

# SMM Series

- Longer life from SMQ series
- Endurance with ripple current : 3,000 hours at 85°C
- Non solvent resistant type
- RoHS2 Compliant

SMM

↑ Longer life  
SMQ



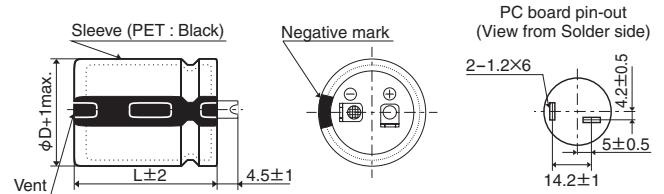
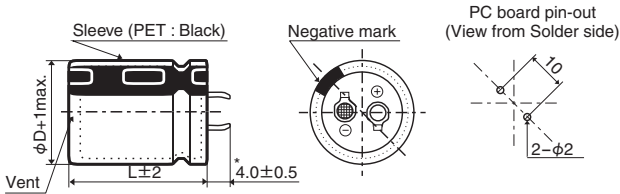
## SPECIFICATIONS

Items	Characteristics		
Category	-25 to +85°C		
Temperature Range	-25 to +85°C		
Rated Voltage Range	160 to 450V <sub>dc</sub>		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current	I ≤ 3/CV Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes)		
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	160 to 400V	420 & 450V
	tan δ (Max.)	0.15	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	160 to 400V	420 & 450V
	Z(-25°C)/Z(+20°C)	4	8
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 3,000 hours at 85°C.		
	Capacitance change	≤ ±20% of the initial value	
	D.F. (tan δ)	≤ 200% of the initial specified value	
	Leakage current	≤ The initial specified value	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.		
	Capacitance change	≤ ±15% of the initial value	
	D.F. (tan δ)	≤ 150% of the initial specified value	
	Leakage current	≤ The initial specified value	

## DIMENSIONS [mm]

● Terminal Code : VS (φ22 to φ35) : Standard

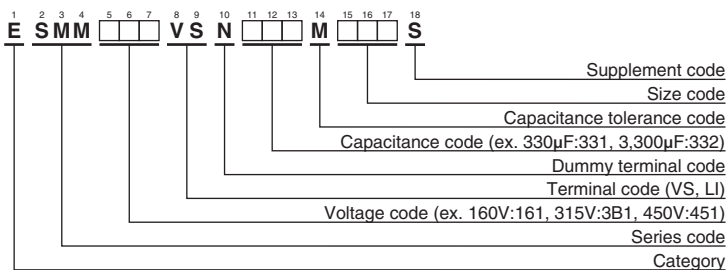
● Terminal Code : LI (φ35)



\* φD=35mm : 3.5 ± 0.5mm

The standard design has no plastic disc.

## PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

## RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

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

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

SMM Series

◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.
160	270	22 × 20	0.15	1.30	ESMM161VSN271MP20S	200	390	22 × 30	0.15	1.73	ESMM201VSN391MP30S
	390	22 × 25	0.15	1.63	ESMM161VSN391MP25S		390	25.4 × 25	0.15	1.71	ESMM201VSN391MQ25S
	390	25.4 × 20	0.15	1.62	ESMM161VSN391MQ20S		390	30 × 20	0.15	1.71	ESMM201VSN391MR20S
	470	22 × 30	0.15	1.86	ESMM161VSN471MP30S		470	22 × 30	0.15	1.97	ESMM201VSN471MP30S
	470	25.4 × 25	0.15	1.86	ESMM161VSN471MQ25S		470	25.4 × 25	0.15	1.95	ESMM201VSN471MQ25S
	560	22 × 30	0.15	2.15	ESMM161VSN561MP30S		470	30 × 20	0.15	1.88	ESMM201VSN471MR20S
	560	25.4 × 25	0.15	2.15	ESMM161VSN561MQ25S		560	22 × 35	0.15	2.18	ESMM201VSN561MP35S
	560	30 × 20	0.15	2.05	ESMM161VSN561MR20S		560	25.4 × 30	0.15	2.15	ESMM201VSN561MQ30S
	680	22 × 35	0.15	2.35	ESMM161VSN681MP35S		560	30 × 25	0.15	2.15	ESMM201VSN561MR25S
	680	25.4 × 30	0.15	2.33	ESMM161VSN681MQ30S		560	35 × 20	0.15	2.05	ESMM201VSN561MA20S
	680	30 × 25	0.15	2.33	ESMM161VSN681MR25S		680	22 × 40	0.15	2.48	ESMM201VSN681MP40S
	680	35 × 20	0.15	2.26	ESMM161VSN681MA20S		680	25.4 × 30	0.15	2.48	ESMM201VSN681MQ30S
	820	22 × 40	0.15	2.68	ESMM161VSN821MP40S		680	30 × 25	0.15	2.48	ESMM201VSN681MR25S
	820	25.4 × 30	0.15	2.65	ESMM161VSN821MQ30S		680	35 × 20	0.15	2.36	ESMM201VSN681MA20S
	820	30 × 25	0.15	2.64	ESMM161VSN821MR25S		820	22 × 45	0.15	2.81	ESMM201VSN821MP45S
	820	35 × 20	0.15	2.49	ESMM161VSN821MA20S		820	25.4 × 35	0.15	2.79	ESMM201VSN821MQ35S
	1,000	22 × 45	0.15	3.02	ESMM161VSN102MP45S		820	30 × 30	0.15	2.80	ESMM201VSN821MR30S
	1,000	25.4 × 35	0.15	3.00	ESMM161VSN102MQ35S		820	35 × 25	0.15	2.83	ESMM201VSN821MA25S
	1,000	30 × 30	0.15	2.96	ESMM161VSN102MR30S		1,000	22 × 50	0.15	3.28	ESMM201VSN102MP50S
	1,000	35 × 25	0.15	3.13	ESMM161VSN102MA25S		1,000	25.4 × 40	0.15	3.28	ESMM201VSN102MQ40S
