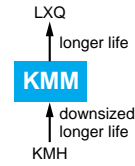


KMM Series

- Downsize, longer life, and high ripple version of KMH series
- Endurance with ripple current : 105°C 2000 to 3000 hours
- Non solvent-proof type

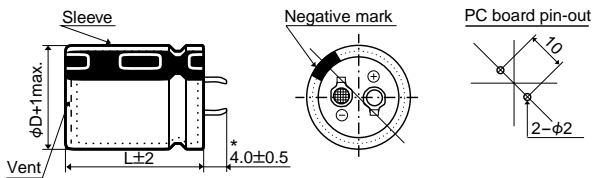


SPECIFICATIONS

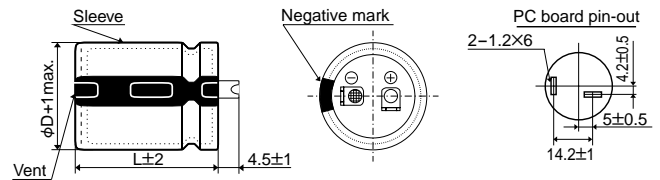
Items	Characteristics		
Category	-25 to +105°C		
Temperature Range	-25 to +105°C		
Rated Voltage Range	160 to 450V _{dc}		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current	$I \leq 3\sqrt{CV}$ Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes)		
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	160 to 400V	420 & 450V
	tanδ (Max.)	0.15	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	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 for 3000 hours (2000 hours for φ20×20L products) at 105°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 1000 hours at 105°C without voltage applied.		
	Capacitance change	≤±15% 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 (φ20 to φ35)

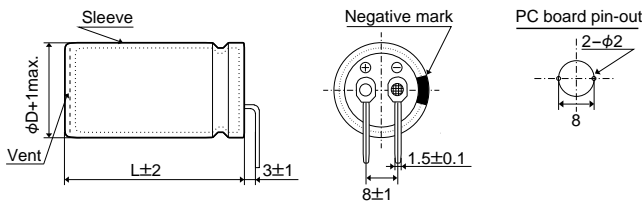


- Terminal Type : LISN (φ35)

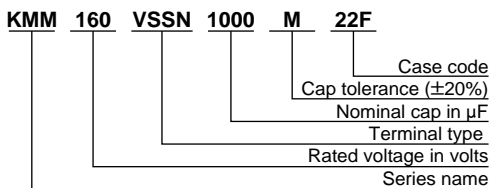


* φD=35mm : 3.5±0.5mm

- Terminal Type : LCSN (φ20×30 to 50L, φ22×30 to 50L)



PART NUMBERING SYSTEM



◆STANDARD RATINGS

μF	V _{dc}		160					180				
	φD		20	22	25.4	30	35	20	22	25.4	30	35
150								20×20 0.62				
180	20×20 0.68							20×25 0.77	22×20 0.80			
220	20×25 0.85	22×20 0.81						20×25 1.00		25.4×20 0.90		
270	20×25 1.10		25.4×20 0.98					20×30 1.10	22×25 1.00	25.4×20 0.95		
330	20×30 1.20	22×25 1.20	25.4×20 1.02					20×30 1.20	22×25 1.20	25.4×25 1.16	30×20 1.15	
390	20×30 1.30	22×25 1.30	25.4×25 1.26	30×20 1.25				20×35 1.30	22×30 1.35	25.4×25 1.35	30×20 1.20	
470	20×35 1.34	22×30 1.55	25.4×25 1.55	30×20 1.30				20×40 1.40	22×35 1.50	25.4×30 1.50	30×25 1.50	35×20 1.36
560	20×40 1.50	22×35 1.67	25.4×30 1.67	30×25 1.67	35×20 1.46			20×45 1.55	22×40 1.67	25.4×30 1.67	30×25 1.67	35×20 1.43
680	20×45 1.70	22×40 1.82	25.4×30 1.82	30×25 1.82	35×20 1.51			20×50 1.75	22×45 1.78	25.4×35 1.78	30×30 1.78	35×25 1.83
820		22×45 2.04	25.4×35 2.04	30×30 2.04	35×25 2.04				22×50 2.04	25.4×40 2.04	30×30 2.04	35×25 2.04
1,000		22×50 2.25	25.4×40 2.25	30×30 2.25	35×25 2.25					25.4×45 2.30	30×35 2.30	35×30 2.30
1,200			25.4×45 2.49	30×35 2.49	35×30 2.49					25.4×50 2.55	30×40 2.55	35×30 2.55
1,500			25.4×60 2.97	30×40 2.84	35×30 2.84						30×45 2.90	35×35 2.90
1,800				30×45 3.32	35×35 3.00						30×60 3.49	35×40 3.30
2,200				30×60 3.86	35×45 3.50							35×50 3.65
2,700					35×50 4.00							35×60 4.19
3,300					35×60 4.63							

