

SMH Series

- Endurance with ripple current : 85°C 2,000 hours
- Non solvent-proof type
- Pb-free design

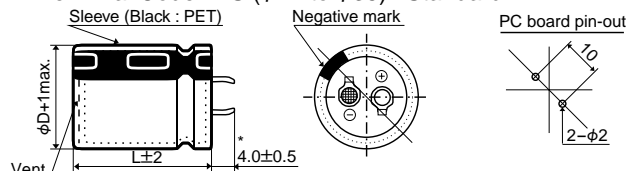


◆SPECIFICATIONS

Items	Characteristics													
Category														
Temperature Range	-40 to +85°C (6.3 to 100V _{dc})						-25 to +85°C (160 to 450V _{dc})							
Rated Voltage Range	6.3 to 450V _{dc}													
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)													
Leakage Current	I=0.02CV or 3mA, whichever is smaller. Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes)													
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	315 to 400V	450V	(at 20°C, 120Hz)
	tanδ (Max.)	0.60	0.50	0.40	0.30	0.25	0.20	0.15	0.15	0.15	0.10*	0.15	0.15	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	315 to 400V	450V	(at 120Hz)
	Z(-25°C)/Z(+20°C)	4	4	4	3	3	2	2	2	2	4	4	8	
	Z(-40°C)/Z(+20°C)	15	15	15	10	8	6	6	5	5	—	—	—	
* : 0.15 for φD=35mm														
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 for 2,000 hours at 85°C.													
	Capacitance change	≤±20% of the initial value												
	D.F. (tanδ)	≤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.													
	Capacitance change	≤±20% of the initial value												
	D.F. (tanδ)	≤150% of the initial specified value												
	Leakage current	≤The initial specified value												

◆DIMENSIONS [mm]

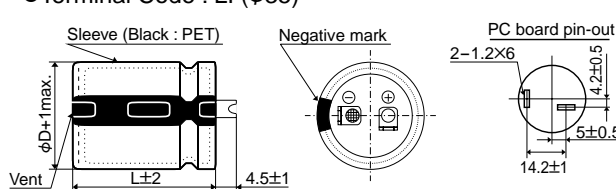
●Terminal Code : VS (φ22 to φ35) : Standard



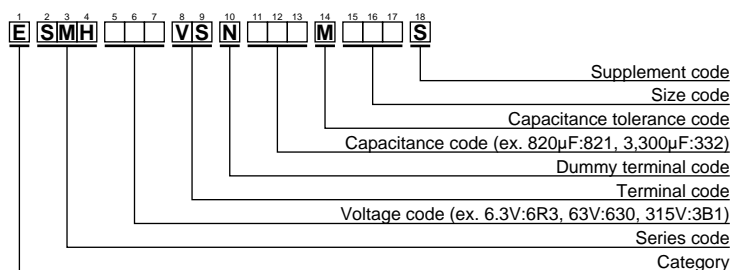
*φD=35mm : 3.5±0.5mm

No plastic disk is the standard design

●Terminal Code : LI (φ35)