	1,200	22 × 50	0.15	3.47	ESMM161VSN122MP50S		1,000	30 × 35	0.15	3.15	ESMM201VSN102MR35S
	1,200	25.4 × 40	0.15	3.43	ESMM161VSN122MQ40S		1,000	35 × 30	0.15	3.26	ESMM201VSN102MA30S
	1,200	30 × 30	0.15	3.41	ESMM161VSN122MR30S		1,200	25.4 × 45	0.15	3.61	ESMM201VSN122MQ45S
	1,200	35 × 25	0.15	3.40	ESMM161VSN122MA25S		1,200	30 × 35	0.15	3.61	ESMM201VSN122MR35S
1,500	25.4 × 50	0.15	3.96	ESMM161VSN152MQ50S	1,200	35 × 30	0.15	3.57	ESMM201VSN122MA30S		
1,500	30 × 35	0.15	3.96	ESMM161VSN152MR35S	1,500	30 × 45	0.15	4.13	ESMM201VSN152MR45S		
1,500	35 × 30	0.15	3.94	ESMM161VSN152MA30S	1,500	35 × 35	0.15	4.06	ESMM201VSN152MA35S		
1,800	30 × 40	0.15	4.31	ESMM161VSN182MR40S	1,800	30 × 50	0.15	4.60	ESMM201VSN182MR50S		
1,800	35 × 35	0.15	4.28	ESMM161VSN182MA35S	1,800	35 × 40	0.15	4.59	ESMM201VSN182MA40S		
2,200	30 × 50	0.15	4.96	ESMM161VSN222MR50S	2,200	35 × 45	0.15	5.25	ESMM201VSN222MA45S		
2,200	35 × 40	0.15	4.96	ESMM161VSN222MA40S	180	22 × 20	0.15	1.06	ESMM221VSN181MP20S		
2,700	35 × 45	0.15	5.57	ESMM161VSN272MA45S	270	22 × 25	0.15	1.47	ESMM221VSN271MP25S		
3,300	35 × 50	0.15	6.21	ESMM161VSN332MA50S	270	25.4 × 20	0.15	1.35	ESMM221VSN271MQ20S		
180	220	22 × 20	0.15	1.18	ESMM181VSN221MP20S	330	22 × 30	0.15	1.70	ESMM221VSN331MP30S	
	330	22 × 25	0.15	1.77	ESMM181VSN331MP25S	330	25.4 × 25	0.15	1.69	ESMM221VSN331MQ25S	
	330	25.4 × 20	0.15	1.49	ESMM181VSN331MQ20S	330	30 × 20	0.15	1.58	ESMM221VSN331MR20S	
	390	22 × 25	0.15	1.84	ESMM181VSN391MP25S	390	22 × 30	0.15	1.89	ESMM221VSN391MP30S	
	470	22 × 30	0.15	1.91	ESMM181VSN471MP30S	390	25.4 × 25	0.15	1.84	ESMM221VSN391MQ25S	
	470	25.4 × 25	0.15	2.08	ESMM181VSN471MQ25S	390	30 × 20	0.15	1.71	ESMM221VSN391MR20S	
	470	30 × 20	0.15	1.88	ESMM181VSN471MR20S	470	22 × 35	0.15	2.08	ESMM221VSN471MP35S	
	560	22 × 35	0.15	2.25	ESMM181VSN561MP35S	470	25.4 × 30	0.15	2.08	ESMM221VSN471MQ30S	
	560	25.4 × 25	0.15	2.25	ESMM181VSN561MQ25S	470	30 × 25	0.15	2.12	ESMM221VSN471MR25S	
	680	22 × 35	0.15	2.48	ESMM181VSN681MP35S	470	35 × 20	0.15	1.88	ESMM221VSN471MA20S	
	680	25.4 × 30	0.15	2.50	ESMM181VSN681MQ30S	560	22 × 40	0.15	2.33	ESMM221VSN561MP40S	
