

## Specifications

Item	Performance				
Category temperature range (°C)	-55 to +125 (Above 85°C use category voltage)				
Leakage current (μA)	See standard ratings table				
Tolerance at rated capacitance (%)	±20 (120Hz)				
Tangent of loss angle	See standard ratings table (120Hz)				
ESR	See standard ratings table (100kHz)				
Resistance to soldering heat	Test conditions: Soaking at 260°C for 5 seconds				
	SY6, SY7, SY8, SY9, SYF(A2, P), SYL series SK6, SK7, SK8, SK9, SKF(A2, P), SKL series	SY1, SY2, SY3, SY4, SY5 SK, SK2, SK3, SK4, SK5			
Characteristics at high and low temperature	-55°C	Leakage current	The initial specified value or less		
		Percentage of capacitance change	Within ±10% of initial value		
		Tangent of loss angle	150% or less of the initial specified value		
	+85°C	Percentage of capacitance change	Within -10 to 0% of the initial value		
		Tangent of loss angle	See standard rating table		
		Leakage current	Less than 0.1CV or 0.5μA, whichever is larger		
	+125°C	Percentage of capacitance change	Within 0 to 10% of the initial value		
		Tangent of loss angle	See standard rating table		
		Leakage current data have been measured at derated voltage*			
Damp heat, steady state (Humidity)		Leakage current	Less than 0.125CV or 6.25μA, whichever is larger		
		Percentage of capacitance change	Within 0 to 15% of the initial value		
		Tangent of loss angle	See standard rating table		
		Test conditions: Left at 40°C under 90 to 95% RH for 500 hours			
Endurance (Load life)		SY6, SY7, SY8, SY9, SYF(A2, P), SYL series SK6, SK7, SK8, SK9, SKF(A2, P), SKL series	SY1, SY2, SY3, SY4, SY5 SK, SK2, SK3, SK4, SK5		
		Leakage current	The initial specified value or less		
		Percentage of capacitance change	Within ±10% of initial value		
Failure rate		Tangent of loss angle			
		150% or less of the initial specified value			
Others	The initial specified value or less				
	Conforms to IEC 60384-3 : 1989 (JIS C5101-3 : 1998)				

\* Relation between the rated and the 125°C category voltage.

Rated voltage(V)	2.5	4	6.3	10	16	20	25	35
125°C category voltage(V)	1.6	2.5	4	6.3	10	13	16	22

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## Dimension Table

Rated capacitance (μF)	Symbol	2.5V	e	4V	G	6.3V	J	10V	A	16V	C	20V	D	25V	E	35V	V
0.1	104											A2				A	
0.15	154											A2				A	
0.22	224											A2				A	
0.33	334									P		A2				A	
0.47	474									P		A2				A B	
0.68	684									P		A2 A				A B	
1	105							P A2		P A		P A2 A				A B	
1.5	155							P A2 A		P A		A2 A				A B C	
2.2	225			A2				P A2 A		P A2 A		A2 A B				B C	
3.3	335			P A2 A				P A2 A		P A2 A		A2 A B				B C	
4.7	475		A2	P A2 A				P A2 A		P A2 A B		A2 A B				B C	C D0
6.8	685		A2	P A2 A				P A2 A B		P A2 A B		A B				B C	C D0
10	106		A2	P A2 A B				P A2 A B		P A2 A B		A B C		B C		C D0	C D0
15	156		A2 A	P A2 A B				P A2 A B		P A2 A B		B C		C D0		C D0	D0
22	226		A2 A	P A2 A B				(P) A2 A B C		A B C		B C D0		C D0		D0	D0
33	336		P A2 A	(P) A2 A B C				A2 A B C		B C D0		C D0		D0		D0	
47	476		(P) A2 A	A2 A B C				A B C D0		B C D0		C D0		D0			
68	686		A B	A B C D0				B C D0		(B) C D0		D0					
100	107		A B	(A) B C D0				B C D0		C D0		D0					
150	157		B	B C D0				(B) C D0		(C) D0		(D0)					
220	227		B	B C D0				(C) D0		(D0)							
330	337			(B) (C) D0				D0									
470	477			D0				(D0)									
680	687			(D0)													

\* ( ) are under development items.

