

# SMQ系列

小型化

RoHS2  
适应品



- 保证85℃ 2,000小时(叠加纹波电流)。
- 请注意不属于基板清洗类型。

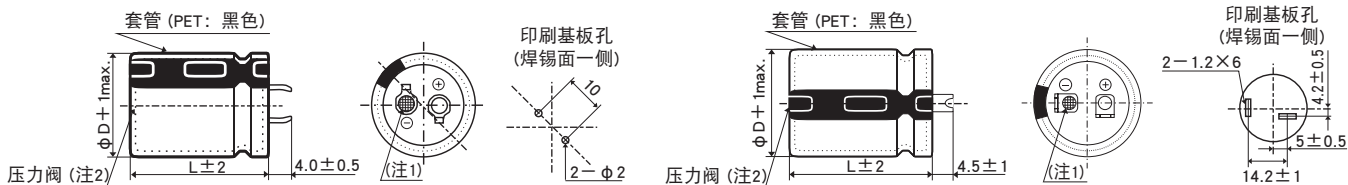
## 规格表

项目	性能			
工作温度范围	-25~+85℃			
额定电压范围	160~450V <sub>dc</sub>			
静电容量容许差	±20% (M) (20℃、120Hz)			
漏电流	I ≤ 3√CV (20℃、5分値) I: 漏电流 (µA)、C: 静电容量 (µF)、V: 额定电压 (V <sub>dc</sub> )			
损失角正切值 (tan δ)	额定电压 (V <sub>dc</sub> )	160~250V	315~400V	420、450V
	tan δ (Max.)	0.15	0.15	0.20
温度特性 (阻抗比) (Max右表值)	额定电压 (V <sub>dc</sub> )	160~250V	315~400V	420、450V
	Z (-25℃) / Z (+20℃)	4	8	8
耐久性	在85℃环境中, 不超过额定电压的范围内叠加额定纹波电流, 连续加载额定电压2,000小时后, 待温度恢复到20℃进行测量时, 应满足以下要求。			
	静电容量变化率	≤ 初始值的±20%		
	损失角正切值	≤ 初始规格值的200%		
	漏电流	≤ 初始规格值		
高温无负荷特性	在85℃环境中, 无负荷放置1,000小时后待温度恢复到20℃, 进行试验前处理 (JIS C 5101-4 4.1项) 后进行测量时, 应满足以下要求。			
	静电容量变化率	≤ 初始值的±15%		
	损失角正切值	≤ 初始规格值的150%		
	漏电流	≤ 初始规格值		

## 尺寸图 (CE692形) [mm]

●端子代码: VS (φ22~φ35): 标准品

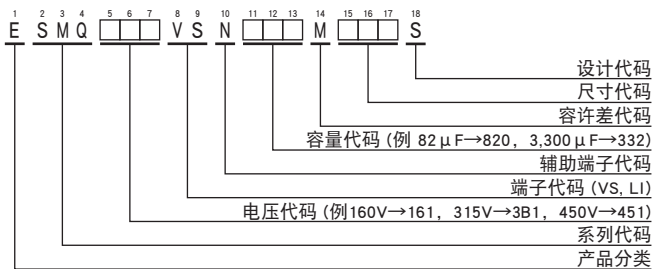
●端子代码: LI (φ35)