◆PART NUMBERING SYSTEM



Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.
6.3	15,000	22×25	0.60	2.44	ESMH6R3VSN153MP25S	16	27,000	25.4×45	0.40	4.72	ESMH160VSN273MQ45S
	18,000	22×30	0.60	2.67	ESMH6R3VSN183MP30S		27,000	30×35	0.40	4.82	ESMH160VSN273MR35S
	18,000	25.4×25	0.60	2.70	ESMH6R3VSN183MQ25S		27,000	35×30	0.40	4.65	ESMH160VSN273MA30S
	22,000	22×30	0.60	3.06	ESMH6R3VSN223MP30S		33,000	25.4×50	0.40	5.33	ESMH160VSN333MQ50S
	22,000	25.4×25	0.60	3.07	ESMH6R3VSN223MQ25S		33,000	30×40	0.40	5.36	ESMH160VSN333MR40S
	27,000	22×35	0.60	3.49	ESMH6R3VSN273MP35S		33,000	35×30	0.40	5.15	ESMH160VSN333MA30S
	27,000	25.4×30	0.60	3.52	ESMH6R3VSN273MQ30S		39,000	30×45	0.40	6.01	ESMH160VSN393MR45S
	27,000	30×25	0.60	3.57	ESMH6R3VSN273MR25S		39,000	35×35	0.40	5.95	ESMH160VSN393MA35S
	33,000	22×40	0.60	3.97	ESMH6R3VSN333MP40S		47,000	30×50	0.40	6.79	ESMH160VSN473MR50S
	33,000	25.4×35	0.60	4.02	ESMH6R3VSN333MQ35S		47,000	35×40	0.40	6.76	ESMH160VSN473MA40S
	33,000	30×25	0.60	3.95	ESMH6R3VSN333MR25S		56,000	35×45	0.40	7.62	ESMH160VSN563MA45S
	39,000	22×50	0.60	4.55	ESMH6R3VSN393MP50S		68,000	35×50	0.40	8.63	ESMH160VSN683MA50S
	39,000	25.4×40	0.60	4.50	ESMH6R3VSN393MQ40S		5,600	22×25	0.30	2.21	ESMH250VSN562MP25S
	39,000	30×30	0.60	4.45	ESMH6R3VSN393MR30S		6,800	22×30	0.30	2.40	ESMH250VSN682MP30S
	39,000	35×25	0.60	4.51	ESMH6R3VSN393MA25S		6,800	25.4×25	0.30	2.56	ESMH250VSN682MQ25S
	47,000	25.4×45	0.60	5.09	ESMH6R3VSN473MQ45S		8,200	22×35	0.30	2.72	ESMH250VSN822MP35S
	47,000	30×35	0.60	5.06	ESMH6R3VSN473MR35S		8,200	25.4×25	0.30	2.80	ESMH250VSN822MQ25S
	47,000	35×30	0.60	5.01	ESMH6R3VSN473MA30S		10,000	22×40	0.30	3.09	ESMH250VSN103MP40S
	56,000	25.4×50	0.60	5.71	ESMH6R3VSN563MQ50S		10,000	25.4×30	0.30	3.12	ESMH250VSN103MQ30S
	56,000	30×40	0.60	5.70	ESMH6R3VSN563MR40S		10,000	30×25	0.30	3.21	ESMH250VSN103MR25S
56,000	35×30	0.60	5.77	ESMH6R3VSN563MA30S	12,000	22×45	0.30	3.48	ESMH250VSN123MP45S		
68,000	30×45	0.60	6.48	ESMH6R3VSN683MR45S	12,000	25.4×35	0.30	3.43	ESMH250VSN123MQ35S		
68,000	35×35	0.60	6.42	ESMH6R3VSN683MA35S	12,000	30×30	0.30	3.86	ESMH250VSN123MR30S		
82,000	30×50	0.60	7.32	ESMH6R3VSN823MR50S	12,000	35×25	0.30	3.54	ESMH250VSN123MA25S		
82,000	35×40	0.60	7.29	ESMH6R3VSN823MA40S	15,000	22×50	0.30	4.00	ESMH250VSN153MP50S		
100,000	35×45	0.60	8.31	ESMH6R3VSN104MA45S	15,000	25.4×40	0.30	3.95	ESMH250VSN153MQ40S		
10	12,000	22×25	0.50	2.39	ESMH100VSN123MP25S	15,000	30×30	0.30	4.00	ESMH250VSN153MR30S	
	15,000	22×30	0.50	2.76	ESMH100VSN153MP30S	15,000	35×25	0.30	3.95	ESMH250VSN153MA25S	
	15,000	25.4×25	0.50	2.77	ESMH100VSN153MQ25S	18,000	25.4×45	0.30	4.45	ESMH250VSN183MQ45S	
	18,000	22×35	0.50	3.12	ESMH100VSN183MP35S	18,000	30×35	0.30	4.46	ESMH250VSN183MR35S	
	18,000	25.4×25	0.50	3.04	ESMH100VSN183MQ25S	18,000	35×30	0.30	4.63	ESMH250VSN183MA30S	
	22,000	22×40	0.50	3.55	ESMH100VSN223MP40S	22,000	25.4×50	0.30	5.02	ESMH250VSN223MQ50S	
	22,000	25.4×30	0.50	3.48	ESMH100VSN223MQ30S	22,000	30×45	0.30	5.21	ESMH250VSN223MR45S	
