

Improving upon the SEP series, the SEQP series has greater heat tolerance (125°C) and offers 32V versions in its product line. Recommended to use in creating higher reliability products. The 32V versions are ideal for 16 to 24V lines such as in industrial equipment. 5,000h performance is guaranteed at a 105°C environment. Lead free-flow is supported.\*2



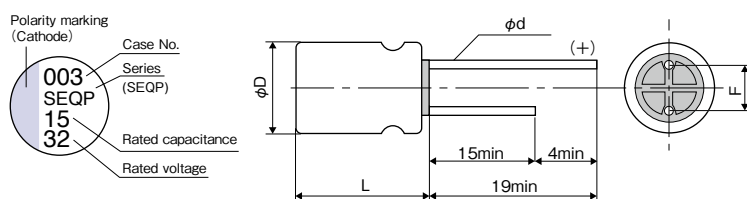
## Specifications

Items		Condition		Specifications					
Rated voltage	(V)	-		4.0	6.3	10	16	20	32
Surge voltage	(V)	Room temperature		5.2	8.4	12	18	23	37
Category temperature range	(°C)	-		-55 to +125					
Capacitance tolerance	(%)	120Hz/20°C		M : ±20					
Dissipation Factor (DF)		120Hz/20°C		Please see the attached characteristics list					
Leakage current*1		Rated voltage applied, after 2 minutes		Please see the attached characteristics list					
Equivalent series resistance (ESR)		100kHz to 300kHz/20°C		Please see the attached characteristics list					
Characteristics of impedance ratio at high temp. and low temp.	Based the value at 100kHz, +20°C	-55°C	Z/Z <sub>20°C</sub>	0.75 to 1.25					
		+125°C	Z/Z <sub>20°C</sub>	0.75 to 1.25					
Endurance	125°C, 1,000h, 105°C, 5,000h, Rated voltage applied	ΔC/C		Within ±20% of the initial value					
		DF		Within 2 times of the initial limit					
		ESR		Within 2 times of the initial limit					
		LC		Within the initial limit					
Damp heat(Steady state)	60°C, 90 to 95%RH, 1,000h, No-applied voltage	ΔC/C		Within ±20% of the initial value					
		DF		Within 1.5 times of the initial limit					
		ESR		Within 1.5 times of the initial limit					
		LC		Within the initial limit (after voltage processing)					
Resistance to soldering heat*2	Flow method (260±5°C X 10s)	ΔC/C		Within ±5% of the initial value					
		DF		Within the initial limit					
		ESR		Within the initial limit					
		LC		Within the initial limit (after voltage processing)					

\*1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 125°C.

\*2 Please refer to page 26 for flow soldering conditions.

## Marking and dimensions



(unit : mm)

Size code	φD ±0.5	L max	F	φd ±0.05
C6	6.3	6.0	2.5 ±0.5	0.45
E7	8.0	7.0	3.5 ±0.5	0.45
F8	10.0	8.0	5.0 ±0.5	0.50
E12	8.0	12.0	3.5 ±0.5	0.60
F13	10.0	13.0	5.0 ±0.5	0.60

## Size list

RV : Rated voltage

μF	RV	4.0	6.3	10	16	20	32
6.8							E7
15							F8
18							E12
22							
39					C6	C6	
47						E7	
56				C6			
68						F8	
82		C6			E7		
100						E12	
120				E7			
150	C6		E7		F8	F13	
180					E12		
270				F8			
330	E7		F8	E12	F13		
470			E12				
560	E12			F13			
680	F8						
820			F13				
1,200	F13						

## ● SEQP series characteristics list

Size code	Part number	Rated voltage (V)	Rated capacitance (μF)	ESR(mΩ) (max) 100kHz to 300kHz/20°C	Rated ripple current	Allowable ripple current	DF (% max)	Leakage current (μA)(max) After 2 minutes
					100kHz (mA rms)			
					105°C < Tx ≤ 125°C*1	Tx ≤ 105°C*1		
C6	20SEQP22M	20	22	60	458	1450	10	220
	16SEQP39M	16	39	50	512	1620	10	312
	10SEQP56M	10	56	45	537	1700	12	280
	6SEQP82M	6.3	82	45	537	1700	12	258
	4SEQP150M	4.0	150	40	572	1810	12	300
E7	32SEQP6R8M	32	6.8	100	440	1400	10	44
	20SEQP47M	20	47	45	598	1890	12	470
	16SEQP82M	16	82	40	670	2120	12	656
	10SEQP120M	10	120	35	810	2560	12	600
	6SEQP150M	6.3	150	35	810	2560	12	472
	4SEQP330M	4.0	330	35	810	2560	12	660
F8	32SEQP15M	32	15	80	560	1800	10	96
	20SEQP68M	20	68	40	759	2400	12	272
	16SEQP150M	16	150	30	955	3020	12	480
	10SEQP270M	10	270	25	1170	3700	12	540
	6SEQP330M	6.3	330	25	1170	3700	12	416
	4SEQP680M	4.0	680	25	1170	3700	12	544
E12	32SEQP18M	32	18	50	790	2500	12	115
	20SEQP100M	20	100	24	1050	3320	15	400
	16SEQP180M	16	180	20	1151	3640	15	576
	10SEQP330M	10	330	17	1250	3950	15	660
	6SEQP470M	6.3	470	15	1332	4210	15	592
	4SEQP560M	4.0	560	13	1430	4520	15	448
F13	20SEQP150M	20	150	20	1367	4320	15	600
	16SEQP330M	16	330	16	1493	4720	15	792
	10SEQP560M	10	560	13	1655	5230	15	840
	6SEQP820M	6.3	820	12	1721	5440	15	775
	4SEQP1200M	4.0	1200	12	1721	5440	18	960

\*1 Tx : Ambient temperature

## ● Frequency coefficient for ripple current

Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f ≤ 500kHz
Coefficient	0.05	0.3	0.7	1

Selection guide

- Series system diagram
- Image of case size
- Products list
- Packing specifications (SMD type)
- Packing specifications (Radial lead type)

Technical data

- Recommended soldering condition
- Fundamental structure
- Characteristics
- Reliability

Surface mount type

- SVPF
- SVPE
- SVPS
- SVPD
- SVPC
- SVPB
- SVPA
- SVQP
- SVP

Radial lead type

- SEPF
- SEPC
- SEQP**
- SEP

Catalog Deletion and EOL series

POSCAP  
Line-up

Guidelines and  
precautions for use

Selection guide

- Series system diagram
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- Explanation of part numbers
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Technical data

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- Recommended land pattern dimension
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Surface mount type

- TPU
- TPH
- TPG
- TPSF
- TPE
- TPB/TPC
- TPL·TPLF
- TPF
- TA
- TV
- TH
- TQC

Catalog Deletion and EOL models