	680	30 × 25	0.15	2.46	ESMM181VSN681MR25S	560	25.4 × 35	0.15	2.38	ESMM221VSN561MQ35S	
	680	35 × 20	0.15	2.26	ESMM181VSN681MA20S	560	30 × 25	0.15	2.31	ESMM221VSN561MR25S	
	820	22 × 40	0.15	2.86	ESMM181VSN821MP40S	560	35 × 20	0.15	2.14	ESMM221VSN561MA20S	
	820	25.4 × 35	0.15	2.75	ESMM181VSN821MQ35S	680	22 × 45	0.15	2.63	ESMM221VSN681MP45S	
	820	30 × 25	0.15	2.69	ESMM181VSN821MR25S	680	25.4 × 35	0.15	2.68	ESMM221VSN681MQ35S	
	1,000	22 × 50	0.15	3.10	ESMM181VSN102MP50S	680	30 × 30	0.15	2.62	ESMM221VSN681MR30S	
	1,000	25.4 × 40	0.15	3.06	ESMM181VSN102MQ40S	680	35 × 25	0.15	2.58	ESMM221VSN681MA25S	
	1,000	30 × 30	0.15	3.10	ESMM181VSN102MR30S	820	25.4 × 45	0.15	3.01	ESMM221VSN821MQ45S	
	1,000	35 × 25	0.15	2.98	ESMM181VSN102MA25S	820	30 × 35	0.15	2.99	ESMM221VSN821MR35S	
	1,200	25.4 × 45	0.15	3.63	ESMM181VSN122MQ45S	820	35 × 30	0.15	2.79	ESMM221VSN821MA30S	
	1,200	30 × 35	0.15	3.55	ESMM181VSN122MR35S	1,000	25.4 × 50	0.15	3.40	ESMM221VSN102MQ50S	
	1,200	35 × 30	0.15	3.49	ESMM181VSN122MA30S	1,000	30 × 35	0.15	3.42	ESMM221VSN102MR35S	
	1,500	30 × 40	0.15	4.10	ESMM181VSN152MR40S	1,000	35 × 30	0.15	3.29	ESMM221VSN102MA30S	
1,500	35 × 35	0.15	4.02	ESMM181VSN152MA35S	1,200	30 × 40	0.15	3.88	ESMM221VSN122MR40S		
1,800	30 × 45	0.15	4.55	ESMM181VSN182MR45S	1,200	35 × 35	0.15	3.68	ESMM221VSN122MA35S		
1,800	35 × 35	0.15	4.54	ESMM181VSN182MA35S	1,500	30 × 50	0.15	4.44	ESMM221VSN152MR50S		
2,200	35 × 40	0.15	4.83	ESMM181VSN222MA40S	1,500	35 × 40	0.15	4.10	ESMM221VSN152MA40S		
2,700	35 × 50	0.15	5.30	ESMM181VSN272MA50S	1,800	35 × 45	0.15	4.52	ESMM221VSN182MA45S		
200	220	22 × 20	0.15	1.18	ESMM201VSN221MP20S	150	22 × 20	0.15	0.97	ESMM251VSN151MP20S	
	270	22 × 25	0.15	1.37	ESMM201VSN271MP25S	180	22 × 20	0.15	1.06	ESMM251VSN181MP20S	
	270	25.4 × 20	0.15	1.35	ESMM201VSN271MQ20S	220	22 × 25	0.15	1.24	ESMM251VSN221MP25S	
	330	22 × 25	0.15	1.51	ESMM201VSN331MP25S	220	25.4 × 20	0.15	1.22	ESMM251VSN221MQ20S	
	330	25.4 × 20	0.15	1.49	ESMM201VSN331MQ20S	270	22 × 25	0.15	1.50	ESMM251VSN271MP25S	

◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.
250	330	22 × 30	0.15	1.66	ESMM251VSN331MP30S	350	180	30 × 20	0.15	1.16	ESMM351VSN181MR20S
	330	25.4 × 25	0.15	1.61	ESMM251VSN331MQ25S		220	22 × 35	0.15	1.47	ESMM351VSN221MP35S
	330	30 × 20	0.15	1.58	ESMM251VSN331MR20S		220	25.4 × 30	0.15	1.53	ESMM351VSN221MQ30S
	390	22 × 35	0.15	1.88	ESMM251VSN391MP35S		220	30 × 25	0.15	1.54	ESMM351VSN221MR25S
	390	25.4 × 30	0.15	1.88	ESMM251VSN391MQ30S		220	35 × 20	0.15	1.29	ESMM351VSN221MA20S
	390	30 × 25	0.15	1.86	ESMM251VSN391MR25S		270	22 × 40	0.15	1.70	ESMM351VSN271MP40S
	390	35 × 20	0.15	1.71	ESMM251VSN391MA20S		270	25.4 × 35	0.15	1.73	ESMM351VSN271MQ35S
	470	22 × 35	0.15	2.15	ESMM251VSN471MP35S		270	30 × 25	0.15	1.80	ESMM351VSN271MR25S
	470	25.4 × 35	0.15	2.15	ESMM251VSN471MQ35S		270	35 × 20	0.15	1.49	ESMM351VSN271MA20S
	470	30 × 25	0.15	2.05	ESMM251VSN471MR25S		330	22 × 45	0.15	1.87	ESMM351VSN331MP45S
	470	35 × 20	0.15	1.88	ESMM251VSN471MA20S		330	25.4 × 35	0.15	1.97	ESMM351VSN331MQ35S
	560	22 × 40	0.15	2.48	ESMM251VSN561MP40S		330	30 × 30	0.15	2.03	ESMM351VSN331MR30S
	560	25.4 × 35	0.15	2.35	ESMM251VSN561MQ35S		330	35 × 25	0.15	1.80	ESMM351VSN331MA25S
	560	30 × 25	0.15	2.35	ESMM251VSN561MR25S		390	25.4 × 40	0.15	2.14	ESMM351VSN391MQ40S
	680	22 × 50	0.15	2.61	ESMM251VSN681MP50S		390	30 × 35	0.15	2.23	ESMM351VSN391MR35S
	680	25.4 × 40	0.15	2.67	ESMM251VSN681MQ40S		390	35 × 30	0.15	2.30	ESMM351VSN391MA30S
	680	30 × 30	0.15	2.71	ESMM251VSN681MR30S		470	25.4 × 50	0.15	2.55	ESMM351VSN471MQ50S
	680	35 × 25	0.15	2.58	ESMM251VSN681MA25S		470	30 × 35	0.15	2.53	ESMM351VSN471MR35S
	820	25.4 × 45	0.15	3.01	ESMM251VSN821MQ45S		470	35 × 30	0.15	2.55	ESMM351VSN471MA30S
	820	30 × 35	0.15	2.98	ESMM251VSN821MR35S		560	30 × 40	0.15	2.73	ESMM351VSN561MR40S
820	35 × 30	0.15	2.96	ESMM251VSN821MA30S	560	35 × 35	0.15	2.75	ESMM351VSN561MA35S		
1,000	30 × 40	0.15	3.56	ESMM251VSN102MR40S	680	30 × 50	0.15	3.15	ESMM351VSN681MR50S		
1,000	35 × 35	0.15	3.48	ESMM251VSN102MA35S	680	35 × 40	0.15	3.15	ESMM351VSN681MA40S		
1,200	30 × 45	0.15	3.99	ESMM251VSN122MR45S	820	35 × 45	0.15	3.47	ESMM351VSN821MA45S		
1,200	35 × 35	0.15	3.84	ESMM251VSN122MA35S	1,000	35 × 50	0.15	3.60	ESMM351VSN102MA50S		
1,500	35 × 40	0.15	4.33	ESMM251VSN152MA40S	400	68	22 × 20	0.15	0.65	ESMM401VSN680MP20S	
1,800	35 × 50	0.15	4.54	ESMM251VSN182MA50S		82	22 × 25	0.15	0.84	ESMM401VSN820MP25S	
315	100	22 × 20	0.15	0.79		ESMM3B1VSN101MP20S	82	25.4 × 20	0.15	0.74	ESMM401VSN820MQ20S
	120	25.4 × 20	0.15	0.90		ESMM3B1VSN121MQ20S	100	22 × 25	0.15	0.99	ESMM401VSN101MP25S
	150	22 × 25	0.15	1.06		ESMM3B1VSN151MP25S	100	25.4 × 20	0.15	0.82	ESMM401VSN101MQ20S
	150	25.4 × 20	0.15	1.00		ESMM3B1VSN151MQ20S	120	22 × 30	0.15	1.09	ESMM401VSN121MP30S
	180	22 × 30	0.15	1.29		ESMM3B1VSN181MP30S	120	25.4 × 25	0.15	1.13	ESMM401VSN121MQ25S
	180	25.4 × 25	0.15	1.38		ESMM3B1VSN181MQ25S	120	30 × 20	0.15	0.95	ESMM401VSN121MR20S