	22,000	30×25	0.50	3.53	ESMH100VSN223MR25S	22,000	35×35	0.30	5.16	ESMH250VSN223MA35S	
	27,000	22×45	0.50	4.04	ESMH100VSN273MP45S	27,000	30×50	0.30	5.94	ESMH250VSN273MR50S	
	27,000	25.4×35	0.50	3.98	ESMH100VSN273MQ35S	27,000	35×40	0.30	5.92	ESMH250VSN273MA40S	
	27,000	30×30	0.50	3.73	ESMH100VSN273MR30S	33,000	35×45	0.30	6.75	ESMH250VSN333MA45S	
	27,000	35×25	0.50	3.73	ESMH100VSN273MA25S	39,000	35×50	0.30	7.56	ESMH250VSN393MA50S	
	33,000	22×50	0.50	4.58	ESMH100VSN333MP50S	3,900	22×25	0.25	2.22	ESMH350VSN392MP25S	
	33,000	25.4×40	0.50	4.54	ESMH100VSN333MQ40S	4,700	22×30	0.25	2.41	ESMH350VSN472MP30S	
	33,000	30×30	0.50	4.13	ESMH100VSN333MR30S	4,700	25.4×25	0.25	2.42	ESMH350VSN472MQ25S	
	33,000	35×25	0.50	4.13	ESMH100VSN333MA25S	5,600	22×35	0.25	2.75	ESMH350VSN562MP35S	
	39,000	25.4×45	0.50	5.08	ESMH100VSN393MQ45S	5,600	25.4×25	0.25	2.64	ESMH350VSN562MQ25S	
	39,000	30×35	0.50	5.05	ESMH100VSN393MR35S	6,800	22×40	0.25	2.80	ESMH350VSN682MP40S	
	39,000	35×30	0.50	4.80	ESMH100VSN393MA35S	6,800	25.4×30	0.25	2.74	ESMH350VSN682MQ30S	
	47,000	25.4×50	0.50	5.73	ESMH100VSN473MQ50S	6,800	30×25	0.25	2.97	ESMH350VSN682MR25S	
47,000	30×40	0.50	5.72	ESMH100VSN473MR40S	8,200	22×45	0.25	3.47	ESMH350VSN822MP45S		
47,000	35×30	0.50	5.27	ESMH100VSN473MA30S	8,200	25.4×35	0.25	3.10	ESMH350VSN822MQ35S		
56,000	30×45	0.50	6.44	ESMH100VSN563MR45S	8,200	30×30	0.25	3.13	ESMH350VSN822MR30S		
56,000	35×35	0.50	6.38	ESMH100VSN563MA35S	8,200	35×25	0.25	2.73	ESMH350VSN822MA25S		
68,000	30×50	0.50	7.27	ESMH100VSN683MR50S	10,000	22×50	0.25	3.57	ESMH350VSN103MP50S		
68,000	35×40	0.50	7.27	ESMH100VSN683MA40S	10,000	25.4×40	0.25	3.53	ESMH350VSN103MQ40S		
82,000	35×50	0.50	8.49	ESMH100VSN823MA50S	10,000	30×30	0.25	3.46	ESMH350VSN103MR30S		
16	8,200	22×25	0.40	2.51	ESMH160VSN822MP25S	10,000	35×25	0.25	3.02	ESMH350VSN103MA25S	
	10,000	22×25	0.40	2.77	ESMH160VSN103MP25S	12,000	25.4×45	0.25	3.98	ESMH350VSN123MQ45S	
	12,000	22×30	0.40	2.86	ESMH160VSN123MP30S	12,000	30×35	0.25	4.01	ESMH350VSN123MR35S	
	12,000	25.4×25	0.40	2.95	ESMH160VSN123MQ25S	12,000	35×30	0.25	4.42	ESMH350VSN123MA30S	
	15,000	22×35	0.40	3.29	ESMH160VSN153MP35S	15,000	25.4×50	0.25	4.54	ESMH350VSN153MQ50S	
	15,000	25.4×30	0.40	3.46	ESMH160VSN153MQ30S	15,000	30×40	0.25	4.52	ESMH350VSN153MR40S	
	15,000	30×25	0.40	3.66	ESMH160VSN153MR25S	15,000	35×35	0.25	5.01	ESMH350VSN153MA35S	
	18,000	22×40	0.40	3.72	ESMH160VSN183MP40S	18,000	30×45	0.25	4.71	ESMH350VSN183MR45S	
	18,000	25.4×35	0.40	3.98	ESMH160VSN183MQ35S	18,000	35×40	0.25	5.54	ESMH350VSN183MA40S	
	18,000	30×25	0.40	4.00	ESMH160VSN183MR25S	22,000	30×50	0.25	5.33	ESMH350VSN223MR50S	
	22,000	22×50	0.40	4.37	ESMH160VSN223MP50S	22,000	35×45	0.25	6.04	ESMH350VSN223MA45S	
	22,000	25.4×40	0.40	4.26	ESMH160VSN223MQ40S	27,000	35×50	0.25	6.89	ESMH350VSN273MA50S	
	22,000	30×30	0.40	4.21	ESMH160VSN223MR30S	2,200	22×25	0.20	1.91	ESMH500VSN222MP25S	
	22,000	35×25	0.40	4.15	ESMH160VSN223MA25S	3,300	22×30	0.20	2.37	ESMH500VSN332MP30S	

Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	
50	3,300	25.4×25	0.20	2.38	ESMH500VSN332MQ25S	80	3,900	30×35	0.15	3.57	ESMH800VSN392MR35S	
	3,900	22×35	0.20	2.65	ESMH500VSN392MP35S		3,900	35×25	0.15	3.50	ESMH800VSN392MA25S	
	3,900	25.4×30	0.20	2.68	ESMH500VSN392MQ30S		4,700	25.4×50	0.15	4.05	ESMH800VSN472MQ50S	
	3,900	30×25	0.20	2.55	ESMH500VSN392MR25S		4,700	30×40	0.15	4.05	ESMH800VSN472MR40S	
	4,700	22×40	0.20	2.99	ESMH500VSN472MP40S		4,700	35×30	0.15	4.09	ESMH800VSN472MA30S	
	4,700	25.4×35	0.20	3.03	ESMH500VSN472MQ35S		5,600	30×45	0.15	4.55	ESMH800VSN562MR45S	
	4,700	30×25	0.20	2.81	ESMH500VSN472MR25S		5,600	35×35	0.15	4.51	ESMH800VSN562MA35S	
	5,600	22×45	0.20	3.36	ESMH500VSN562MP45S		6,800	30×50	0.15	5.16	ESMH800VSN682MR50S	
	5,600	25.4×35	0.20	3.31	ESMH500VSN562MQ35S		6,800	35×40	0.15	5.14	ESMH800VSN682MA40S	
	5,600	30×30	0.20	3.37	ESMH500VSN562MR30S		8,200	35×45	0.15	5.83	ESMH800VSN822MA45S	
	5,600	35×25	0.20	3.42	ESMH500VSN562MA25S		10,000	35×50	0.15	6.63	ESMH800VSN103MA50S	
	6,800	22×50	0.20	3.81	ESMH500VSN682MP50S		100	820	22×25	0.15	1.86	ESMH101VSN821MP25S
	6,800	25.4×40	0.20	3.81	ESMH500VSN682MQ40S			1,200	22×30	0.15	2.09	ESMH101VSN122MP30S
	6,800	30×35	0.20	3.85	ESMH500VSN682MR35S			1,200	25.4×25	0.15	2.10	ESMH101VSN122MQ25S
	6,800	35×30	0.20	3.85	ESMH500VSN682MA30S			1,500	22×35	0.15	2.41	ESMH101VSN152MP35S
	8,200	25.4×50	0.20	4.37	ESMH500VSN822MQ50S			1,500	25.4×30	0.15	2.43	ESMH101VSN152MQ30S
	8,200	30×40	0.20	4.36	ESMH500VSN822MR40S			1,500	30×25	0.15	2.46	ESMH101VSN152MR25S
	8,200	35×30	0.20	4.41	ESMH500VSN822MA30S			1,800	22×40	0.15	2.71	ESMH101VSN182MP40S
10,000	30×45	0.20	4.97	ESMH500VSN103MR45S	1,800	25.4×35		0.15	2.75	ESMH101VSN182MQ35S		
10,000	35×35	0.20	4.92	ESMH500VSN103MA35S	1,800	30×25		0.15	2.72	ESMH101VSN182MR25S		
12,000	30×50	0.20	5.60	ESMH500VSN123MR50S	2,200	22×45		0.15	3.08	ESMH101VSN222MP45S		
12,000	35×40	0.20	5.58	ESMH500VSN123MA40S	2,200	25.4×40		0.15	3.13	ESMH101VSN222MQ40S		
15,000	35×45	0.20	6.44	ESMH500VSN153MA45S	2,200	30×30		0.15	3.09	ESMH101VSN222MR30S		
18,000	35×50	0.20	6.71	ESMH500VSN183MA50S	2,200	35×25		0.15	3.14	ESMH101VSN222MA25S		
63	1,800	22×25	0.15	1.82	ESMH630VSN182MP25S	2,700		22×50	0.15	3.53	ESMH101VSN272MP50S	
	2,200	22×30	0.15	2.31	ESMH630VSN222MP30S	2,700		25.4×45	0.15	3.57	ESMH101VSN272MQ45S	
	2,200	25.4×25	0.15	2.30	ESMH630VSN222MQ25S	2,700		30×35	0.15	3.55	ESMH101VSN272MR35S	
	2,700	22×35	0.15	2.40	ESMH630VSN272MP35S	2,700		35×30	0.15	3.71	ESMH101VSN272MA30S	
	2,700	25.4×25	0.15	2.40	ESMH630VSN272MQ25S	3,300		25.4×50	0.15	4.06	ESMH101VSN332MR50S	
	3,300	22×35	0.15	2.62	ESMH630VSN332MP35S	3,300	30×40	0.15	4.05	ESMH101VSN332MQ40S		
	3,300	25.4×30	0.15	2.64	ESMH630VSN332MQ30S	3,300	35×30	0.15	4.05	ESMH101VSN332MA30S		
	3,300	30×25	0.15	2.78	ESMH630VSN332MR25S	3,900	30×45	0.15	4.54	ESMH101VSN392MR45S		
	3,900	22×40	0.15	2.93	ESMH630VSN392MP40S	3,900	35×35	0.15	4.49	ESMH101VSN392MA35S		