(注1) 阴极端子的铆钉部网眼刻印。

(注2) 标准规格为「无树脂板」。

## 产品型号体系



产品型号代码的详细介绍请参考「产品型号表示方法(基板自立型)」。

SMQ系列

◆标准品一览表

WV (Vdc)	Cap (μF)	尺寸 φD×L(mm)	tanδ	额定纹波电流 (Arms/85℃, 120Hz)	产品型号	WV (Vdc)	Cap (μF)	尺寸 φD×L(mm)	tanδ	额定纹波电流 (Arms/85℃, 120Hz)	产品型号
160	560	22×25	0.15	2.25	ESMQ161VSN561MP25S	250	270	22×25	0.15	1.31	ESMQ251VSN271MP25S
	680	22×30	0.15	2.50	ESMQ161VSN681MP30S		330	22×30	0.15	1.75	ESMQ251VSN331MP30S
	820	22×35	0.15	2.75	ESMQ161VSN821MP35S		390	22×30	0.15	1.91	ESMQ251VSN391MP30S
	1,000	22×40	0.15	3.00	ESMQ161VSN102MP40S		390	25.4×25	0.15	1.91	ESMQ251VSN391MQ25S
	1,000	25.4×30	0.15	3.00	ESMQ161VSN102MQ30S		470	22×35	0.15	2.11	ESMQ251VSN471MP35S
	1,200	22×45	0.15	3.25	ESMQ161VSN122MP45S		470	25.4×30	0.15	2.11	ESMQ251VSN471MQ30S
	1,200	25.4×35	0.15	3.25	ESMQ161VSN122MQ35S		560	22×40	0.15	2.25	ESMQ251VSN561MP40S
	1,200	30×25	0.15	3.25	ESMQ161VSN122MR25S		560	25.4×30	0.15	2.25	ESMQ251VSN561MQ30S
	1,500	22×50	0.15	3.73	ESMQ161VSN152MP50S		560	30×25	0.15	2.25	ESMQ251VSN561MR25S
	1,500	25.4×40	0.15	3.73	ESMQ161VSN152MQ40S		680	22×45	0.15	2.50	ESMQ251VSN681MP45S
	1,500	30×30	0.15	3.73	ESMQ161VSN152MR30S		680	25.4×35	0.15	2.50	ESMQ251VSN681MQ35S
	1,500	35×25	0.15	3.73	ESMQ161VSN152MA25S		680	30×30	0.15	2.50	ESMQ251VSN681MR30S
	1,800	25.4×45	0.15	4.20	ESMQ161VSN182MQ45S		820	22×50	0.15	2.77	ESMQ251VSN821MP50S
	1,800	30×35	0.15	4.20	ESMQ161VSN182MR35S		820	25.4×40	0.15	2.77	ESMQ251VSN821MQ40S
	1,800	35×30	0.15	4.20	ESMQ161VSN182MA30S		820	30×30	0.15	2.77	ESMQ251VSN821MR30S
	2,200	30×40	0.15	4.78	ESMQ161VSN222MR40S		820	35×25	0.15	2.77	ESMQ251VSN821MA25S
	2,200	35×35	0.15	4.78	ESMQ161VSN222MA35S		1,000	25.4×45	0.15	3.32	ESMQ251VSN102MQ45S
	2,700	35×40	0.15	5.45	ESMQ161VSN272MA40S		1,000	30×35	0.15	3.32	ESMQ251VSN102MR35S
	3,300	35×45	0.15	5.75	ESMQ161VSN332MA45S		1,000	35×30	0.15	3.32	ESMQ251VSN102MA30S
	3,900	35×50	0.15	6.00	ESMQ161VSN392MA50S		1,200	30×40	0.15	3.53	ESMQ251VSN122MR40S