	180	30 × 20	0.15	1.16		ESMM3B1VSN181MR20S	150	22 × 35	0.15	1.24	ESMM401VSN151MP35S
	220	22 × 30	0.15	1.41		ESMM3B1VSN221MP30S	150	25.4 × 30	0.15	1.27	ESMM401VSN151MQ30S
	220	25.4 × 25	0.15	1.47		ESMM3B1VSN221MQ25S	150	30 × 25	0.15	1.20	ESMM401VSN151MR25S
	220	30 × 20	0.15	1.28		ESMM3B1VSN221MR20S	180	22 × 40	0.15	1.41	ESMM401VSN181MP40S
	270	22 × 35	0.15	1.68		ESMM3B1VSN271MP35S	180	25.4 × 30	0.15	1.44	ESMM401VSN181MQ30S
	270	25.4 × 30	0.15	1.70		ESMM3B1VSN271MQ30S	180	30 × 25	0.15	1.52	ESMM401VSN181MR25S
	270	30 × 25	0.15	1.55		ESMM3B1VSN271MR25S	180	35 × 20	0.15	1.16	ESMM401VSN181MA20S
	270	35 × 20	0.15	1.43		ESMM3B1VSN271MA20S	220	22 × 45	0.15	1.58	ESMM401VSN221MP45S
	330	22 × 40	0.15	1.91		ESMM3B1VSN331MP40S	220	25.4 × 35	0.15	1.64	ESMM401VSN221MQ35S
	330	25.4 × 35	0.15	1.94		ESMM3B1VSN331MQ35S	220	30 × 30	0.15	1.66	ESMM401VSN221MR30S
	330	30 × 25	0.15	1.98		ESMM3B1VSN331MR25S	220	35 × 25	0.15	1.47	ESMM401VSN221MA25S
	390	22 × 45	0.15	2.07		ESMM3B1VSN391MP45S	270	22 × 50	0.15	1.65	ESMM401VSN271MP50S
	390	25.4 × 40	0.15	2.11	ESMM3B1VSN391MQ40S	270	25.4 × 40	0.15	1.79	ESMM401VSN271MQ40S	
	390	30 × 30	0.15	2.15	ESMM3B1VSN391MR30S	270	30 × 30	0.15	1.82	ESMM401VSN271MR30S	
390	35 × 25	0.15	1.95	ESMM3B1VSN391MA25S	270	35 × 25	0.15	1.63	ESMM401VSN271MA25S		
470	25.4 × 45	0.15	2.31	ESMM3B1VSN471MQ45S	330	25.4 × 45	0.15	2.00	ESMM401VSN331MQ45S		
470	30 × 35	0.15	2.38	ESMM3B1VSN471MR35S	330	30 × 35	0.15	2.05	ESMM401VSN331MR35S		
470	35 × 30	0.15	2.46	ESMM3B1VSN471MA30S	330	35 × 30	0.15	2.05	ESMM401VSN331MA30S		
560	25.4 × 50	0.15	2.46	ESMM3B1VSN561MQ50S	390	25.4 × 50	0.15	2.12	ESMM401VSN391MQ50S		
560	30 × 35	0.15	2.63	ESMM3B1VSN561MR35S	390	30 × 40	0.15	2.26	ESMM401VSN391MR40S		
560	35 × 30	0.15	2.69	ESMM3B1VSN561MA30S	390	35 × 35	0.15	2.28	ESMM401VSN391MA35S		
680	30 × 45	0.15	2.82	ESMM3B1VSN681MR45S	470	30 × 45	0.15	2.51	ESMM401VSN471MR45S		
680	35 × 35	0.15	3.05	ESMM3B1VSN681MA35S	470	35 × 35	0.15	2.54	ESMM401VSN471MA35S		
820	30 × 50	0.15	3.28	ESMM3B1VSN821MR50S	560	30 × 50	0.15	2.85	ESMM401VSN561MR50S		
820	35 × 40	0.15	3.45	ESMM3B1VSN821MA40S	560	35 × 40	0.15	2.85	ESMM401VSN561MA40S		
1,000	35 × 45	0.15	3.59	ESMM3B1VSN102MA45S	680	35 × 50	0.15	3.10	ESMM401VSN681MA50S		
350	82	22 × 20	0.15	0.72	ESMM351VSN820MP20S	420	47	22 × 20	0.20	0.54	ESMM421VSN820MP20S
	120	22 × 25	0.15	1.04	ESMM351VSN121MP25S		56	22 × 20	0.20	0.59	ESMM421VSN560MP20S
	120	25.4 × 20	0.15	0.90	ESMM351VSN121MQ20S		68	25.4 × 20	0.20	0.68	ESMM421VSN680MQ20S
	150	22 × 30	0.15	1.20	ESMM351VSN151MP30S		82	22 × 25	0.20	0.85	ESMM421VSN820MP25S
	150	25.4 × 25	0.15	1.22	ESMM351VSN151MQ25S		82	25.4 × 20	0.20	0.74	ESMM421VSN820MQ20S
	150	30 × 20	0.15	1.06	ESMM351VSN151MR20S		100	22 × 30	0.20	0.97	ESMM421VSN101MP30S
	180	22 × 30	0.15	1.34	ESMM351VSN181MP30S		100	25.4 × 25	0.20	0.98	ESMM421VSN101MQ25S
	180	25.4 × 25	0.15	1.37	ESMM351VSN181MQ25S		100	30 × 20	0.20	0.87	ESMM421VSN101MR20S