When you need it, please contact to ELNA.

## NOTE

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## Resin Molded Chip Type Capacitors Series SY1, SY2, SY3, SY4, SY5, SY6, SY7, SY8, SY9 &amp; SYF

Standard Ratings Rated Voltage 2.5V

Rated voltage (V)	Capacitance (μF) (120Hz)	Marking (P, A2, A)	EIA size code	ELNA size code	ELNA series code	Leakage current (μA, or less)	Tangent of the loss angle (less)(120Hz)				E.S.R.(Ω) (less) (100kHz)	Environmental Type ELNA Part No.	Former Type ELNA Part No.	Taping Minimum packing pcs. (pcstrl)	note
							-55°C	20°C	85°C	125°C					
2.5	4.7	e475	3216L	A2	SYF	0.50	0.12	0.08	0.10	0.12	8.0	SYF-0E475M-RA2	SKF-0E475M-RA2	3,000	*
	6.8	e685	3216L	A2	SYF	0.50	0.12	0.08	0.10	0.12	8.0	SYF-0E685M-RA2	SKF-0E685M-RA2	3,000	*
	10	e106	3216L	A2	SYF	0.50	0.12	0.08	0.10	0.12	4.0	SYF-0E106M-RA2	SKF-0E106M-RA2	3,000	*
	15	e156	3216L	A2	SYF	0.50	0.18	0.12	0.16	0.18	4.0	SYF-0E156M-RA2	SKF-0E156M-RA2	3,000	*
	15	e156	3216	A	SY3	0.50	0.09	0.06	0.08	0.09	4.0	SY3-0E156M-RA	SK3-0E156M-RA	2,000	*
	22	e226	3216L	A2	SYF	0.55	0.18	0.12	0.16	0.18	4.0	SYF-0E226M-RA2	SKF-0E226M-RA2	3,000	*
	22	e226	3216	A	SY4	0.55	0.12	0.08	0.10	0.12	2.0	SY4-0E226M-RA	SK4-0E226M-RA	2,000	*
	33	e336	2012	P	SYF	0.82	0.12	0.08	0.10	0.12	4.0	SYF-0E336M-RP	—	3,000	
	33	e336	3216L	A2	SYF	0.82	0.18	0.12	0.16	0.18	4.0	SYF-0E336M-RA2	SKF-0E336M-RA2	3,000	
	33	e336	3216	A	SY5	0.82	0.12	0.08	0.10	0.12	2.0	SY5-0E336M-RA	SK5-0E336M-RA	2,000	
	47	e476	3216L	A2	SYF	1.17	0.18	0.12	0.16	0.18	4.0	SYF-0E476M-RA2	SKF-0E476M-RA2	3,000	
	47	e476	3216	A	SY6	1.17	0.18	0.12	0.16	0.18	2.0	SY6-0E476M-RA	SK6-0E476M-RA	2,000	
	68	e686	3216	A	SY7	1.70	0.21	0.14	0.19	0.21	2.0	SY7-0E686M-RA	SK7-0E686M-RA	2,000	
	68	—	3528	B	SY5	1.70	0.12	0.08	0.10	0.12	1.0	SY5-0E686M-RB	SK5-0E686M-RB	2,000	*
	100	e107	3216	A	SY8	2.50	0.24	0.16	0.19	0.24	2.0	SY8-0E107M-RA	SK8-0E107M-RA	2,000	
	100	—	3528	B	SY6	2.50	0.12	0.08	0.10	0.12	1.0	SY6-0E107M-RB	SK6-0E107M-RB	2,000	
	150	—	3528	B	SY7	3.75	0.18	0.12	0.16	0.18	1.0	SY7-0E157M-RB	SK7-0E157M-RB	2,000	
	220	—	3528	B	SY8	5.50	0.27	0.18	0.23	0.27	1.0	SY8-0E227M-RB	SK8-0E227M-RB	2,000	