180	470	22×25	0.15	2.08	ESMQ181VSN471MP25S	1,200	35×35	0.15	3.53	ESMQ251VSN122MA35S	
	560	22×30	0.15	2.25	ESMQ181VSN561MP30S	1,500	30×50	0.15	4.04	ESMQ251VSN152MR50S	
	680	22×30	0.15	2.50	ESMQ181VSN681MP30S	1,500	35×40	0.15	4.04	ESMQ251VSN152MA40S	
	680	25.4×25	0.15	2.50	ESMQ181VSN681MQ25S	1,800	35×45	0.15	4.55	ESMQ251VSN182MA45S	
	820	22×35	0.15	2.75	ESMQ181VSN821MP35S	315	180	22×25	0.15	1.21	ESMQ315VSN181MP25S
	820	25.4×30	0.15	2.75	ESMQ181VSN821MQ30S		220	22×30	0.15	1.41	ESMQ315VSN221MP30S
	1,000	22×45	0.15	3.00	ESMQ181VSN102MP45S		270	22×30	0.15	1.60	ESMQ315VSN271MP30S
	1,000	25.4×35	0.15	3.00	ESMQ181VSN102MQ35S		330	22×40	0.15	1.82	ESMQ315VSN331MP40S
	1,000	30×25	0.15	3.00	ESMQ181VSN102MR25S		330	25.4×30	0.15	1.82	ESMQ315VSN331MQ30S
	1,200	22×50	0.15	3.31	ESMQ181VSN122MP50S		330	30×25	0.15	1.82	ESMQ315VSN331MR25S
	1,200	25.4×40	0.15	3.31	ESMQ181VSN122MQ40S		390	22×45	0.15	2.01	ESMQ315VSN391MP45S
	1,200	30×30	0.15	3.31	ESMQ181VSN122MR30S		390	25.4×35	0.15	2.01	ESMQ315VSN391MQ35S
	1,200	35×25	0.15	3.31	ESMQ181VSN122MA25S		390	30×30	0.15	2.01	ESMQ315VSN391MR30S
	1,500	25.4×45	0.15	3.83	ESMQ181VSN152MQ45S		470	22×50	0.15	2.27	ESMQ315VSN471MP50S
	1,500	30×35	0.15	3.83	ESMQ181VSN152MR35S		470	25.4×40	0.15	2.27	ESMQ315VSN471MQ40S
	1,500	35×30	0.15	3.83	ESMQ181VSN152MA30S		470	30×30	0.15	2.27	ESMQ315VSN471MR30S
	1,800	25.4×50	0.15	4.32	ESMQ181VSN182MQ50S		470	35×25	0.15	2.27	ESMQ315VSN471MA25S
	1,800	30×40	0.15	4.32	ESMQ181VSN182MR40S		560	25.4×45	0.15	2.56	ESMQ315VSN561MQ45S
	1,800	35×30	0.15	4.32	ESMQ181VSN182MA30S		560	30×35	0.15	2.56	ESMQ315VSN561MR35S
	2,200	30×45	0.15	4.92	ESMQ181VSN222MR45S		560	35×30	0.15	2.56	ESMQ315VSN561MA30S
2,200	35×40	0.15	4.92	ESMQ181VSN222MA40S	680		30×40	0.15	2.87	ESMQ315VSN681MR40S	
2,700	35×45	0.15	5.52	ESMQ181VSN272MA45S	680		35×35	0.15	2.87	ESMQ315VSN681MQ35S	
3,300	35×50	0.15	5.75	ESMQ181VSN332MA50S	820		30×45	0.15	3.25	ESMQ315VSN821MR45S	
200	390	22×25	0.15	1.68	ESMQ201VSN391MP25S		820	35×40	0.15	3.25	ESMQ315VSN821MA40S
