KMH Series

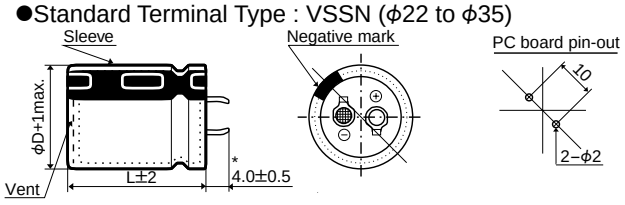
●Endurance with ripple current : 105℃ 2000 hours
●Non solvent-proof type

◆SPECIFICATIONS

Items	Characteristics											
Category Temperature Range	−40 to +105℃ (6.3 to 100Vdc) −25 to +105℃ (160 to 450Vdc)											
Rated Voltage Range	6.3 to 450Vdc											
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)											
Leakage Current	I=0.02CV (0.03CV for L=20mm) 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 (tanδ)	Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	315 to 400V	450V
	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
	* : 0.15 for D=35mm or L=20mm (at 20℃, 120Hz)											
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	160 to 250V	315 to 400V	450V
	Z(−25℃)/Z(+20℃)	4	4	4	3	3	2	2	2	2	4	4	8
	Z(−40℃)/Z(+20℃)	15	15	15	10	8	6	6	5	5	—	—	— (at 120Hz)
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 for 2000 hours at 105℃.											
	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℃ after exposing them for 1000 hours at 105℃ 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										

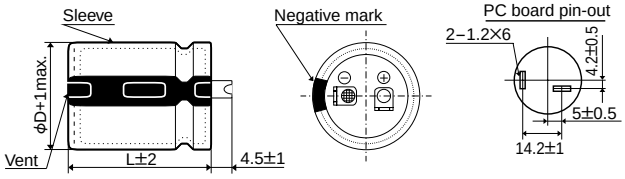
◆DIMENSIONS [mm]

●Standard Terminal Type : VSSN (ϕ22 to ϕ35)

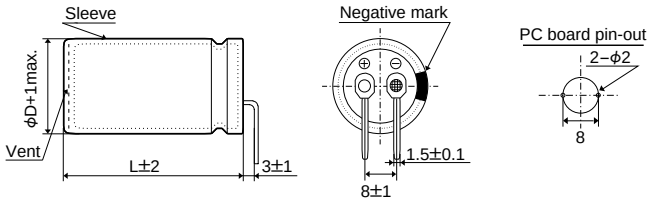


*ϕD=35mm : 3.5±0.5mm

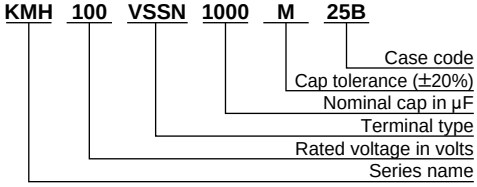
●Terminal Type : LISN(ϕ35)



●Terminal Type : LCSN (ϕ22×30 to 50ℓ)