	3,900	25.4×35	0.15	2.97	ESMH630VSN392MQ35S	4,700	30×50	0.15	5.13	ESMH101VSN472MR50S		
	3,900	30×30	0.15	3.00	ESMH630VSN392MR30S	4,700	35×40	0.15	5.11	ESMH101VSN472MA40S		
	3,900	35×25	0.15	3.00	ESMH630VSN392MA25S	5,600	35×45	0.15	5.75	ESMH101VSN562MA45S		
	4,700	22×50	0.15	3.39	ESMH630VSN472MP50S	6,800	35×50	0.15	6.50	ESMH101VSN682MA50S		
	4,700	25.4×40	0.15	3.36	ESMH630VSN472MQ40S	160	330	22×25	0.10	1.40	ESMH161VSN331MP25S	
	4,700	30×30	0.15	3.32	ESMH630VSN472MR30S		390	22×25	0.10	1.52	ESMH161VSN391MP25S	
	4,700	35×25	0.15	3.36	ESMH630VSN472MA25S		470	22×30	0.10	1.73	ESMH161VSN471MP30S	
	5,600	25.4×45	0.15	3.77	ESMH630VSN562MQ45S		470	25.4×25	0.10	1.74	ESMH161VSN471MQ25S	
	5,600	30×35	0.15	3.75	ESMH630VSN562MR35S		560	22×35	0.10	1.95	ESMH161VSN561MP35S	
5,600	35×30	0.15	3.76	ESMH630VSN562MA30S	560		25.4×25	0.10	1.95	ESMH161VSN561MQ25S		
6,800	25.4×50	0.15	4.27	ESMH630VSN682MQ50S	680		22×40	0.10	2.21	ESMH161VSN681MP40S		
6,800	30×40	0.15	4.27	ESMH630VSN682MR40S	680		25.4×30	0.10	2.16	ESMH161VSN681MQ30S		
6,800	35×30	0.15	4.15	ESMH630VSN682MA30S	680		30×25	0.10	2.19	ESMH161VSN681MR25S		
8,200	30×45	0.15	4.83	ESMH630VSN822MR45S	820		22×45	0.10	2.49	ESMH161VSN821MP45S		
8,200	35×35	0.15	4.79	ESMH630VSN822MA35S	820		25.4×35	0.10	2.45	ESMH161VSN821MQ35S		
10,000	30×50	0.15	5.49	ESMH630VSN103MR50S	820		30×30	0.10	2.50	ESMH161VSN821MR30S		
10,000	35×40	0.15	5.47	ESMH630VSN103MA40S	820		35×25	0.15	2.50	ESMH161VSN821MA25S		
12,000	35×45	0.15	6.19	ESMH630VSN123MA45S	1,000		22×50	0.10	2.82	ESMH161VSN102MP50S		
80	1,200	22×25	0.15	1.69	ESMH800VSN122MP25S		1,000	25.4×40	0.10	2.79	ESMH161VSN102MQ40S	
	1,500	22×25	0.15	1.88	ESMH800VSN152MP25S		1,000	30×30	0.10	2.80	ESMH161VSN102MR30S	
	1,800	22×30	0.15	2.14	ESMH800VSN182MP30S		1,000	35×25	0.15	2.80	ESMH161VSN102MA25S	
	1,800	25.4×25	0.15	2.26	ESMH800VSN182MQ25S		1,200	25.4×45	0.10	3.15	ESMH161VSN122MQ45S	
	2,200	22×35	0.15	2.44	ESMH800VSN222MP35S	1,200	30×35	0.10	3.13	ESMH161VSN122MR35S		
	2,200	25.4×30	0.15	2.46	ESMH800VSN222MQ30S	1,200	35×30	0.15	3.27	ESMH161VSN122MA30S		
	2,200	30×25	0.15	2.49	ESMH800VSN222MR25S	1,500	25.4×50	0.10	3.72	ESMH161VSN152MR50S		
	2,700	22×40	0.15	2.78	ESMH800VSN272MP40S	1,500	30×45	0.10	3.73	ESMH161VSN152MR45S		
	2,700	25.4×35	0.15	2.81	ESMH800VSN272MQ35S	1,500	35×35	0.15	3.69	ESMH161VSN152MA35S		
	2,700	30×25	0.15	2.75	ESMH800VSN272MR25S	1,800	30×50	0.10	4.20	ESMH161VSN182MR50S		
	3,300	22×45	0.15	3.16	ESMH800VSN332MP45S	1,800	35×40	0.15	4.18	ESMH161VSN182MA40S		
	3,300	25.4×40	0.15	3.21	ESMH800VSN332MQ40S	2,200	35×45	0.15	4.78	ESMH161VSN222MA45S		
	3,300	30×30	0.15	3.17	ESMH800VSN332MR30S	2,700	35×50	0.15	5.45	ESMH161VSN272MA50S		
	3,300	35×25	0.15	3.21	ESMH800VSN332MA25S	180	270	22×25	0.10	1.27	ESMH181VSN271MP25S	
	3,900	22×50	0.15	3.52	ESMH800VSN392MP50S		330	22×25	0.10	1.40	ESMH181VSN331MP25S	
	3,900	25.4×45	0.15	3.59	ESMH800VSN392MQ45S		390	22×30	0.10	1.58	ESMH181VSN391MP30S	

Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	
180	390	25.4×25	0.10	1.58	ESMH181VSN391MQ25S	250	560	35×25	0.15	2.06	ESMH251VSN561MA25S	
	470	22×35	0.10	1.79	ESMH181VSN471MP35S		680	25.4×50	0.10	2.44	ESMH251VSN681MQ50S	
	470	25.4×25	0.10	1.79	ESMH181VSN471MQ25S		680	30×40	0.10	2.43	ESMH251VSN681MR40S	
	560	22×40	0.10	2.00	ESMH181VSN561MP40S		680	35×30	0.15	2.46	ESMH251VSN681MA30S	
	560	25.4×30	0.10	1.96	ESMH181VSN561MQ30S		820	30×45	0.10	2.75	ESMH251VSN821MR45S	
	560	30×25	0.10	1.99	ESMH181VSN561MR25S		820	35×35	0.15	2.77	ESMH251VSN821MA35S	
	680	22×45	0.10	2.27	ESMH181VSN681MP45S		1,000	30×50	0.10	3.31	ESMH251VSN102MR50S	
	680	25.4×35	0.10	2.23	ESMH181VSN681MQ35S		1,000	35×40	0.15	3.32	ESMH251VSN102MA40S	
	680	30×25	0.10	2.25	ESMH181VSN681MR25S		1,200	35×45	0.15	3.53	ESMH251VSN122MA45S	
	820	22×50	0.10	2.55	ESMH181VSN821MP50S		1,500	35×50	0.15	4.04	ESMH251VSN152MA50S	
	820	25.4×40	0.10	2.53	ESMH181VSN821MQ40S		315	120	22×25	0.15	0.94	ESMH351VSN121MP25S
	820	30×30	0.10	2.70	ESMH181VSN821MR30S			150	22×30	0.15	1.11	ESMH351VSN151MP30S
	820	35×25	0.15	2.53	ESMH181VSN821MA25S			150	25.4×25	0.15	1.10	ESMH351VSN151MQ25S
	1,000	25.4×45	0.10	2.87	ESMH181VSN102MQ45S			180	22×35	0.15	1.20	ESMH351VSN181MP35S
	1,000	30×35	0.10	2.86	ESMH181VSN102MR35S			180	25.4×25	0.15	1.20	ESMH351VSN181MQ25S
	1,000	35×30	0.15	2.99	ESMH181VSN102MA30S			220	22×40	0.15	1.41	ESMH351VSN221MP40S
	1,200	25.4×50	0.10	3.30	ESMH181VSN122MQ50S			220	25.4×30	0.15	1.38	ESMH351VSN221MQ30S
	1,200	30×40	0.10	3.23	ESMH181VSN122MR40S			220	30×25	0.15	1.40	ESMH351VSN221MR25S
	1,200	35×35	0.15	3.31	ESMH181VSN122MA35S			270	22×45	0.15	1.60	ESMH351VSN271MP45S
	1,500	30×50	0.10	3.83	ESMH181VSN152MR50S			270	25.4×35	0.15	1.59	ESMH351VSN271MQ35S
1,500	35×40	0.15	3.82	ESMH181VSN152MA40S	270	30×30		0.15	1.59	ESMH351VSN271MR30S		
1,800	35×45	0.15	4.32	ESMH181VSN182MA45S	270	35×25		0.15	1.59	ESMH351VSN271MA25S		
2,200	35×50	0.15	4.92	ESMH181VSN222MA50S	330	22×50		0.15	1.82	ESMH351VSN331MP50S		
200	270	22×25	0.10	1.27	ESMH201VSN271MP25S	330		25.4×40	0.15	1.80	ESMH351VSN331MQ40S	
	330	22×30	0.10	1.45	ESMH201VSN331MP30S	330		30×30	0.15	1.80	ESMH351VSN331MR30S	
	330	25.4×25	0.10	1.45	ESMH201VSN331MQ25S	330		35×25	0.15	1.80	ESMH351VSN331MA25S	
	390	22×30	0.10	1.58	ESMH201VSN391MP30S	390		25.4×45	0.15	2.01	ESMH351VSN391MQ45S	
	390	25.4×25	0.10	1.58	ESMH201VSN391MQ25S	390		30×35	0.15	1.99	ESMH351VSN391MR35S	
	470	22×35	0.10	1.78	ESMH201VSN471MP35S	390		35×30	0.15	2.00	ESMH351VSN391MA30S	
	470	25.4×30	0.10	1.80	ESMH201VSN471MQ30S	470		25.4×45	0.15	2.20	ESMH351VSN471MQ45S	
	470	30×25	0.10	1.80	ESMH201VSN471MR25S	470	30×40	0.15	2.27	ESMH351VSN471MR40S		
	560	22×40	0.10	2.00	ESMH201VSN561MP40S	470	35×30	0.15	2.23	ESMH351VSN471MA30S		
	560	25.4×35	0.10	2.03	ESMH201VSN561MQ35S	560	30×45	0.15	2.56	ESMH351VSN561MR45S		