← Upper : Case size φD×L (mm)
← Lower : Rated ripple current (Arms) at 105°C, 120Hz

◆CASE CODE

Case code	Case size φD×L	Case code	Case size φD×L	Case code	Case size φD×L	Case code	Case size φD×L	Case code	Case size φD×L
20S	20×20	22S	22×20	25S	25.4×20	30S	30×20	35S	35×20
20A	20×25	22A	22×25	25A	25.4×25	30A	30×25	35A	35×25
20B	20×30	22B	22×30	25B	25.4×30	30B	30×30	35B	35×30
20C	20×35	22C	22×35	25C	25.4×35	30C	30×35	35C	35×35
20D	20×40	22D	22×40	25D	25.4×40	30D	30×40	35D	35×40
20E	20×45	22E	22×45	25E	25.4×45	30E	30×45	35E	35×45
20F	20×50	22F	22×50	25F	25.4×50	30F	30×50	35F	35×50
—	—	—	—	25H	25.4×60	30H	30×60	35H	35×60

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Frequency (Hz)	50	120	300	1k	10k	50k
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

◆STANDARD RATINGS

μF	V _{dc} φD	200					220				
		20	22	25.4	30	35	20	22	25.4	30	35
120		20×20 0.56					20×20 0.56				
150		20×25 0.71	22×20 0.73				20×25 0.73	22×20 0.67			
180		20×25 0.77	22×20 0.80				20×25 0.90		25.4×20 0.76		
220		20×25 1.00		25.4×20 0.85			20×30 1.00	22×25 1.00	25.4×20 0.84		
270		20×30 1.10	22×25 1.10		30×20 1.05		20×35 1.15	22×30 1.15	25.4×25 1.08	30×20 0.98	
330		20×35 1.20	22×30 1.25	25.4×25 1.25	30×20 1.10		20×40 1.25	22×35 1.25	25.4×25 1.25		35×20 1.13
390		20×40 1.31	22×30 1.35	25.4×25 1.35		35×20 1.30	20×45 1.40	22×35 1.40	25.4×30 1.40	30×25 1.36	35×20 1.23
470		20×45 1.45	22×35 1.50	25.4×30 1.50	30×25 1.50	35×20 1.41	20×50 1.51	22×40 1.51	25.4×35 1.54	30×25 1.50	
560		20×50 1.58	22×40 1.67	25.4×30 1.67	30×25 1.67			22×45 1.70	25.4×40 1.72	30×30 1.70	35×25 1.71
680			22×45 1.78	25.4×35 1.78	30×30 1.78	35×25 1.78			25.4×45 1.94	30×35 1.93	35×25 1.89
820				25.4×45 2.04	30×30 2.04	35×25 2.04			25.4×50 2.18	30×40 2.19	35×30 2.16
1,000				25.4×50 2.30	30×35 2.30	35×30 2.30			25.4×60 2.54	30×45 2.50	35×35 2.44
1,200				25.4×60 2.66	30×40 2.65	35×35 2.65				30×50 2.81	35×40 2.79
1,500					30×50 3.08	35×40 3.08				30×60 3.30	35×45 3.22
1,800					30×60 3.49	35×45 3.48	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105°C, 120Hz				35×50 3.63
2,200						35×50 3.78					35×60 4.23

μF	V _{dc} φD	250					315				
		20	22	25.4	30	35	20	22	25.4	30	35
56							20×20 0.38				
68							20×25 0.47	22×20 0.45			
82							20×25 0.64	22×20 0.47			
100		20×20 0.51					20×30 0.69	22×25 0.61	25.4×20 0.56		
120		20×25 0.58	22×20 0.60				20×30 0.75	22×25 0.75	25.4×20 0.62	30×20 0.65	
150		20×25 0.79		25.4×20 0.74			20×35 0.82	22×30 0.82	25.4×25 0.82	30×20 0.70	35×20 0.76
180		20×30 0.90	22×25 0.78	25.4×20 0.75			20×40 0.90	22×35 0.92	25.4×25 0.92	30×25 0.90	35×20 0.85
220		20×30 1.00	22×25 1.00	25.4×25 0.95	30×20 0.95		20×50 1.00	22×40 1.04	25.4×30 1.04	30×25 1.04	35×20 0.90
270		20×35 1.10	22×30 1.18	25.4×25 1.18	30×20 1.00			22×45 1.16	25.4×35 1.16	30×25 1.16	35×25 1.15
330		20×40 1.20	22×35 1.30	25.4×30 1.30	30×25 1.30	35×20 1.16		22×50 1.33	25.4×40 1.33	30×30 1.33	35×25 1.33
390		20×50 1.45	22×40 1.49	25.4×35 1.49	30×25 1.49				25.4×45 1.47	30×35 1.47	35×30 1.47
470			22×45 1.65	25.4×35 1.65	30×30 1.65	35×25 1.65			25.4×50 1.70	30×40 1.70	35×30 1.70
560			22×50 1.67	25.4×40 1.80	30×30 1.80	35×25 1.80				30×45 2.05	35×35 2.05
680				25.4×50 2.00	30×35 2.00	35×30 2.00				30×50 2.17	35×40 2.17
820				25.4×60 2.20	30×40 2.30	35×35 2.30					35×45 2.20
1,000					30×50 2.47	35×40 2.47					35×60 2.55
1,200					30×60 2.85	35×45 2.60					
1,500						35×50 3.00	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105°C, 120Hz				
1,800						35×60 3.42					