◆PART NUMBERING SYSTEM



KMH Series

◆STANDARD RATINGS

Vdc / μF \ φD	6.3				10				16			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
6,800									22×25 1.57			
10,000					22×25 1.55				22×30 1.97	25.4×25 1.97		
12,000	22×25 1.54				22×30 1.77				22×35 2.22	25.4×30 2.24	30×25 2.45	
15,000	22×25 1.72				22×30 1.97	25.4×25 1.96			22×40 2.55	25.4×35 2.58	30×25 2.52	
18,000	22×30 1.95	25.4×25 1.96			22×35 2.21	25.4×30 2.23			22×45 2.87	25.4×40 2.92	30×30 2.88	35×25 2.92
22,000	22×35 2.23	25.4×30 2.25	30×25 2.28		22×40 2.51	25.4×35 2.54	30×25 2.40			25.4×45 3.32	30×35 3.29	35×25 3.23
27,000	22×40 2.54	25.4×35 2.57	30×25 2.52		22×50 2.93	25.4×40 2.90	30×30 2.87	35×25 2.73		25.4×50 3.78	30×40 3.77	35×30 3.45
33,000	22×45 2.88	25.4×40 2.93	30×30 2.89	35×25 2.93		25.4×45 3.30	30×35 3.28	35×30 3.16			30×45 4.30	35×35 4.26
39,000		25.4×40 3.18	30×35 3.26	35×30 3.40		25.4×50 3.68	30×40 3.69	35×30 3.43			30×50 4.81	35×40 4.79
47,000		25.4×50 3.69	30×40 3.69	35×30 3.73			30×45 4.17	35×35 3.76				35×45 5.43
56,000			30×45 4.16	35×35 4.12			30×50 4.68	35×40 4.67				
68,000			30×50 4.71	35×40 4.69				35×50 5.46				
82,000				35×45 5.32	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105℃, 120Hz							

Vdc / μF \ φD	25				35				50			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
1,800									22×25 1.33			
2,700									22×30 1.69	25.4×25 1.70		
3,300					22×25 1.40				22×35 1.93	25.4×30 1.85		
3,900					22×30 1.57				22×40 2.16	25.4×35 2.18	30×25 1.95	
4,700	22×25 1.50				22×30 1.72	25.4×25 1.80			22×45 2.43	25.4×35 2.39	30×30 2.25	35×25 2.48
5,600	22×25 1.63				22×35 1.95	25.4×30 1.96	30×25 1.99		22×50 2.75	25.4×40 2.70	30×35 2.76	35×25 2.70
6,800	22×30 1.86	25.4×25 1.87			22×40 2.20	25.4×35 2.23	30×25 2.19			25.4×50 3.30	30×40 3.30	35×30 3.25
8,200	22×35 2.11	25.4×30 2.12	30×25 2.15		22×50 2.55	25.4×40 2.53	30×30 2.75	35×25 2.75			30×45 3.60	35×35 3.55
10,000	22×40 2.39	25.4×35 2.42	30×25 2.37			25.4×45 2.87	30×35 2.90	35×30 2.91			30×50 4.04	35×40 4.03
12,000	22×45 2.69	25.4×40 2.74	30×30 2.70	35×25 2.74		25.4×50 3.24	30×40 3.23	35×30 2.99				35×45 4.55
15,000		25.4×45 3.15	30×35 3.13	35×30 3.27			30×45 3.72	35×35 3.67				
18,000		25.4×50 3.54	30×40 3.54	35×30 3.58				35×40 4.37				
22,000			30×45 4.04	35×35 3.64				35×50 4.92				
27,000				35×45 4.73	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105℃, 120Hz							
33,000				35×50 5.39								

◆CASE CODE [mm]

Case code	Case size φD×L	Case code	Case size φD×L	Case code	Case size φD×L	Case code	Case size φD×L
22S	22×20	25S	25.4×20	30S	30×20	35S	35×20
22A	22×25	25A	25.4×25	30A	30×25	35A	35×25
22B	22×30	25B	25.4×30	30B	30×30	35B	35×30
22C	22×35	25C	25.4×35	30C	30×35	35C	35×35
22D	22×40	25D	25.4×40	30D	30×40	35D	35×40
22E	22×45	25E	25.4×45	30E	30×45	35E	35×45
22F	22×50	25F	25.4×50	30F	30×50	35F	35×50

