

KMH Series

- Endurance with ripple current : 2,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

KMM P6-35

Downsized
Longer life

KMH

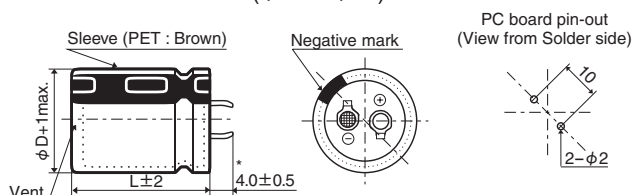


SPECIFICATIONS

Items	Characteristics										
Category	-40 to +105℃										
Temperature Range											
Rated Voltage Range	6.3 to 100V _{dc}										
Capacitance Tolerance	± 20% (M) (at 20℃, 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℃ after 5 minutes)										
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	(at 20℃, 120Hz)
	tan δ (Max.)	0.60	0.50	0.40	0.30	0.25	0.20	0.15	0.15	0.15	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	(at 120Hz)
	Z(-25℃)/Z(+20℃)	4	4	4	3	3	2	2	2	2	
	Z(-45℃)/Z(+20℃)	15	15	15	10	8	6	6	5	5	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 2,000 hours at 105℃										
	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℃ after exposing them for 1,000 hours at 105℃ 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	≤ ±20% of the initial value									
	D.F. (tan δ)	≤150% of the initial specified value									
	Leakage current	≤ The initial specified value									

DIMENSIONS [mm]

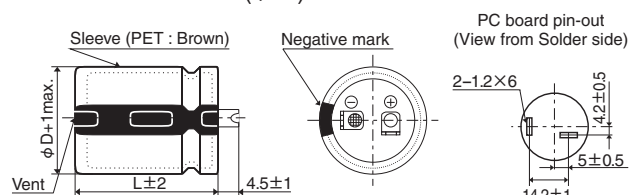
●Terminal Code : VS (φ22 to φ35) : Standard



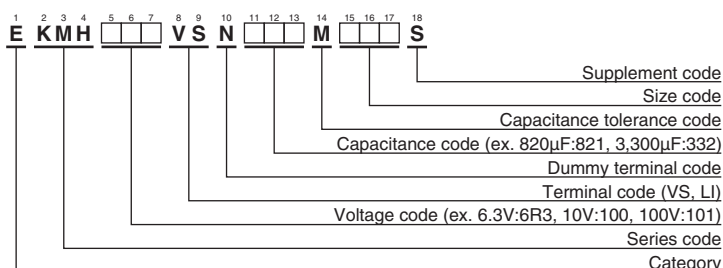
*φD=35mm : 3.5±0.5mm

The standard design has no plastic disc.

●Terminal Code : LI (φ35)



PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.
6.3	12,000	22 × 25	0.60	1.54	EKMH6R3VSN123MP25S	16	27,000	35 × 30	0.40	3.45	EKMH160VSN273MA30S
	15,000	22 × 25	0.60	1.72	EKMH6R3VSN153MP25S		33,000	30 × 45	0.40	4.30	EKMH160VSN333MR45S
	18,000	22 × 30	0.60	1.95	EKMH6R3VSN183MP30S		33,000	35 × 35	0.40	4.26	EKMH160VSN333MA35S
	18,000	25.4 × 25	0.60	1.96	EKMH6R3VSN183MQ25S		39,000	30 × 50	0.40	4.81	EKMH160VSN393MR50S
	22,000	22 × 35	0.60	2.23	EKMH6R3VSN223MP35S		39,000	35 × 40	0.40	4.79	EKMH160VSN393MA40S
	22,000	25.4 × 30	0.60	2.25	EKMH6R3VSN223MQ30S		47,000	35 × 45	0.40	5.43	EKMH160VSN473MA45S
	22,000	30 × 25	0.60	2.28	EKMH6R3VSN223MP25S		4,700	22 × 25	0.30	1.50	EKMH250VSN472MP25S
	27,000	22 × 40	0.60	2.54	EKMH6R3VSN273MP40S		5,600	22 × 25	0.30	1.63	EKMH250VSN562MP25S
	27,000	25.4 × 35	0.60	2.57	EKMH6R3VSN273MQ35S	25	6,800	22 × 30	0.30	1.86	EKMH250VSN682MP30S
	27,000	30 × 25	0.60	2.52	EKMH6R3VSN273MR25S		6,800	25.4 × 25	0.30	1.87	EKMH250VSN682MQ25S
	33,000	22 × 45	0.60	2.88	EKMH6R3VSN333MP45S		8,200	22 × 35	0.30	2.11	EKMH250VSN822MP35S
	33,000	25.4 × 40	0.60	2.93	EKMH6R3VSN333MQ40S		8,200	25.4 × 30	0.30	2.12	EKMH250VSN822MQ30S
	33,000	30 × 30	0.60	2.89	EKMH6R3VSN333MR30S		8,200	30 × 25	0.30	2.15	EKMH250VSN822MR25S
	33,000	35 × 25	0.60	2.93	EKMH6R3VSN333MA25S		10,000	22 × 40	0.30	2.39	EKMH250VSN103MP40S
	39,000	25.4 × 40	0.60	3.18	EKMH6R3VSN393MQ40S		10,000	25.4 × 35	0.30	2.42	EKMH250VSN103MP35S
	39,000	30 × 35	0.60	3.26	EKMH6R3VSN393MR35S		10,000	30 × 25	0.30	2.37	EKMH250VSN103MR25S
	39,000	35 × 30	0.60	3.40	EKMH6R3VSN393MA30S		12,000	22 × 45	0.30	2.69	EKMH250VSN123MP45S
	47,000	25.4 × 50	0.60	3.69	EKMH6R3VSN473MQ50S		12,000	25.4 × 40	0.30	2.74	EKMH250VSN123MQ40S
	47,000	30 × 40	0.60	3.69	EKMH6R3VSN473MR40S		12,000	30 × 30	0.30	2.70	EKMH250VSN123MR30S
	47,000	35 × 30	0.60	3.73	EKMH6R3VSN473MA30S		12,000	35 × 25	0.30	2.74	EKMH250VSN123MA25S
	56,000	30 × 45	0.60	4.16	EKMH6R3VSN563MR45S		15,000	25.4 × 45	0.30	3.15	EKMH250VSN153MQ45S
	56,000	35 × 35	0.60	4.12	EKMH6R3VSN563MA35S		15,000	30 × 35	0.30	3.13	EKMH250VSN153MR35S