	560	30×25	0.10	2.00	ESMH201VSN561MR25S	560	35×35	0.15	2.49	ESMH351VSN561MA35S		
	680	22×50	0.10	2.33	ESMH201VSN681MP50S	680	30×50	0.15	2.88	ESMH351VSN681MR50S		
	680	25.4×40	0.10	2.30	ESMH201VSN681MQ40S	680	35×40	0.15	2.87	ESMH351VSN681MA40S		
	680	30×30	0.10	2.28	ESMH201VSN681MR30S	820	35×45	0.15	3.25	ESMH351VSN821MA45S		
	680	35×25	0.15	2.31	ESMH201VSN681MA25S	1,000	35×50	0.15	3.69	ESMH351VSN102MA50S		
	820	25.4×45	0.10	2.60	ESMH201VSN821MQ45S	350	100	22×25	0.15	0.86	ESMH351VSN101MP25S	
	820	30×35	0.10	2.59	ESMH201VSN821MR35S		120	22×30	0.15	0.99	ESMH351VSN121MP30S	
	820	35×25	0.15	2.60	ESMH201VSN821MA25S		120	25.4×25	0.15	0.99	ESMH351VSN121MQ25S	
	1,000	25.4×50	0.10	2.95	ESMH201VSN102MQ50S		150	22×35	0.15	1.14	ESMH351VSN151MP35S	
	1,000	30×40	0.10	2.95	ESMH201VSN102MR40S		150	25.4×25	0.15	1.10	ESMH351VSN151MQ25S	
1,000	35×30	0.15	2.95	ESMH201VSN102MA30S	180		22×40	0.15	1.28	ESMH351VSN181MP40S		
1,200	30×45	0.10	3.31	ESMH201VSN122MR45S	180		25.4×30	0.15	1.24	ESMH351VSN181MQ30S		
1,200	35×35	0.15	3.31	ESMH201VSN122MA35S	180		30×25	0.15	1.27	ESMH351VSN181MR25S		
1,500	30×50	0.10	3.82	ESMH201VSN152MR50S	220		22×45	0.15	1.44	ESMH351VSN221MP45S		
1,500	35×40	0.15	3.82	ESMH201VSN152MA40S	220		25.4×35	0.15	1.44	ESMH351VSN221MQ35S		
1,800	35×45	0.15	4.32	ESMH201VSN182MA45S	220		30×30	0.15	1.44	ESMH351VSN221MR30S		
2,200	35×50	0.15	4.92	ESMH201VSN222MA50S	220		35×25	0.15	1.44	ESMH351VSN221MA25S		
250	180	22×25	0.10	1.04	ESMH251VSN181MP25S		270	22×50	0.15	1.64	ESMH351VSN271MP50S	
	220	22×25	0.10	1.15	ESMH251VSN221MP25S		270	25.4×40	0.15	1.63	ESMH351VSN271MQ40S	
	270	22×30	0.10	1.31	ESMH251VSN271MP30S		270	30×35	0.15	1.66	ESMH351VSN271MR35S	
	270	25.4×25	0.10	1.32	ESMH251VSN271MQ25S		270	35×25	0.15	1.63	ESMH351VSN271MA25S	
	330	22×35	0.10	1.49	ESMH251VSN331MP35S		330	25.4×50	0.15	1.88	ESMH351VSN331MQ50S	
	330	25.4×30	0.10	1.51	ESMH251VSN331MQ30S		330	30×35	0.15	1.83	ESMH351VSN331MR35S	
	330	30×25	0.10	1.52	ESMH251VSN331MR25S		330	35×30	0.15	1.87	ESMH351VSN331MA30S	
	390	22×40	0.10	1.67	ESMH251VSN391MP40S		390	30×40	0.15	2.06	ESMH351VSN391MR40S	
	390	25.4×30	0.10	1.66	ESMH251VSN391MQ30S	390	35×30	0.15	2.03	ESMH351VSN391MA30S		
	390	30×25	0.10	1.66	ESMH251VSN391MR25S	470	30×50	0.15	2.40	ESMH351VSN471MR50S		
	470	22×45	0.10	1.88	ESMH251VSN471MP45S	470	35×35	0.15	2.33	ESMH351VSN471MA35S		
	470	25.4×35	0.10	1.86	ESMH251VSN471MQ35S	560	35×40	0.15	2.60	ESMH351VSN561MA40S		
	470	30×30	0.10	1.89	ESMH251VSN471MR30S	680	35×45	0.15	2.96	ESMH351VSN681MA45S		
	470	35×25	0.15	1.88	ESMH251VSN471MA25S	820	35×50	0.15	3.04	ESMH351VSN821MA50S		
	560	22×50	0.10	2.10	ESMH251VSN561MP50S	400	82	22×25	0.15	0.78	ESMH401VSN820MP25S	
	560	25.4×40	0.10	2.09	ESMH251VSN561MQ40S		100	22×30	0.15	0.90	ESMH401VSN101MP30S	
	560	30×35	0.10	2.14	ESMH251VSN561MR35S		100	25.4×25	0.15	0.90	ESMH401VSN101MQ25S	