◆STANDARD RATINGS

μF	V _{dc} φD	350					400				
		20	22	25.4	30	35	20	22	25.4	30	35
39							20×20 0.32				
47		20×20 0.35					20×25 0.39	22×20 0.37			
56		20×25 0.43	22×20 0.41				20×25 0.51		25.4×20 0.42		
68		20×25 0.47		25.4×20 0.46			20×30 0.56	22×25 0.50	25.4×20 0.46		
82		20×30 0.54	22×25 0.55	25.4×20 0.51			20×30 0.64	22×25 0.64		30×20 0.55	
100		20×30 0.60	22×25 0.69		30×20 0.60		20×35 0.70	22×30 0.70	25.4×25 0.70	30×20 0.60	
120		20×35 0.68	22×30 0.75	25.4×25 0.75	30×20 0.65		20×40 0.75	22×35 0.75	25.4×25 0.75	30×25 0.73	35×20 0.75
150		20×40 0.78	22×35 0.82	25.4×30 0.83	30×25 0.82	35×20 0.76	20×45 0.83	22×40 0.88	25.4×30 0.88	30×25 0.88	35×20 0.80
180		20×45 0.87	22×40 0.92	25.4×30 0.92	30×25 0.90			22×45 0.98	25.4×35 0.98	30×30 0.98	35×25 0.98
220		20×50 1.00	22×45 1.05	25.4×35 1.04	30×30 1.02	35×25 1.04		22×50 1.10	25.4×40 1.10	30×30 1.10	35×25 1.10
270			22×50 1.16	25.4×40 1.18	30×30 1.17	35×25 1.20			25.4×45 1.22	30×35 1.22	35×30 1.22
330				25.4×45 1.29	30×35 1.34	35×30 1.22			25.4×50 1.44	30×40 1.44	35×30 1.44
390				25.4×50 1.51	30×40 1.51	35×35 1.47			25.4×60 1.51	30×45 1.60	35×35 1.60
470				25.4×60 1.66	30×45 1.65	35×35 1.69				30×50 1.90	35×40 1.90
560					30×50 1.85	35×40 1.90				30×60 2.10	35×45 2.12
680					30×60 2.15	35×50 1.99	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105°C, 120Hz				35×60 2.27
820						35×60 2.31					

μF	V _{dc} φD	420					450				
		20	22	25.4	30	35	20	22	25.4	30	35
39		20×20 0.32					20×25 0.34				
47		20×25 0.39	22×20 0.37				20×25 0.39				
56		20×25 0.51		25.4×20 0.42			20×30 0.51	22×25 0.40			
68		20×30 0.56	22×25 0.50	25.4×20 0.46			20×35 0.56	22×30 0.53	25.4×25 0.50		
82		20×35 0.64	22×25 0.64	25.4×25 0.58	30×20 0.53		20×35 0.64	22×30 0.64	25.4×25 0.64		
100		20×35 0.70	22×30 0.70	25.4×25 0.70	30×20 0.59		20×45 0.69	22×35 0.69	25.4×30 0.69	30×25 0.64	
120		20×40 0.75	22×35 0.75	25.4×30 0.75	30×25 0.73	35×20 0.67	20×50 0.75	22×40 0.80	25.4×30 0.80	30×25 0.80	35×25 0.73
150		20×50 0.88	22×40 0.88	25.4×35 0.88	30×25 0.88			22×45 0.88	25.4×35 0.88	30×30 0.88	35×25 0.75
180			22×45 0.95	25.4×35 0.95	30×30 0.95	35×25 0.94		22×50 1.00	25.4×40 1.00	30×30 1.00	
220			22×50 1.10	25.4×45 1.10	30×35 1.10	35×25 1.10			25.4×45 1.12	30×35 1.12	35×30 1.12
270				25.4×50 1.22	30×40 1.22	35×30 1.22			25.4×60 1.18	30×40 1.28	35×35 1.28
330				25.4×60 1.41	30×45 1.45	35×35 1.45				30×50 1.45	35×40 1.45
390					30×50 1.55	35×40 1.55				30×60 1.51	35×40 1.55
470					30×60 1.79	35×45 1.90					35×50 1.85
560						35×50 2.15	← Upper : Case size φD×L (mm) ← Lower : Rated ripple current (Arms) at 105°C, 120Hz				35×60 1.91
680						35×60 2.27					