	SG221M010F090A
	330	8	9	145	SG331M010F090A
	470	8	9	145	SG471M010F090A
	470	10	9	165	SG471M010G090A
16	10	4	7	29	SG100M016B070A
	10	5	7	29	SG100M016C070A
	22	5	7	46	SG220M016C070A
	33	6.3	7	58	SG330M016E070A
	47	6.3	7	70	SG470M016E070A
	100	6.3	7	95	SG101M016E070A
	100	8	7	110	SG101M016F070A
	220	8	9	145	SG221M016F090A
	330	8	9	145	SG331M016F090A
	330	10	9	165	SG331M016G090A
	470	10	9	165	SG471M016G090A
25	10	5	7	36	SG100M025C070A
	22	6.3	7	52	SG220M025E070A
	33	6.3	7	65	SG330M025E070A
	47	6.3	7	70	SG470M025E070A
	47	8	7	80	SG470M025F070A
	100	8	7	100	SG101M025F070A
	100	8	9	145	SG101M025F090A
	150	8	9	145	SG151M025F090A
	220	10	9	165	SG221M025G090A
35	10	4	7	26	SG100M035B070A
	22	6.3	7	60	SG220M035E070A
	33	8	7	75	SG330M035F070A
	47	8	9	89	SG470M035F090A
	100	10	9	165	SG101M035G090A

: Enter **blank** for Standard version

: Enter **X** for AEC-Q200 version

See "PACKAGING INFORMATION" to taped or formed products.

STANDARD RATINGS

Part number shows bulk version with straight leads

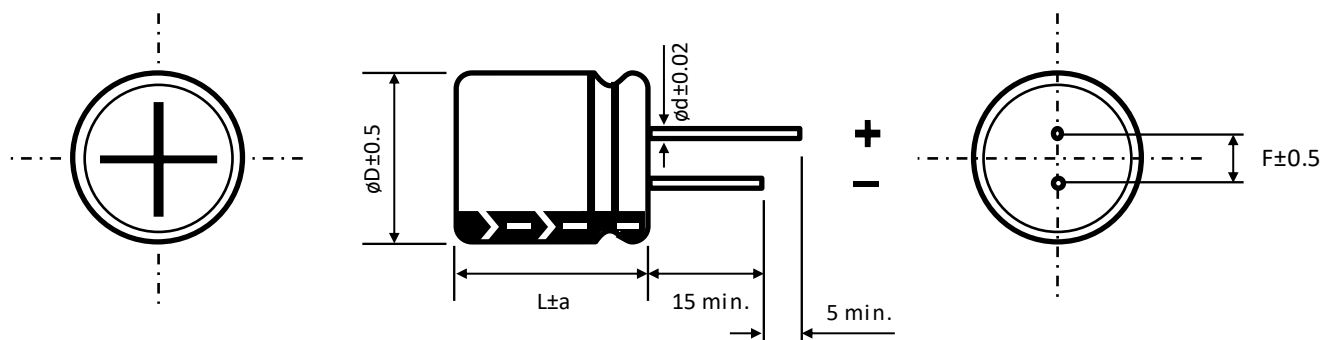
V_R (V)	C_R (μF)	ϕD (mm)	L (mm)	I_R - Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
50	1	4	7	12	SG010M050B070A □
	2.2	4	7	21	SG2R2M050B070A □
	3.3	4	7	26	SG3R3M050B070A □
	4.7	5	7	31	SG4R7M050C070A □
	10	6.3	7	46	SG100M050E070A □
	22	8	7	67	SG220M050F070A □
	33	8	9	89	SG330M050F090A □
	47	8	9	89	SG470M050F090A □
	100	10	9	165	SG101M050G090A □

□: Enter **blank** for Standard version

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See "PACKAGING INFORMATION" to taped or formed products.

DIMENSIONS - All dimensions in mm



ϕD	4	5	6.3	8	10
F	1.5	2	2.5	3.5	5
ϕd	0.45	0.45	0.5	0.5	0.6
a	1	1	1	L = 7	L = 9
				1	1.5

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

Unless otherwise agreed in individual specifications, all products are subject to our “General Precautions and Guidelines” as well as our “Packaging Information”. Please refer to the following links in the table.

			
General Precautions & Guidelines	Packaging Information	3D Models	Reliability Tests

DISCLAIMER

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

CapXon products are designed and manufactured according to severe quality and safety standards. Under no circumstance, CapXon warrants that any CapXon product is suitable for the purposes intended for your application, even CapXon knows the application. It is customer's duty and obligation to check and make sure that CapXon products are suitable for the purposes intended and select the correct and proper CapXon product. Customers are requested to perform a sufficient validation and reliability evaluation to assure needed safety level and reliability performance by suitable designs and to apply proper safeguards (e.g. redundancies, protective circuits).

Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

For aerospace or military application, life-saving, life-sustaining, safety critical applications or any application where failure may cause severe personal injury or death, please consult us before design-in the capacitor in your application.

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