SMM Series

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.
420	120	22 × 30	0.20	1.07	ESMM421VSN121MP30S	450	82	25.4 × 20	0.20	0.74	ESMM451VSN820MQ20S
	120	25.4 × 25	0.20	1.08	ESMM421VSN121MQ25S		82	30 × 20	0.20	0.79	ESMM451VSN820MR20S
	120	30 × 20	0.20	0.95	ESMM421VSN121MR20S		100	22 × 30	0.20	0.95	ESMM451VSN101MP30S
	150	22 × 35	0.20	1.21	ESMM421VSN151MP35S		100	25.4 × 25	0.20	0.97	ESMM451VSN101MQ25S
	150	25.4 × 30	0.20	1.26	ESMM421VSN151MQ30S		100	30 × 20	0.20	0.87	ESMM451VSN101MR20S
	150	30 × 25	0.20	1.30	ESMM421VSN151MR25S		120	22 × 35	0.20	1.07	ESMM451VSN121MP35S
	150	35 × 20	0.20	1.11	ESMM421VSN151MA20S		120	25.4 × 30	0.20	1.09	ESMM451VSN121MQ30S
	180	22 × 40	0.20	1.33	ESMM421VSN181MP40S		120	30 × 25	0.20	1.12	ESMM451VSN121MR25S
	180	25.4 × 35	0.20	1.42	ESMM421VSN181MQ35S		120	35 × 20	0.20	0.99	ESMM451VSN121MA20S
	180	30 × 25	0.20	1.48	ESMM421VSN181MR25S		150	22 × 40	0.20	1.18	ESMM451VSN151MP40S
	180	35 × 20	0.20	1.16	ESMM421VSN181MA20S		150	25.4 × 30	0.20	1.25	ESMM451VSN151MQ30S
	220	22 × 45	0.20	1.55	ESMM421VSN221MP45S		150	30 × 25	0.20	1.29	ESMM451VSN151MR25S
	220	25.4 × 35	0.20	1.58	ESMM421VSN221MQ35S		150	35 × 20	0.20	1.06	ESMM451VSN151MA20S
	220	30 × 30	0.20	1.65	ESMM421VSN221MR30S		180	22 × 45	0.20	1.32	ESMM451VSN181MP45S
	220	35 × 25	0.20	1.47	ESMM421VSN221MA25S		180	25.4 × 35	0.20	1.40	ESMM451VSN181MQ35S
	270	25.4 × 40	0.20	1.74	ESMM421VSN271MQ40S		180	30 × 30	0.20	1.45	ESMM451VSN181MR30S
	270	30 × 35	0.20	1.90	ESMM421VSN271MR35S		180	35 × 25	0.20	1.33	ESMM451VSN181MA25S
	270	35 × 30	0.20	1.94	ESMM421VSN271MA30S		220	22 × 50	0.20	1.48	ESMM451VSN221MP50S
	330	25.4 × 50	0.20	2.20	ESMM421VSN331MQ50S		220	25.4 × 40	0.20	1.59	ESMM451VSN221MQ40S
	330	30 × 35	0.20	1.98	ESMM421VSN331MR35S		220	30 × 30	0.20	1.64	ESMM451VSN221MR30S
	330	35 × 35	0.20	2.17	ESMM421VSN331MA35S		220	35 × 25	0.20	1.66	ESMM451VSN221MA25S
	390	30 × 40	0.20	2.22	ESMM421VSN391MR40S		270	25.4 × 45	0.20	1.73	ESMM451VSN271MQ45S
	390	35 × 35	0.20	2.27	ESMM421VSN391MA35S		270	30 × 35	0.20	1.89	ESMM451VSN271MR35S
	470	30 × 45	0.20	2.50	ESMM421VSN471MR45S		270	35 × 30	0.20	1.90	ESMM451VSN271MA30S
470	35 × 40	0.20	2.61	ESMM421VSN471MA40S	330		25.4 × 50	0.20	2.12	ESMM451VSN331MQ50S	
560	35 × 45	0.20	2.95	ESMM421VSN561MA45S	330		30 × 40	0.20	2.12	ESMM451VSN331MR40S	
680	35 × 50	0.20	3.15	ESMM421VSN681MA50S	330		35 × 35	0.20	2.15	ESMM451VSN331MA35S	
450	47	22 × 20	0.20	0.54	ESMM451VSN470MP20S		390	30 × 45	0.20	2.35	ESMM451VSN391MR45S
	56	22 × 20	0.20	0.59	ESMM451VSN560MP20S		390	35 × 40	0.20	2.38	ESMM451VSN391MA40S
	68	22 × 25	0.20	0.71	ESMM451VSN680MP25S		470	30 × 50	0.20	2.65	ESMM451VSN471MR50S
	68	25.4 × 20	0.20	0.68	ESMM451VSN680MQ20S		470	35 × 45	0.20	2.68	ESMM451VSN471MA45S
	82	22 × 25	0.20	0.86	ESMM451VSN820MP25S		560	35 × 50	0.20	2.88	ESMM451VSN561MA50S



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
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- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.  
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