

### 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 ~ 330 $\mu$ F						
Cap. Tolerance	$\Delta C$	$\pm 20\%$ (120Hz ■ 20°C)						
Leakage Current (20°C ■ $V_R$ applied)	$I_{LEAK}$	$\leq 0.01 \cdot C_R \cdot V_R$ or 3 $\mu$ A, whichever is greater ■ After 2 minutes [ $I_{LEAK}$ ( $\mu$ A) ; $C_R$ ( $\mu$ F) ; $V_R$ (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	<b>2 000 hours</b>	
	$\Delta C/C_R$	$\leq \pm 20\%$ 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	<b>1 000 hours</b>	
	$\Delta C/C_R$	$\leq \pm 20\%$ 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

$C_R$ ( $\mu$ F) / 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 <sub>R</sub> (V)	C <sub>R</sub> (μF)	∅ D (mm)	L (mm)	Z - Max. Impedance +20°C - 100kHz (mΩ)	I <sub>R</sub> - 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
25	180	8	7	330	360	SY181M016F070A
	220	8	7	290	387	SY221M016F070A
	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

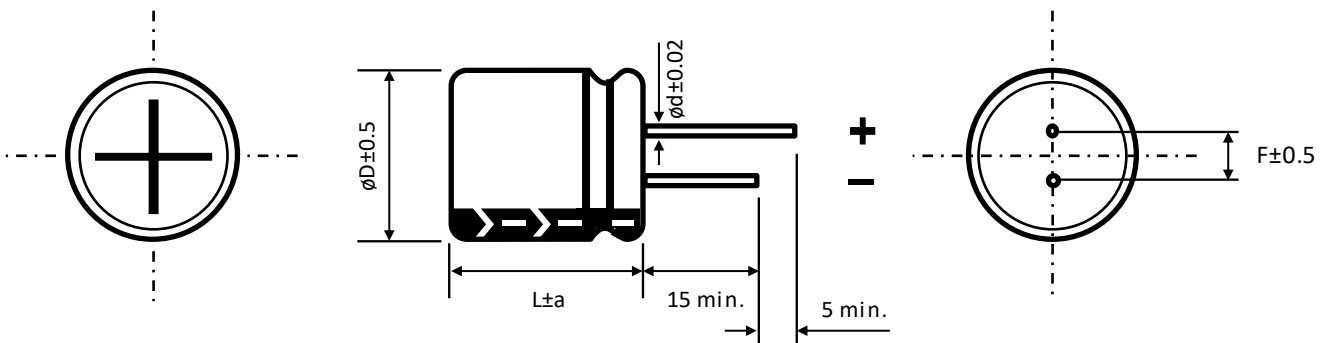
See "PACKAGING INFORMATION" to taped or formed products

**STANDARD RATINGS**

Part number shows bulk version with straight leads

$V_R$ (V)	$C_R$ ( $\mu F$ )	$\phi D$ (mm)	L (mm)	Z - Max. Impedance +20°C - 100kHz (m $\Omega$ )	$I_R$ - 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


$\phi D$	4	5	6.3	8
F	1.5	2	2.5	3.5
$\phi d$	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.

<a href="#">General Precautions &amp; Guidelines</a>	<a href="#">Packaging Information</a>	<a href="#">3D Models</a>



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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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