	470	22×30	0.15	1.85	ESMQ201VSN471MP30S	1,000	30×50	0.15	3.63	ESMQ315VSN102MR50S	
	560	22×30	0.15	2.43	ESMQ201VSN561MP30S	1,000	35×45	0.15	3.63	ESMQ315VSN102MA45S	
	560	25.4×25	0.15	2.43	ESMQ201VSN561MQ25S	350	150	22×25	0.15	1.12	ESMQ351VSN151MP25S
	680	22×35	0.15	2.68	ESMQ201VSN681MP35S		180	22×30	0.15	1.22	ESMQ351VSN181MP30S
	680	25.4×30	0.15	2.68	ESMQ201VSN681MQ30S		220	22×35	0.15	1.44	ESMQ351VSN221MP35S
	820	22×40	0.15	2.93	ESMQ201VSN821MP40S		270	22×40	0.15	1.66	ESMQ351VSN271MP40S
	820	25.4×30	0.15	2.93	ESMQ201VSN821MQ30S		270	25.4×30	0.15	1.66	ESMQ351VSN271MQ30S
	820	30×25	0.15	2.93	ESMQ201VSN821MR25S		330	22×45	0.15	1.88	ESMQ351VSN331MP45S
	1,000	22×45	0.15	3.25	ESMQ201VSN102MP45S		330	25.4×35	0.15	1.88	ESMQ351VSN331MQ35S
	1,000	25.4×35	0.15	3.25	ESMQ201VSN102MQ35S		390	22×50	0.15	2.06	ESMQ351VSN391MP50S
	1,000	30×30	0.15	3.25	ESMQ201VSN102MR30S		390	25.4×40	0.15	2.06	ESMQ351VSN391MQ40S
	1,000	35×25	0.15	3.25	ESMQ201VSN102MA25S		390	30×30	0.15	2.06	ESMQ351VSN391MR30S
	1,200	25.4×40	0.15	3.50	ESMQ201VSN122MQ40S		390	35×25	0.15	2.06	ESMQ351VSN391MA25S
	1,200	30×30	0.15	3.50	ESMQ201VSN122MR30S		470	25.4×45	0.15	2.40	ESMQ351VSN471MQ45S
	1,200	35×30	0.15	3.50	ESMQ201VSN122MA30S		470	30×35	0.15	2.40	ESMQ351VSN471MR35S
	1,500	25.4×50	0.15	3.87	ESMQ201VSN152MQ50S		470	35×30	0.15	2.40	ESMQ351VSN471MA30S
	1,500	30×35	0.15	3.87	ESMQ201VSN152MR35S		560	25.4×50	0.15	2.60	ESMQ351VSN561MQ50S
	1,500	35×30	0.15	3.87	ESMQ201VSN152MA30S		560	30×40	0.15	2.60	ESMQ351VSN561MR40S
	1,800	30×45	0.15	4.32	ESMQ201VSN182MR45S		560	35×30	0.15	2.60	ESMQ351VSN561MA30S
1,800	35×35	0.15	4.32	ESMQ201VSN182MA35S	680		30×45	0.15	2.96	ESMQ351VSN681MR45S	
2,200	30×50	0.15	4.92	ESMQ201VSN222MR50S	680		35×35	0.15	2.96	ESMQ351VSN681MA35S	
2,200	35×40	0.15	4.92	ESMQ201VSN222MA40S	820		30×50	0.15	3.25	ESMQ351VSN821MR50S	
2,700	35×50	0.15	5.45	ESMQ201VSN272MA50S	820	35×45	0.15	3.25	ESMQ351VSN821MA45S		

