

SY SERIES ▪ 7MM HEIGHT, LOW IMPEDANCE 105°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ▪ THT type
- Endurance: 105°C ▪ 2 000 hours
- Miniaturized for space critical applications
- Low height ▪ 7mm
- Low impedance and high ripple current



SPECIFICATIONS

Items		Performance Characteristics						
Operating Temperature Range		-55 ~ +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 ~ 330μF						
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)						
Leakage Current (20°C ▪ V_R applied)	I_{LEAK}	$\leq 0.01 \cdot C_R \cdot V_R$ or 3μA, whichever is greater ▪ After 2 minutes [I_{LEAK} (μA) ; C_R (μF) ; V_R (V)]						
Dissipation Factor % (20°C ▪ 120Hz)	$\tan \delta$	V_R (V DC)	6.3	10	16	25	35	50
		$\tan \delta$ (%)	18	16	14	12	12	10
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	2	2	2	2	2	2
		Z-55°C/Z+20°C	3	3	3	3	3	3

Lifetime Test								
Endurance 105°C (V_R applied)	Test	2 000 hours						
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value						
	$\tan \delta$	$\leq 200\%$ of initial specified value						
	I_{Leak}	$\leq$ the initial specified value						
Shelf Life 105°C ($V_R = 0$)	Test	1 000 hours						
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value						
	$\tan \delta$	$\leq 200\%$ of initial specified value						
	I_{Leak}	$\leq$ 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	400	1k	10k	50k - 100k
$1 \leq C_R \leq 10$	0.47	0.59	0.76	0.85	0.97	1
$10 < C_R \leq 100$	0.52	0.65	0.8	0.89	0.97	1
$100 < C_R \leq 330$	0.58	0.72	0.84	0.9	0.98	1

STANDARD RATINGS

Part number shows bulk version with straight leads

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Z • Max. Impedance +20°C • 100kHz (mΩ)	I _R • Max. Ripple Current +105°C • 100kHz (mA rms)	CapXon Part Number
6.3	33	5	7	1950	90	SY330M6R3C070A
	47	6.3	7	1870	99	SY470M6R3E070A
	68	6.3	7	1000	125	SY680M6R3E070A
	100	6.3	7	820	144	SY101M6R3E070A
	120	6.3	7	770	148	SY121M6R3E070A
	150	6.3	7	660	160	SY151M6R3E070A
	180	8	7	640	171	SY181M6R3F070A
	220	8	7	550	180	SY221M6R3F070A
	330	8	7	390	315	SY331M6R3F070A
10	22	4	7	3630	63	SY220M010B070A
	33	5	7	1900	95	SY330M010C070A
	47	5	7	1300	120	SY470M010C070A
	68	6.3	7	880	144	SY680M010E070A
	100	6.3	7	550	180	SY101M010E070A
	120	6.3	7	520	185	SY121M010E070A
	150	8	7	500	207	SY151M010F070A
	180	8	7	490	225	SY181M010F070A
	220	8	7	400	252	SY221M010F070A
16	10	4	7	3500	60	SY100M016B070A
	15	4	7	3000	75	SY150M016B070A
	22	5	7	2000	90	SY220M016C070A
	33	6.3	7	1400	120	SY330M016E070A
	47	6.3	7	900	140	SY470M016E070A
	68	8	7	650	160	SY680M016F070A
	100	8	7	490	180	SY101M016F070A
	120	8	7	930	315	SY121M016F070A
	150	8	7	950	333	SY151M016F070A
	180	8	7	330	360	SY181M016F070A
	220	8	7	290	387	SY221M016F070A
25	10	4	7	3500	60	SY100M025B070A
	22	5	7	1870	99	SY220M025C070A
	33	6.3	7	880	144	SY330M025E070A
	47	8	7	700	160	SY470M025F070A
	68	8	7	550	180	SY680M025F070A
	100	8	7	390	225	SY101M025F070A
	150	8	7	350	306	SY151M025F070A
35	6.8	4	7	3630	63	SY6R8M035B070A
	10	5	7	3200	99	SY100M035C070A
	22	6.3	7	900	140	SY220M035E070A
	33	8	7	550	180	SY330M035F070A
	47	8	7	500	220	SY470M035F070A

See "PACKAGING INFORMATION" to taped or formed products

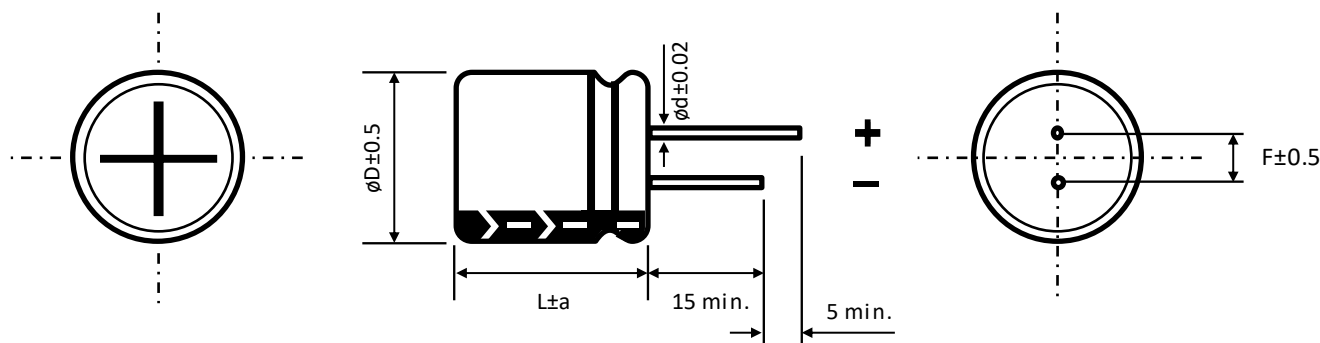
STANDARD RATINGS

Part number shows bulk version with straight leads

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Z - Max. Impedance +20°C - 100kHz (mΩ)	I _R - Max. Ripple Current +105°C - 100kHz (mA rms)	CapXon Part Number
50	1	4	7	3500	60	SY010M050B070A
	2.2	4	7	3500	60	SY2R2M050B070A
	3.3	4	7	3500	60	SY3R3M050B070A
	4.7	4	7	3500	60	SY4R7M050B070A
	6.8	5	7	2200	80	SY6R8M050C070A
	10	6.3	7	920	135	SY100M050E070A

See "PACKAGING INFORMATION" to taped or formed products

DIMENSIONS - All dimensions in mm



ø D	4	5	6.3	8
F	1.5	2	2.5	3.5
ø d	0.45	0.45	0.5	0.5
a	1	1	1	1

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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