	68,000	30 × 50	0.60	4.71	EKMH6R3VSN683MR50S		15,000	35 × 30	0.30	3.27	EKMH250VSN153MA30S
	68,000	35 × 40	0.60	4.69	EKMH6R3VSN683MA40S		18,000	25.4 × 50	0.30	3.54	EKMH250VSN183MQ50S
	82,000	35 × 45	0.60	5.32	EKMH6R3VSN823MA45S		18,000	30 × 40	0.30	3.54	EKMH250VSN183MR40S
10	10,000	22 × 25	0.50	1.55	EKMH100VSN103MP25S		18,000	35 × 30	0.30	3.58	EKMH250VSN183MA30S
	12,000	22 × 30	0.50	1.77	EKMH100VSN123MP30S		22,000	30 × 45	0.30	4.04	EKMH250VSN223MR45S
	15,000	22 × 30	0.50	1.97	EKMH100VSN153MP30S		22,000	35 × 35	0.30	3.64	EKMH250VSN223MA35S
	15,000	25.4 × 25	0.50	1.96	EKMH100VSN153MQ25S		27,000	35 × 45	0.30	4.73	EKMH250VSN273MA45S
	18,000	22 × 35	0.50	2.21	EKMH100VSN183MP35S	35	33,000	35 × 50	0.30	5.39	EKMH250VSN333MA50S
	18,000	25.4 × 30	0.50	2.23	EKMH100VSN183MQ30S		3,300	22 × 25	0.25	1.40	EKMH350VSN332MP25S
	22,000	22 × 40	0.50	2.51	EKMH100VSN223MP40S		3,900	22 × 30	0.25	1.57	EKMH350VSN392MP30S
	22,000	25.4 × 35	0.50	2.54	EKMH100VSN223MQ35S		4,700	22 × 30	0.25	1.72	EKMH350VSN472MP30S
	22,000	30 × 25	0.50	2.40	EKMH100VSN223MR25S		4,700	25.4 × 25	0.25	1.80	EKMH350VSN472MQ25S
	27,000	22 × 50	0.50	2.93	EKMH100VSN273MP50S		5,600	22 × 35	0.25	1.95	EKMH350VSN562MP35S
	27,000	25.4 × 40	0.50	2.90	EKMH100VSN273MQ40S		5,600	25.4 × 30	0.25	1.96	EKMH350VSN562MQ30S
	27,000	30 × 30	0.50	2.87	EKMH100VSN273MR30S		5,600	30 × 25	0.25	1.99	EKMH350VSN562MR25S
	27,000	35 × 25	0.50	2.73	EKMH100VSN273MA25S		6,800	22 × 40	0.25	2.20	EKMH350VSN682MP40S
	33,000	25.4 × 45	0.50	3.30	EKMH100VSN333MQ45S		6,800	25.4 × 35	0.25	2.23	EKMH350VSN682MQ35S
	33,000	30 × 35	0.50	3.28	EKMH100VSN333MR35S		6,800	30 × 25	0.25	2.19	EKMH350VSN682MR25S
	33,000	35 × 30	0.50	3.16	EKMH100VSN333MA30S		8,200	22 × 50	0.25	2.55	EKMH350VSN822MP50S
	39,000	25.4 × 50	0.50	3.68	EKMH100VSN393MQ50S		8,200	25.4 × 40	0.25	2.53	EKMH350VSN822MQ40S
	39,000	30 × 40	0.50	3.69	EKMH100VSN393MR40S		8,200	30 × 30	0.25	2.75	EKMH350VSN822MR30S
	39,000	35 × 30	0.50	3.43	EKMH100VSN393MA30S		8,200	35 × 25	0.25	2.75	EKMH350VSN822MA25S