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## Resin Molded Chip Type Capacitors Series SY1, SY2, SY3, SY4, SY5, SY6, SY7, SY8, SY9 &amp; SYF

Standard Ratings Rated Voltage 16V

Rated voltage (V)	Capacitance ( $\mu$ F) (120Hz)	Marking (P, A2, A)	EIA size code	ELNA size code	ELNA series code	Leakage current ( $\mu$ A, or less)	Tangent of the loss angle (less)(120Hz)				E.S.R. ( $\Omega$ ) (100kHz)	Environmental Type ELNA Part No.	Former Type ELNA Part No.	Taping Minimum packing pcs. (pcstrl)	note
							-55°C	20°C	85°C	125°C					
16	0.33	CN	2012	P	SYF	0.50	0.09	0.06	0.072	0.09	28.0	SYF-1C334M-RP	SKF-1C334M-RP	3,000	
	0.47	CS	2012	P	SYF	0.50	0.09	0.06	0.072	0.09	28.0	SYF-1C474M-RP	SKF-1C474M-RP	3,000	
	0.68	CW	2012	P	SYF	0.50	0.09	0.06	0.072	0.09	28.0	SYF-1C684M-RP	SKF-1C684M-RP	3,000	
	1.0	CA	2012	P	SYF	0.50	0.09	0.06	0.072	0.09	25.0	SYF-1C105M-RP	SKF-1C105M-RP	3,000	
	1.0	C105	3216	A	SY1	0.50	0.09	0.05	0.072	0.09	7.0	SY1-1C105M-RA	SK -1C105M-RA	2,000	
	1.5	CE	2012	P	SYF	0.50	0.12	0.08	0.096	0.12	20.0	SYF-1C155M-RP	SKF-1C155M-RP	3,000	
	1.5	C155	3216	A	SY2	0.50	0.09	0.06	0.08	0.09	7.0	SY2-1C155M-RA	SK2-1C155M-RA	2,000	
	2.2	CJ	2012	P	SYF	0.50	0.12	0.08	0.096	0.12	20.0	SYF-1C225M-RP	SKF-1C225M-RP	3,000	
	2.2	C225	3216L	A2	SYF	0.50	0.09	0.06	0.08	0.09	8.0	SYF-1C225M-RA2	SKF-1C225M-RA2	3,000	
	2.2	C225	3216	A	SY2	0.50	0.09	0.06	0.08	0.09	5.0	SY2-1C225M-RA	SK2-1C225M-RA	2,000	
	3.3	C335	3216L	A2	SYF	0.50	0.09	0.06	0.08	0.09	6.0	SYF-1C335M-RA2	SKF-1C335M-RA2	3,000	
	3.3	C335	3216	A	SY3	0.50	0.09	0.06	0.08	0.09	4.5	SY3-1C335M-RA	SK3-1C335M-RA	2,000	