Specifications in this bulletin are subject to change without notice.

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/85°C,120Hz)	Part No.
400	120	22×35	0.15	1.02	ESMH401VSN121MP35S	450	56	22×25	0.15	0.65	ESMH451VSN560MP25S
	120	25.4×25	0.15	0.98	ESMH401VSN121MQ25S		68	22×25	0.15	0.71	ESMH451VSN680MP25S
	150	22×40	0.15	1.16	ESMH401VSN151MP40S		82	22×30	0.15	0.82	ESMH451VSN820MP30S
	150	25.4×30	0.15	1.14	ESMH401VSN151MQ30S		82	25.4×25	0.15	0.82	ESMH451VSN820MQ25S
	150	30×25	0.15	1.16	ESMH401VSN151MR25S		100	22×35	0.15	0.93	ESMH451VSN101MP35S
	180	22×45	0.15	1.31	ESMH401VSN181MP45S		100	25.4×25	0.15	0.90	ESMH451VSN101MQ25S
	180	25.4×35	0.15	1.30	ESMH401VSN181MQ35S		120	22×40	0.15	1.04	ESMH451VSN121MP40S
	180	30×30	0.15	1.44	ESMH401VSN181MR30S		120	25.4×30	0.15	1.02	ESMH451VSN121MQ30S
	180	35×25	0.15	1.32	ESMH401VSN181MA25S		120	30×25	0.15	1.03	ESMH451VSN121MR25S
	220	22×45	0.15	1.49	ESMH401VSN221MP45S		150	22×45	0.15	1.19	ESMH451VSN151MP45S
	220	25.4×40	0.15	1.47	ESMH401VSN221MQ40S		150	25.4×35	0.15	1.19	ESMH451VSN151MQ35S
	220	30×30	0.15	1.47	ESMH401VSN221MR30S		150	30×30	0.15	1.19	ESMH451VSN151MR30S
	220	35×25	0.15	1.47	ESMH401VSN221MA25S		150	35×25	0.15	1.19	ESMH451VSN151MA25S
	270	22×50	0.15	1.64	ESMH401VSN271MP50S		180	22×50	0.15	1.34	ESMH451VSN181MP50S
	270	25.4×45	0.15	1.67	ESMH401VSN271MQ45S		180	25.4×40	0.15	1.33	ESMH451VSN181MQ40S
	270	30×35	0.15	1.66	ESMH401VSN271MR35S		180	30×35	0.15	1.35	ESMH451VSN181MR35S
	270	35×30	0.15	1.69	ESMH401VSN271MA30S		180	35×25	0.15	1.33	ESMH451VSN181MA25S
	330	25.4×50	0.15	1.88	ESMH401VSN331MQ50S		220	25.4×50	0.15	1.54	ESMH451VSN221MQ50S
	330	30×40	0.15	1.90	ESMH401VSN331MR40S		220	30×40	0.15	1.55	ESMH451VSN221MR40S
	330	35×30	0.15	1.87	ESMH401VSN331MA30S		220	35×30	0.15	1.53	ESMH451VSN221MA30S
390	30×45	0.15	2.13	ESMH401VSN391MR45S	270	30×45	0.15	1.78	ESMH451VSN271MR45S		
390	35×35	0.15	2.08	ESMH401VSN391MA35S	270	35×35	0.15	1.73	ESMH451VSN271MA35S		
470	30×50	0.15	2.40	ESMH401VSN471MR50S	330	30×50	0.15	2.01	ESMH451VSN331MR50S		
470	35×40	0.15	2.39	ESMH401VSN471MA40S	330	35×40	0.15	2.00	ESMH451VSN331MA40S		
560	35×45	0.15	2.69	ESMH401VSN561MA45S	390	35×45	0.15	2.24	ESMH451VSN391MA45S		
680	35×50	0.15	3.04	ESMH401VSN681MA50S	470	35×50	0.15	2.53	ESMH451VSN471MA50S		

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Frequency (Hz)	50	120	300	1k	10k	50k
6.3 to 50V _{dc}	0.95	1.00	1.03	1.05	1.08	1.08
63 to 100V _{dc}	0.92	1.00	1.07	1.13	1.19	1.20
160 to 250V _{dc}	0.81	1.00	1.17	1.32	1.45	1.50
315 to 450V _{dc}	0.77	1.00	1.16	1.30	1.41	1.43