

**ST SERIES ■ 5MM HEIGHT, STANDARD 105°C TYPE**
**KEY FEATURES**

- **ALUMINUM ELECTROLYTIC CAPACITOR • THT type**
- Endurance: 105°C ■ 1 000 hours
- Optimized for high density insertion
- Low height ■ 5mm
- Miniaturized for space critical applications


**SPECIFICATIONS**

Items		Performance Characteristics							
Operating Temperature Range		-40 ~ +105°C							
Rated Voltage Range	$V_R$	4 ~ 50V DC							
Surge Voltage	$V_S$	$V_S = 1.15 \cdot V_R$							
Capacitance Range	$C_R$	0.1 ~ 220 $\mu$ 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)	4	6.3	10	16	25	35	50
		$\tan \delta$ (%)	35	24	20	16	14	12	10
Low Temperature Characteristics at 120Hz	Z ratio max.	$V_R$ (V DC)	4	6.3	10	16	25	35	50
		Z-25°C/Z+20°C	6	3	3	2	2	2	2
		Z-40°C/Z+20°C	12	8	5	4	3	3	3

Lifetime Test			
Endurance 105°C ( $V_R$ applied)	Test	<b>1 000 hours</b>	
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value	6.3 ~ 50 V
		$\leq \pm 30\%$ of initial measured value	4V
	$\tan \delta$	$\leq 200\%$ 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	6.3 ~ 50 V
		$\leq \pm 30\%$ of initial measured value	4V
	$\tan \delta$	$\leq 200\%$ 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	1k	$\geq 10k$
0.1 ~ 68	0.8	1	1.3	1.5
100 ~ 220	0.8	1	1.15	1.2

## STANDARD RATINGS

Part number shows bulk version with straight leads

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	∅ D (mm)	L (mm)	I <sub>R</sub> - Max. Ripple Current +105°C - 120Hz (mA rms)	CapXon Part Number
4	10	4	5	10	ST100M004B050A
	15	4	5	13	ST150M004B050A
	22	4	5	22	ST220M004B050A
	33	5	5	30	ST330M004C050A
	47	5	5	36	ST470M004C050A
	68	6.3	5	52	ST680M004E050A
	100	6.3	5	60	ST101M004E050A
	220	6.3	5	80	ST221M004E050A
6.3	10	4	5	12	ST100M6R3B050A
	15	4	5	15	ST150M6R3B050A
	22	4	5	22	ST220M6R3B050A
	33	5	5	30	ST330M6R3C050A
	47	5	5	36	ST470M6R3C050A
	68	6.3	5	52	ST680M6R3E050A
	100	6.3	5	60	ST101M6R3E050A
	220	6.3	5	80	ST221M6R3E050A
10	6.8	4	5	11	ST6R8M010B050A
	10	4	5	15	ST100M010B050A
	15	4	5	18	ST150M010B050A
	22	5	5	27	ST220M010C050A
	33	5	5	35	ST330M010C050A
	47	6.3	5	48	ST470M010E050A
	68	6.3	5	53	ST680M010E050A
	100	8	5	65	ST101M010F050A
16	4.7	4	5	9	ST4R7M016B050A
	6.8	4	5	13	ST6R8M016B050A
	10	4	5	18	ST100M016B050A
	15	5	5	23	ST150M016C050A
	22	5	5	30	ST220M016C050A
	33	6.3	5	45	ST330M016E050A
	47	6.3	5	50	ST470M016E050A
	68	8	5	55	ST680M016F050A
	100	8	5	68	ST101M016F050A
25	3.3	4	5	8.5	ST3R3M025B050A
	4.7	4	5	13	ST4R7M025B050A
	6.8	4	5	15	ST6R8M025B050A
	10	5	5	23	ST100M025C050A
	15	6.3	5	32	ST150M025E050A
	22	6.3	5	39	ST220M025E050A
	33	6.3	5	48	ST330M025E050A
	47	6.3	5	50	ST470M025E050A
	47	8	5	55	ST470M025F050A

See "PACKAGING INFORMATION" to taped or formed products.

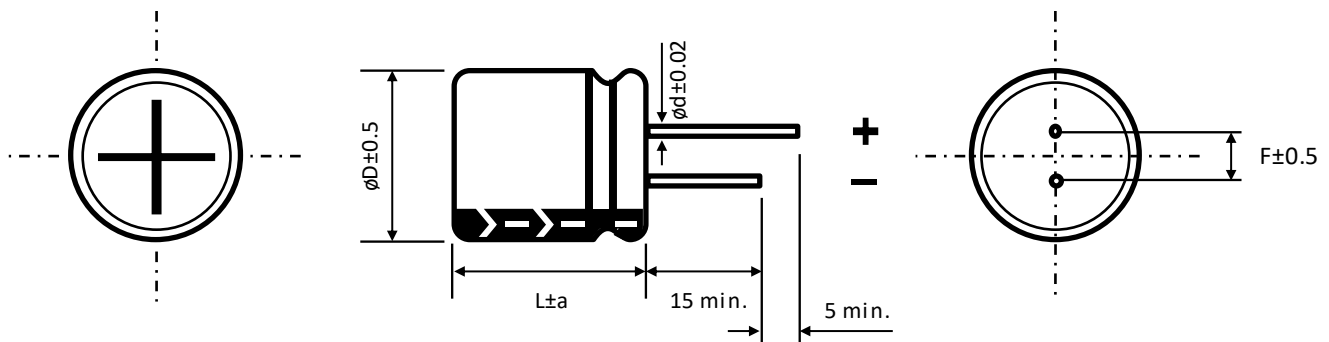
## STANDARD RATINGS

Part number shows bulk version with straight leads

$V_R$ (V)	$C_R$ ( $\mu$ F)	$\phi D$ (mm)	L (mm)	$I_R$ - Max. Ripple Current +105°C - 120Hz (mA rms)	CapXon Part Number
35	2.2	4	5	7.5	ST2R2M035B050A
	3.3	4	5	11	ST3R3M035B050A
	4.7	4	5	15	ST4R7M035B050A
	6.8	5	5	19	ST6R8M035C050A
	10	5	5	25	ST100M035C050A
	15	6.3	5	32	ST150M035E050A
	22	6.3	5	48	ST220M035E050A
	33	8	5	50	ST330M035F050A
50	0.1	4	5	1.5	ST0R1M050B050A
	0.15	4	5	2	STR15M050B050A
	0.22	4	5	2.6	STR22M050B050A
	0.33	4	5	3.2	STR33M050B050A
	0.47	4	5	3.8	STR47M050B050A
	0.68	4	5	5	STR68M050B050A
	1	4	5	6.2	ST010M050B050A
	1.5	4	5	7	ST1R5M050B050A
	2.2	4	5	11	ST2R2M050B050A
	3.3	4	5	14	ST3R3M050B050A
	4.7	5	5	19	ST4R7M050C050A
	6.8	5	5	22	ST6R8M050C050A
	6.8	6.3	5	25	ST6R8M050E050A
	10	6.3	5	30	ST100M050E050A
	15	8	5	35	ST150M050F050A
	22	8	5	50	ST220M050F050A

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	0.45	0.45
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.

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

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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.

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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.

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