	3.3	—	3528	B	SY1	0.50	0.09	0.06	0.072	0.09	3.0	SY1-1C335M-RB	SK -1C335M-RB	2,000	*
	4.7	C475	3216L	A2	SYF	0.75	0.09	0.06	0.08	0.09	6.0	SYF-1C475M-RA2	—	3,000	
	4.7	C475	3216	A	SY4	0.75	0.09	0.06	0.08	0.09	4.0	SY4-1C475M-RA	SK4-1C475M-RA	2,000	
	4.7	—	3528	B	SY2	0.75	0.09	0.06	0.08	0.09	3.0	SY2-1C475M-RB	SK2-1C475M-RB	2,000	*
	6.8	C685	3216	A	SY5	1.08	0.12	0.08	0.10	0.12	3.5	SY5-1C685M-RA	SK5-1C685M-RA	2,000	
	6.8	—	3528	B	SY3	1.08	0.09	0.06	0.08	0.09	2.5	SY3-1C685M-RB	SK3-1C685M-RB	2,000	
	10	C106	3216	A	SY6	1.60	0.12	0.08	0.10	0.12	3.0	SY6-1C106M-RA	SK6-1C106M-RA	2,000	
	10	—	3528	B	SY4	1.60	0.09	0.06	0.08	0.09	2.0	SY4-1C106M-RB	SK4-1C106M-RB	2,000	
	10	—	6032	C	SY1	1.60	0.09	0.06	0.072	0.09	2.2	SY1-1C106M-RC	SK -1C106M-RC	500	*
	15	—	3528	B	SY5	2.40	0.09	0.06	0.08	0.09	2.0	SY5-1C156M-RB	SK5-1C156M-RB	2,000	
	15	—	6032	C	SY2	2.40	0.09	0.06	0.08	0.09	2.0	SY2-1C156M-RC	SK2-1C156M-RC	500	*
	22	—	3528	B	SY6	3.52	0.12	0.06	0.10	0.12	1.5	SY6-1C226M-RB	SK6-1C226M-RB	2,000	
	22	—	6032	C	SY3	3.52	0.09	0.06	0.08	0.09	1.0	SY3-1C226M-RC	SK3-1C226M-RC	500	
	22	—	7343	D0	SY1	3.52	0.09	0.06	0.072	0.09	0.7	SY1-1C226M-RD0	SK -1C226M-RD0	500	*
	33	—	6032	C	SY4	5.28	0.09	0.06	0.08	0.09	1.5	SY4-1C336M-RC	SK4-1C336M-RC	500	
	33	—	7343	D0	SY2	5.28	0.09	0.06	0.08	0.09	1.0	SY2-1C336M-RD0	SK2-1C336M-RD0	500	*
	47	—	6032	C	SY5	7.52	0.12	0.08	0.10	0.12	1.3	SY5-1C476M-RC	SK5-1C476M-RC	500	
	47	—	7343	D0	SY3	7.52	0.09	0.06	0.08	0.09	1.0	SY3-1C476M-RD0	SK3-1C476M-RD0	500	
	68	—	7343	D0	SY4	10.80	0.09	0.06	0.08	0.09	1.0	SY4-1C686M-RD0	SK4-1C686M-RD0	500	
	100	—	7343	D0	SY5	16.00	0.15	0.10	0.13	0.15	0.7	SY5-1C107M-RD0	SK5-1C107M-RD0	500	