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

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

CAT. No. E1001B

KMH Series

◆STANDARD RATINGS

Vdc / μF \ φD	63				80				100			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
560									22×25 1.05			
820					22×25 1.11				22×30 1.32	25.4×25 1.33		
1,000					22×25 1.22				22×35 1.50	25.4×30 1.51		
1,200	22×25 1.19				22×30 1.38	25.4×25 1.39			22×40 1.69	25.4×35 1.71	30×25 1.68	
1,500	22×25 1.33				22×35 1.59	25.4×30 1.61			22×45 1.94	25.4×40 1.98	30×30 1.95	35×25 1.98
1,800	22×30 1.51	25.4×25 1.52			22×40 1.80	25.4×30 1.76	30×25 1.65			25.4×45 2.23	30×35 2.50	35×25 2.17
2,200	22×35 1.73	25.4×30 1.74			22×45 2.04	25.4×35 2.01	30×30 2.05	35×25 2.07		25.4×50 2.53	30×40 2.70	35×30 2.50
2,700	22×40 1.97	25.4×35 1.99	30×25 1.76			25.4×45 2.36	30×35 2.35	35×25 2.29			30×45 2.88	35×35 2.86
3,300	22×50 2.29	25.4×40 2.27	30×30 2.24	35×25 2.06		25.4×50 2.68	30×40 2.68	35×30 2.45			30×50 3.28	35×40 3.27
3,900		25.4×45 2.54	30×35 2.55	35×25 2.24			30×45 3.00	35×35 2.98				35×45 3.67
4,700		25.4×50 2.86	30×40 2.86	35×30 2.79			30×50 3.39	35×40 3.38				35×50 3.80
5,600			30×45 3.22	35×35 3.19				35×45 3.80				
6,800			30×50 3.65	35×40 3.64				35×50 3.90				
8,200				35×45 3.90	←Upper : Case size φD×L (mm) ←Lower : Rated ripple current (Arms) at 105℃, 120Hz							
10,000				35×50 4.40								

Vdc / μF \ φD	160				180				200			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
150									22×20 0.66			
180					22×20 0.73				22×20 0.72			
220	22×20 0.80				22×20 0.80				22×25 0.79	25.4×20 0.83		
270	22×25 1.09				22×25 0.96	25.4×20 0.92			22×25 0.87	25.4×25 1.09		
330	22×25 1.20	25.4×20 1.02			22×25 1.06	25.4×25 1.20			22×30 1.20	25.4×25 1.21	30×20 1.08	
390	22×30 1.30	25.4×25 1.28	30×20 1.17		22×30 1.30	25.4×25 1.30	30×20 1.17		22×35 1.31	25.4×25 1.31	30×25 1.37	
470	22×35 1.40	25.4×25 1.41	30×20 1.28		22×35 1.35	25.4×30 1.40	30×25 1.38	35×20 1.41	22×40 1.40	25.4×30 1.41	30×25 1.50	35×20 1.41
560	22×40 1.50	25.4×30 1.51	30×25 1.56	35×20 1.54	22×40 1.51	25.4×35 1.53	30×25 1.51	35×20 1.53	22×45 1.56	25.4×35 1.53	30×25 1.63	35×25 1.56
680	22×45 1.71	25.4×35 1.70	30×25 1.72	35×20 1.70	22×45 1.71	25.4×40 1.74	30×30 1.72	35×25 1.74	22×50 1.74	25.4×40 1.74	30×30 1.74	35×25 1.72
820	22×50 1.93	25.4×40 2.01	30×30 2.00	35×25 1.91	22×50 1.97	25.4×45 1.97	30×35 2.00	35×25 1.91		25.4×50 2.04	30×35 2.00	35×30 2.04
1,000		25.4×45 2.20	30×35 2.22	35×25 2.11		25.4×50 2.23	30×40 2.24	35×30 2.26			30×45 2.30	35×35 2.30
1,200		25.4×50 2.45	30×40 2.44	35×30 2.44			30×45 2.52	35×35 2.50			30×50 2.60	35×40 2.65
1,500			30×45 2.82	35×35 2.50			30×50 2.89	35×40 2.89				35×45 3.08
1,800			30×50 3.31	35×45 3.31				35×40 3.17				35×50 3.47
2,200				35×50 3.77				35×50 3.60	←Upper : Case size φD×L (mm) ←Lower : Rated ripple current (Arms) at 105℃, 120Hz			