◆标准品一览表

WV (V <sub>dc</sub> )	Cap (μF)	尺寸 φD×L (mm)	tan δ	额定纹波电流 (Arms/85°C, 120Hz)	产品型号	WV (V <sub>dc</sub> )	Cap (μF)	尺寸 φD×L (mm)	tan δ	额定纹波电流 (Arms/85°C, 120Hz)	产品型号	
350	1,000	35×50	0.15	3.54	ESMQ351VSN102MA50S	420	270	30×30	0.20	1.94	ESMQ421VSN271MR30S	
400	120	22×25	0.15	1.02	ESMQ401VSN121MP25S		330	25.4×45	0.20	2.17	ESMQ421VSN331MQ45S	
	150	22×30	0.15	1.16	ESMQ401VSN151MP30S		330	30×35	0.20	2.17	ESMQ421VSN331MR35S	
	180	22×35	0.15	1.44	ESMQ401VSN181MP35S		330	35×30	0.20	2.17	ESMQ421VSN331MA30S	
	220	22×40	0.15	1.49	ESMQ401VSN221MP40S		390	25.4×50	0.20	2.27	ESMQ421VSN391MQ50S	
	220	25.4×30	0.15	1.49	ESMQ401VSN221MQ30S		390	30×35	0.20	2.27	ESMQ421VSN391MR35S	
	270	22×45	0.15	1.67	ESMQ401VSN271MP45S		390	35×30	0.20	2.27	ESMQ421VSN391MA30S	
	270	25.4×35	0.15	1.67	ESMQ401VSN271MQ35S		470	30×40	0.20	2.61	ESMQ421VSN471MR40S	
	270	30×25	0.15	1.67	ESMQ401VSN271MR25S		470	35×35	0.20	2.61	ESMQ421VSN471MA35S	
	330	22×50	0.15	1.90	ESMQ401VSN331MP50S		560	30×50	0.20	2.82	ESMQ421VSN561MR50S	
	330	25.4×40	0.15	1.90	ESMQ401VSN331MQ40S		560	35×40	0.20	2.82	ESMQ421VSN561MA40S	
	330	30×30	0.15	1.90	ESMQ401VSN331MR30S		680	35×45	0.20	3.11	ESMQ421VSN681MA45S	
	330	35×25	0.15	1.90	ESMQ401VSN331MA25S		450	82	22×25	0.20	0.83	ESMQ451VSN820MP25S
	390	25.4×45	0.15	2.13	ESMQ401VSN391MQ45S			100	22×25	0.20	0.93	ESMQ451VSN101MP25S
	390	30×35	0.15	2.13	ESMQ401VSN391MR35S	120		22×30	0.20	1.04	ESMQ451VSN121MP30S	
	390	35×30	0.15	2.13	ESMQ401VSN391MA30S	150		22×35	0.20	1.19	ESMQ451VSN151MP35S	
	470	25.4×50	0.15	2.39	ESMQ401VSN471MQ50S	150		25.4×25	0.20	1.19	ESMQ451VSN151MQ25S	
	470	30×40	0.15	2.39	ESMQ401VSN471MR40S	180		22×40	0.20	1.35	ESMQ451VSN181MP40S	
	470	35×30	0.15	2.39	ESMQ401VSN471MA30S	180		25.4×30	0.20	1.35	ESMQ451VSN181MQ30S	
560	30×45	0.15	2.69	ESMQ401VSN561MR45S	220	22×45		0.20	1.55	ESMQ451VSN221MP45S		
560	35×35	0.15	2.69	ESMQ401VSN561MA35S	220	25.4×40		0.20	1.55	ESMQ451VSN221MQ40S		
680	30×50	0.15	2.96	ESMQ401VSN681MR50S	220	30×30		0.20	1.55	ESMQ451VSN221MR30S		
680	35×40	0.15	2.96	ESMQ401VSN681MA40S	220	35×25		0.20	1.55	ESMQ451VSN221MA25S		
820	35×45	0.15	3.25	ESMQ401VSN821MA45S	270	22×50		0.20	1.78	ESMQ451VSN271MP50S		
420	100	22×25	0.20	0.97	ESMQ421VSN101MP25S	270		25.4×40	0.20	1.78	ESMQ451VSN271MQ40S	
	120	22×25	0.20	1.08	ESMQ421VSN121MP25S	270		30×30	0.20	1.78	ESMQ451VSN271MR30S	
	150	22×30	0.20	1.30	ESMQ421VSN151MP30S	330		25.4×50	0.20	2.01	ESMQ451VSN331MQ50S	
	150	25.4×25	0.20	1.30	ESMQ421VSN151MQ25S	330		30×40	0.20	2.01	ESMQ451VSN331MR40S	
	180	22×35	0.20	1.48	ESMQ421VSN181MP35S	330		35×30	0.20	2.01	ESMQ451VSN331MA30S	
	180	25.4×30	0.20	1.48	ESMQ421VSN181MQ30S	390		30×40	0.20	2.24	ESMQ451VSN391MR40S	
	220	22×40	0.20	1.65	ESMQ421VSN221MP40S	390	35×35	0.20	2.24	ESMQ451VSN391MA35S		
	220	25.4×35	0.20	1.65	ESMQ421VSN221MQ35S	470	30×45	0.20	2.53	ESMQ451VSN471MR45S		
	220	30×25	0.20	1.65	ESMQ421VSN221MR25S	470	35×40	0.20	2.53	ESMQ451VSN471MA40S		
	270	22×50	0.20	1.94	ESMQ421VSN271MP50S	560	30×50	0.20	2.82	ESMQ451VSN561MR50S		
	270	25.4×35	0.20	1.94	ESMQ421VSN271MQ35S	560	35×45	0.20	2.82	ESMQ451VSN561MA45S		

◆额定纹波电流频率修正系数

纹波频率与标准品一览表的规定值相异时，请使用小于乘以下表系数所得之值的值。

●频率修正系数

频率 (Hz)	50	120	300	1k	10k	50k
160~250V <sub>dc</sub>	0.81	1.00	1.17	1.32	1.45	1.50
315~450V <sub>dc</sub>	0.77	1.00	1.16	1.30	1.41	1.43

※铝电解电容器的老化是由于叠加纹波电流导致自发热温度上升，从而缩短了使用寿命。  
详细介绍请参考目录TECHNICAL NOTE中记载的“5-3 纹波电流与寿命”。