

SZ SERIES ▪ 7/9MM HEIGHT, LOW IMPEDANCE, 105°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ▪ THT type
- Endurance: 105°C ▪ 1 000 hours
- Miniaturized for space critical applications
- Low height ▪ 7 and 9mm
- Low impedance type



SPECIFICATIONS

Items		Performance Characteristics					
Operating Temperature Range		-55 ~ +105°C					
Rated Voltage Range	V_R	6.3 ~ 35V DC					
Surge Voltage	V_S	$V_S = 1.15 \cdot V_R$					
Capacitance Range	C_R	6.8 ~ 470 μ F					
Cap. Tolerance	ΔC	$\pm 20\%$ (120Hz ▪ 20°C)					
Leakage Current (20°C ▪ V_R applied)	I_{LEAK}	$\leq 0.01 \cdot C_R \cdot V_R$ or 3 μ A, whichever is greater ▪ After 2 minutes [I_{LEAK} (μ A) ; C_R (μ F) ; V_R (V)]					
Dissipation Factor % (20°C ▪ 120Hz)	$\tan \delta$	V_R (V DC)	6.3	10	16	25	35
		$\tan \delta$ (%)	18	16	14	12	12
Low Temperature Characteristics at 120Hz	Z ratio max.	V_R (V DC)	6.3	10	16	25	35
		Z-25°C/Z+20°C	2	2	2	2	2
		Z-40°C/Z+20°C	3	3	2	2	2
		Z-55°C/Z+20°C	3	3	3	3	3

Lifetime Test			
Endurance 105°C (V_R applied)	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	
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 (μ F) / Frequency (Hz)	50/60	100/120	400	1k	10k	50k - 100k
$C_R \leq 10$	0.47	0.59	0.76	0.85	0.91	1
$10 < C_R \leq 100$	0.52	0.65	0.8	0.89	0.97	1
$100 \leq C_R$	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	1700	110	SZ330M6R3C070A
	47	5	7	1700	110	SZ470M6R3C070A
	68	6.3	7	800	160	SZ680M6R3E070A
	100	6.3	7	800	160	SZ101M6R3E070A
	120	6.3	7	700	165	SZ121M6R3E070A
	150	6.3	7	600	178	SZ151M6R3E070A
	180	8	7	580	190	SZ181M6R3F070A
	220	8	7	500	200	SZ221M6R3F070A
	330	8	7	350	350	SZ331M6R3F070A
	470	8	9	300	400	SZ471M6R3F090A
10	22	4	7	3300	70	SZ220M010B070A
	33	5	7	1700	110	SZ330M010C070A
	47	5	7	800	160	SZ470M010C070A
	68	6.3	7	800	160	SZ680M010E070A
	100	6.3	7	500	200	SZ101M010E070A
	120	6.3	7	480	205	SZ121M010E070A
	150	8	7	450	230	SZ151M010F070A
	180	8	7	450	250	SZ181M010F070A
	220	8	7	350	280	SZ221M010F070A
	330	8	9	300	320	SZ331M010F090A
16	470	10	9	220	430	SZ471M010G090A
	22	5	7	1700	115	SZ220M016C070A
	33	6.3	7	800	160	SZ330M016E070A
	47	6.3	7	800	160	SZ470M016E070A
	68	8	7	500	200	SZ680M016F070A
	100	8	7	450	200	SZ101M016F070A
	120	8	7	350	350	SZ121M016F070A
	150	8	7	320	370	SZ151M016F070A
	180	8	7	300	400	SZ181M016F070A
	220	8	7	260	430	SZ221M016F070A
25	330	8	9	220	500	SZ331M016F090A
	10	4	7	3000	70	SZ100M025B070A
	22	5	7	1700	110	SZ220M025C070A
	33	6.3	7	800	160	SZ330M025E070A
	47	8	7	500	200	SZ470M025F070A
	68	8	7	500	200	SZ680M025F070A
	100	8	7	350	250	SZ101M025F070A
	150	8	7	400	340	SZ151M025F070A
	180	8	9	250	450	SZ181M025F090A
	220	8	9	220	600	SZ221M025F090A
25	330	10	9	150	750	SZ331M025G090A

See "PACKAGING INFORMATION" to taped or formed products.

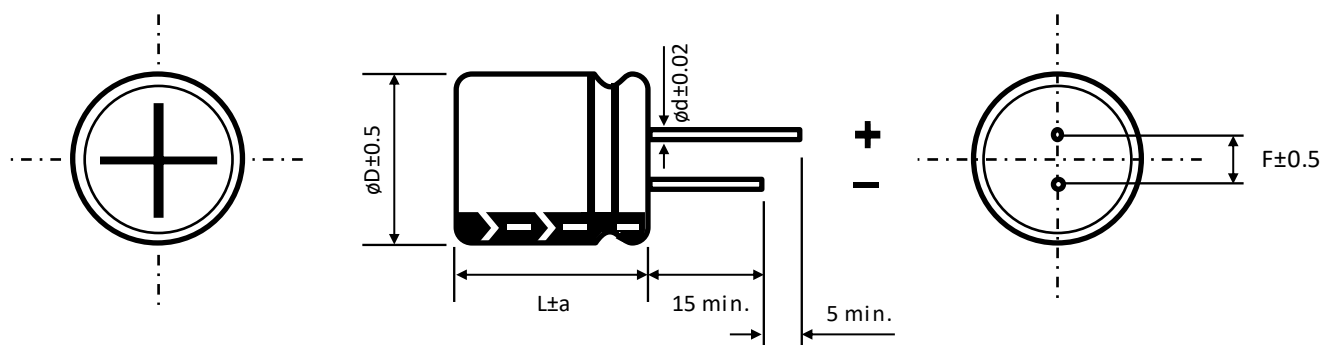
STANDARD RATINGS

Part number shows bulk version with straight leads

V_R (V)	C_R (μF)	ϕD (mm)	L (mm)	Z • Max. Impedance +20°C • 100kHz (m Ω)	I_R • Max. Ripple Current +105°C • 100kHz (mA rms)	CapXon Part Number
35	6.8	4	7	3300	70	SZ6R8M035B070A
	10	5	7	1700	110	SZ100M035C070A
	22	6.3	7	800	160	SZ220M035E070A
	33	8	7	500	200	SZ330M035F070A
	47	8	7	450	245	SZ470M035F070A
	68	8	7	420	280	SZ680M035F070A

See “PACKAGING INFORMATION” to taped or formed products.

DIMENSIONS • All dimensions in mm



ϕD	5	6.3	8	10
F	2	2.5	3.5	5
ϕd	0.45	0.5	0.5	0.6
a	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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