KMH Series

◆STANDARD RATINGS

Vdc / μF \ φD	250				315				350			
	22	25.4	30	35	22	25.4	30	35	22	25.4	30	35
56									22×20 0.40			
68					22×20 0.44				22×25 0.51			
82					22×25 0.64				22×25 0.56	25.4×20 0.51		
100					22×30 0.68	25.4×20 0.56			22×30 0.69	25.4×25 0.69	30×20 0.59	
120	22×20 0.59				22×30 0.75	25.4×25 0.76	30×20 0.65		22×35 0.75	25.4×25 0.75	30×20 0.64	
150	22×25 0.71				22×35 0.82	25.4×30 0.80	30×25 0.82		22×40 0.82	25.4×30 0.83	30×25 0.83	35×20 0.76
180	22×25 0.78	25.4×20 0.75			22×40 0.91	25.4×30 0.88	30×25 0.90	35×20 0.83	22×45 0.92	25.4×35 0.92	30×25 0.91	35×25 0.94
220	22×30 0.95	25.4×25 0.95	30×20 0.88		22×45 1.02	25.4×35 1.02	30×30 1.02	35×25 1.03	22×50 1.05	25.4×40 1.04	30×30 1.02	35×25 1.04
270	22×35 1.14	25.4×25 1.05	30×20 0.97		22×50 1.16	25.4×40 1.15	30×35 1.17	35×25 1.15		25.4×45 1.18	30×35 1.17	35×30 1.20
330	22×40 1.26	25.4×30 1.20	30×25 1.26	35×20 1.18		25.4×50 1.33	30×35 1.30	35×30 1.32			30×40 1.34	35×30 1.33
390	22×45 1.49	25.4×35 1.49	30×25 1.37	35×25 1.43			30×40 1.46	35×35 1.47			30×45 1.51	35×35 1.47
470	22×50 1.57	25.4×40 1.57	30×30 1.57	35×25 1.57			30×50 1.70	35×40 1.69				35×40 1.69
560		25.4×45 1.79	30×35 1.79	35×30 1.79				35×45 1.90				35×45 1.90
680		25.4×50 1.84	30×40 2.00	35×30 1.97				35×50 2.15				
820			30×45 2.16	35×35 1.98								
1,000				35×40 2.30	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105℃, 120Hz							
1,200				35×45 2.43								

Vdc / μF \ φD	400				450			
	22	25.4	30	35	22	25.4	30	35
47	22×20 0.37							
56	22×20 0.40				22×25 0.40			
68	22×25 0.51	25.4×20 0.46			22×30 0.50	25.4×25 0.50		
82	22×30 0.58	25.4×25 0.64			22×35 0.56	25.4×25 0.55		
100	22×30 0.64	25.4×25 0.67	30×20 0.59		22×40 0.64	25.4×30 0.57	30×25 0.64	
120	22×35 0.72	25.4×30 0.72	30×25 0.76		22×45 0.72	25.4×35 0.71	30×25 0.70	
150	22×40 0.82	25.4×35 0.84	30×25 0.84	35×20 0.76	22×50 0.79	25.4×40 0.75	30×30 0.74	35×25 0.75
180	22×50 0.95	25.4×40 0.94	30×30 0.92	35×25 0.94		25.4×45 0.84	30×35 0.87	35×30 0.90
220		25.4×45 1.07	30×35 1.06	35×30 1.08		25.4×50 0.98	30×40 0.98	35×30 1.00
270		25.4×50 1.21	30×40 1.21	35×30 1.20			30×45 1.15	35×35 1.17
330			30×45 1.39	35×35 1.35			30×50 1.38	35×40 1.38
390			30×50 1.55	35×40 1.54				35×45 1.55
470				35×45 1.74				35×50 1.72