	47,000	30 × 45	0.50	4.17	EKMH100VSN473MR45S		10,000	25.4 × 45	0.25	2.87	EKMH350VSN103MQ45S
	47,000	35 × 35	0.50	3.76	EKMH100VSN473MA35S		10,000	30 × 35	0.25	2.90	EKMH350VSN103MR35S
	56,000	30 × 50	0.50	4.68	EKMH100VSN563MR50S		10,000	35 × 30	0.25	2.91	EKMH350VSN103MA30S
	56,000	35 × 40	0.50	4.67	EKMH100VSN563MA40S		12,000	25.4 × 50	0.25	3.24	EKMH350VSN123MQ50S
	68,000	35 × 50	0.50	5.46	EKMH100VSN683MA50S		12,000	30 × 40	0.25	3.23	EKMH350VSN123MR40S
16	6,800	22 × 25	0.40	1.57	EKMH160VSN682MP25S		12,000	35 × 30	0.25	2.99	EKMH350VSN123MA30S
	10,000	22 × 30	0.40	1.97	EKMH160VSN103MP30S	50	15,000	30 × 45	0.25	3.72	EKMH350VSN153MR45S
	10,000	25.4 × 25	0.40	1.97	EKMH160VSN103MQ25S		15,000	35 × 35	0.25	3.67	EKMH350VSN153MA35S
	12,000	22 × 35	0.40	2.22	EKMH160VSN123MP35S		18,000	35 × 40	0.25	4.37	EKMH350VSN183MA40S
	12,000	25.4 × 30	0.40	2.24	EKMH160VSN123MQ30S		22,000	35 × 50	0.25	4.92	EKMH350VSN223MA50S
	12,000	30 × 25	0.40	2.45	EKMH160VSN123MR25S		1,800	22 × 25	0.20	1.33	EKMH500VSN182MP25S
	15,000	22 × 40	0.40	2.55	EKMH160VSN153MP40S		2,700	22 × 30	0.20	1.69	EKMH500VSN272MP30S
	15,000	25.4 × 35	0.40	2.58	EKMH160VSN153MQ35S		2,700	25.4 × 25	0.20	1.70	EKMH500VSN272MQ25S
	15,000	30 × 25	0.40	2.52	EKMH160VSN153MR25S		3,300	22 × 35	0.20	1.93	EKMH500VSN332MP35S
	18,000	22 × 45	0.40	2.87	EKMH160VSN183MP45S		3,300	25.4 × 30	0.20	1.85	EKMH500VSN332MQ30S
	18,000	25.4 × 40	0.40	2.92	EKMH160VSN183MQ40S		3,900	22 × 40	0.20	2.16	EKMH500VSN392MP40S
	18,000	30 × 30	0.40	2.88	EKMH160VSN183MR30S		3,900	25.4 × 35	0.20	2.18	EKMH500VSN392MQ35S
	18,000	35 × 25	0.40	2.92	EKMH160VSN183MA25S		3,900	30 × 25	0.20	1.95	EKMH500VSN392MR25S
	22,000	25.4 × 45	0.40	3.32	EKMH160VSN223MQ45S		4,700	22 × 45	0.20	2.43	EKMH500VSN472MP45S
	22,000	30 × 35	0.40	3.29	EKMH160VSN223MR35S		4,700	25.4 × 35	0.20	2.39	EKMH500VSN472MQ35S
	22,000	35 × 25	0.40	3.23	EKMH160VSN223MA25S		4,700	30 × 30	0.20	2.25	EKMH500VSN472MR30S
	27,000	25.4 × 50	0.40	3.78	EKMH160VSN273MQ50S		4,700	35 × 25	0.20	2.48	EKMH500VSN472MA25S
	27,000	30 × 40	0.40	3.77	EKMH160VSN273MR40S		5,600	22 × 50	0.20	2.75	EKMH500VSN562MP50S

◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.
50	5,600	25.4 × 40	0.20	2.70	EKM500VSN562MQ40S	80	1,800	25.4 × 30	0.15	1.76	EKM800VSN182MQ30S
	5,600	30 × 35	0.20	2.76	EKM500VSN562MR35S		1,800	30 × 25	0.15	1.65	EKM800VSN182MR25S
	5,600	35 × 25	0.20	2.70	EKM500VSN562MA25S		2,200	22 × 45	0.15	2.04	EKM800VSN222MP45S
	6,800	25.4 × 50	0.20	3.30	EKM500VSN682MQ50S		2,200	25.4 × 35	0.15	2.01	EKM800VSN222MQ35S
	6,800	30 × 40	0.20	3.30	EKM500VSN682MR40S		2,200	30 × 30	0.15	2.05	EKM800VSN222MR30S
	6,800	35 × 30	0.20	3.25	EKM500VSN682MA30S		2,200	35 × 25	0.15	2.07	EKM800VSN222MA25S
	8,200	30 × 45	0.20	3.60	EKM500VSN822MR45S		2,700	25.4 × 45	0.15	2.36	EKM800VSN272MQ45S
	8,200	35 × 35	0.20	3.55	EKM500VSN822MA35S		2,700	30 × 35	0.15	2.35	EKM800VSN272MR35S
	10,000	30 × 50	0.20	4.04	EKM500VSN103MR50S		2,700	35 × 25	0.15	2.29	EKM800VSN272MA25S
	10,000	35 × 40	0.20	4.03	EKM500VSN103MA40S	100	3,300	25.4 × 50	0.15	2.68	EKM800VSN332MQ50S
63	1,200	22 × 25	0.15	1.19	EKM630VSN122MP25S		3,300	30 × 40	0.15	2.68	EKM800VSN332MR40S
	1,500	22 × 25	0.15	1.33	EKM630VSN152MP25S		3,300	35 × 30	0.15	2.45	EKM800VSN332MA30S
	1,800	22 × 30	0.15	1.51	EKM630VSN182MP30S		3,900	30 × 45	0.15	3.00	EKM800VSN392MR45S
	1,800	25.4 × 25	0.15	1.52	EKM630VSN182MQ25S		3,900	35 × 35	0.15	2.98	EKM800VSN392MA35S
	2,200	22 × 35	0.15	1.73	EKM630VSN222MP35S		4,700	30 × 50	0.15	3.39	EKM800VSN472MR50S
	2,200	25.4 × 30	0.15	1.74	EKM630VSN222MQ30S		4,700	35 × 40	0.15	3.38	EKM800VSN472MA40S
	2,700	22 × 40	0.15	1.97	EKM630VSN272MP40S		5,600	35 × 45	0.15	3.80	EKM800VSN562MA45S
	2,700	25.4 × 35	0.15	1.99	EKM630VSN272MQ35S		6,800	35 × 50	0.15	3.90	EKM800VSN682MA50S
	2,700	30 × 25	0.15	1.76	EKM630VSN272MR25S		560	22 × 25	0.15	1.05	EKM101VSN561MP25S
	3,300	22 × 50	0.15	2.29	EKM630VSN332MP50S		820	22 × 30	0.15	1.32	EKM101VSN821MP30S
80	3,300	25.4 × 40	0.15	2.27	EKM630VSN332MQ40S		820	25.4 × 25	0.15	1.33	EKM101VSN821MQ25S
	3,300	30 × 30	0.15	2.24	EKM630VSN332MR30S		1,000	22 × 35	0.15	1.50	EKM101VSN102MP35S
	3,300	35 × 25	0.15	2.06	EKM630VSN332MA25S		1,000	25.4 × 30	0.15	1.51	EKM101VSN102MQ30S
	3,900	25.4 × 45	0.15	2.54	EKM630VSN392MQ45S		1,200	22 × 40	0.15	1.69	EKM101VSN122MP40S
	3,900	30 × 35	0.15	2.55	EKM630VSN392MR35S		1,200	25.4 × 35	0.15	1.71	EKM101VSN122MQ35S
	3,900	35 × 25	0.15	2.24	EKM630VSN392MA25S		1,200	30 × 25	0.15	1.68	EKM101VSN122MR25S
	4,700	25.4 × 50	0.15	2.86	EKM630VSN472MQ50S		1,500	22 × 45	0.15	1.94	EKM101VSN152MP45S
	4,700	30 × 40	0.15	2.86	EKM630VSN472MR40S		1,500	25.4 × 40	0.15	1.98	EKM101VSN152MQ40S
	4,700	35 × 30	0.15	2.79	EKM630VSN472MA30S		1,500	30 × 30	0.15	1.95	EKM101VSN152MR30S
	5,600	30 × 45	0.15	3.22	EKM630VSN562MR45S		1,500	35 × 25	0.15	1.98	EKM101VSN152MA25S
	5,600	35 × 35	0.15	3.19	EKM630VSN562MA35S		1,800	25.4 × 45	0.15	2.23	EKM101VSN182MQ45S
	6,800	30 × 50	0.15	3.65	EKM630VSN682MR50S		1,800	30 × 35	0.15	2.50	EKM101VSN182MR35S
	6,800	35 × 40	0.15	3.64	EKM630VSN682MA40S		1,800	35 × 25	0.15	2.17	EKM101VSN182MA25S
	8,200	35 × 45	0.15	3.90	EKM630VSN822MR45S		2,200	25.4 × 50	0.15	2.53	EKM101VSN222MQ50S
	10,000	35 × 50	0.15	4.40	EKM630VSN103MA50S		2,200	30 × 40	0.15	2.70	EKM101VSN222MR40S
	820	22 × 25	0.15	1.11	EKM800VSN821MP25S		2,200	35 × 30	0.15	2.50	EKM101VSN222MA30S
80	1,000	22 × 25	0.15	1.22	EKM800VSN102MP25S		2,700	30 × 45	0.15	2.88	EKM101VSN272MR45S
	1,200	22 × 30	0.15	1.38	EKM800VSN122MP30S		2,700	35 × 35	0.15	2.86	EKM101VSN272MA35S
	1,200	25.4 × 25	0.15	1.39	EKM800VSN122MQ25S		3,300	30 × 50	0.15	3.28	EKM101VSN332MR50S
	1,500	22 × 35	0.15	1.59	EKM800VSN152MP35S		3,300	35 × 40	0.15	3.27	EKM101VSN332MA40S
	1,500	25.4 × 30	0.15	1.61	EKM800VSN152MQ30S		3,900	35 × 45	0.15	3.67	EKM101VSN392MA45S
	1,800	22 × 40	0.15	1.80	EKM800VSN182MP40S		4,700	35 × 50	0.15	3.80	EKM101VSN472MA50S

*For the rated voltage $\geq 160V_{dc}$, please use KMR and KMQ series.

◆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

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.