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## Resin Molded Chip Type Capacitors Series SY1, SY2, SY3, SY4, SY5, SY6, SY7, SY8, SY9 &amp; SYF

Standard Ratings Rated Voltage 35V

Rated voltage (V)	Capacitance ( $\mu\text{F}$ ) (120Hz)	Marking (P, A2, A)	EIA size code	ELNA size code	ELNA series code	Leakage current ( $\mu\text{A}$ , or less)	Tangent of the loss angle (less)(120Hz)				E.S.R. ( $\Omega$ ) (100kHz)	Environmental Type ELNA Part No.	Former Type ELNA Part No.	Taping Minimum packing pcs. (pcstrl)	note
							-55°C	20°C	85°C	125°C					
35	0.10	V104	3216	A	SY1	0.50	0.09	0.05	0.08	0.09	28.0	SY1-1V104M-RA	SK -1V104M-RA	2,000	
	0.15	V154	3216	A	SY1	0.50	0.09	0.05	0.08	0.09	24.0	SY1-1V154M-RA	SK -1V154M-RA	2,000	
	0.22	V224	3216	A	SY1	0.50	0.09	0.05	0.08	0.09	20.0	SY1-1V224M-RA	SK -1V224M-RA	2,000	
	0.33	V334	3216	A	SY1	0.50	0.09	0.05	0.08	0.09	15.0	SY1-1V334M-RA	SK -1V334M-RA	2,000	
	0.47	V474	3216	A	SY2	0.50	0.09	0.05	0.08	0.09	11.0	SY2-1V474M-RA	SK2-1V474M-RA	2,000	
	0.47	—	3528	B	SY1	0.50	0.09	0.04	0.06	0.09	11.0	SY1-1V474M-RB	SK -1V474M-RB	2,000	
	0.68	V684	3216	A	SY2	0.50	0.09	0.04	0.06	0.09	8.0	SY2-1V684M-RA	SK2-1V684M-RA	2,000	
	0.68	—	3528	B	SY1	0.50	0.09	0.04	0.06	0.09	8.0	SY1-1V684M-RB	SK -1V684M-RB	2,000	
	1.0	V105	3216	A	SY3	0.50	0.09	0.06	0.08	0.09	7.0	SY3-1V105M-RA	SK3-1V105M-RA	2,000	
	1.0	—	3528	B	SY1	0.50	0.09	0.04	0.06	0.09	6.0	SY1-1V105M-RB	SK -1V105M-RB	2,000	
	1.5	V155	3216	A	SY4	0.52	0.09	0.06	0.08	0.09	4.0	SY4-1V155M-RA	SK4-1V155M-RA	2,000	
	1.5	—	3528	B	SY2	0.52	0.09	0.06	0.08	0.09	5.0	SY2-1V155M-RB	SK2-1V155M-RB	2,000	
	1.5	—	6032	C	SY1	0.52	0.09	0.06	0.072	0.09	4.5	SY1-1V155M-RC	SK -1V155M-RC	500	
	2.2	—	3528	B	SY3	0.77	0.09	0.06	0.08	0.09	4.0	SY3-1V225M-RB	SK3-1V225M-RB	2,000	
	2.2	—	6032	C	SY1	0.77	0.09	0.06	0.072	0.09	3.5	SY1-1V225M-RC	SK -1V225M-RC	500	
	3.3	—	3528	B	SY4	1.15	0.09	0.06	0.08	0.09	4.0	SY4-1V335M-RB	SK4-1V335M-RB	2,000	
	3.3	—	6032	C	SY1	1.15	0.09	0.06	0.072	0.09	3.0	SY1-1V335M-RC	SK -1V335M-RC	500	
	4.7	—	6032	C	SY2	1.64	0.09	0.06	0.08	0.09	2.0	SY2-1V475M-RC	SK2-1V475M-RC	500	
	4.7	—	7343	D0	SY1	1.64	0.09	0.06	0.072	0.09	1.5	SY1-1V475M-RD0	SK -1V475M-RD0	500	
	6.8	—	6032	C	SY3	2.38	0.09	0.06	0.08	0.09	2.3	SY3-1V685M-RC	SK3-1V685M-RC	500	
	6.8	—	7343	D0	SY1	2.38	0.09	0.06	0.072	0.09	1.3	SY1-1V685M-RD0	SK -1V685M-RD0	500	
	10	—	6032	C	SY4	3.50	0.09	0.06	0.072	0.09	1.5	SY4-1V106M-RC	SK4-1V106M-RC	500	
	10	—	7343	D0	SY2	3.50	0.09	0.06	0.08	0.09	1.0	SY2-1V106M-RD0	SK2-1V106M-RD0	500	
	15	—	7343	D0	SY3	5.25	0.09	0.06	0.08	0.09	1.0	SY3-1V156M-RD0	SK3-1V156M-RD0	500	
	22	—	7343	D0	SY4	7.70	0.12	0.08	0.10	0.12	0.7	SY4-1V226M-RD0	SK4-1V226M-RD0	500	

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