

# LARGE CAN TYPE

# HS Series

Wide Temperature Range, Miniature Sized



- Smaller case sized than HP series.
- Withstanding 2000 hours application of high ripple current at 105°C.

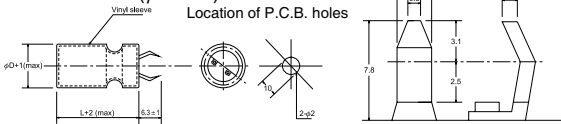


## SPECIFICATION

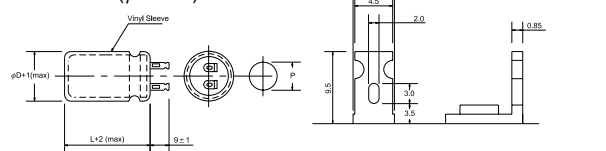
Item	Characteristic															
Operation Temperature Range	-40 ~ +105°C															
Rated Working Voltage	16 ~ 500VDC															
Capacitance Tolerance (120Hz 20°C)	±20%(M)															
Leakage Current (20°C)	$I \leq 0.02CV$ or $3 \text{ (mA)}$ *Whichever is smaller after 5 minutes I : Leakage Current(μA) C : Rated Capacitance(μF) V : Working Voltage(V)															
Surge Voltage (20°C)	W.V.	16	25	35	50	63	80	100	160	180	200	250	350	400	450	500
	S.V.	20	32	44	63	79	100	125	200	225	250	300	400	450	500	550
Dissipation Factor (tan δ) (120Hz 20°C)	Rated Voltage (V)	16	25	35	50	63	80	100	≥ 160							
	Capacitance	—	—	—	≤6,800	≥10,000	≤6,800	≥10,000	≤3,300	≥4,700	≤3,300	≥4,700	—			
	tan δ	0.50	0.40	0.35	0.30	0.35	0.25	0.35	0.20	0.25	0.20	0.25	0.15			
Low Temperature Stability	Impedance ratio at 120Hz															
	Rated Voltage (V)	16	25	35	50	63~100	160~250	350~500								
	-25°C / +20°C	6	6	6	4	3	4	6								
	-40°C / +20°C	15	15	10	8	6	—	—								
Load Life	After 2000 hours application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage ≤ rate working voltage)															
	Capacitance Change	≤ ±20% of initial value														
	Dissipation Factor	≤ 175% of initial specified value														
	Leakage current	≤ initial specified value														
Shelf Life	At +105°C, no voltage application after 1000 hours, the capacitor shall meet the limits for load life characteristics. (With voltage treatment)															

## TERMINAL TYPE

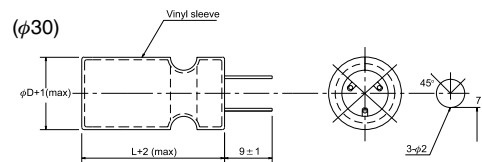
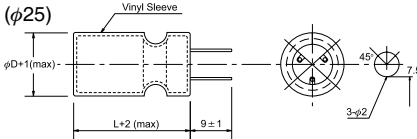
▲ P.C.B. TERMINAL (SNAP IN)  
SYMBOL:W(φ22~35)



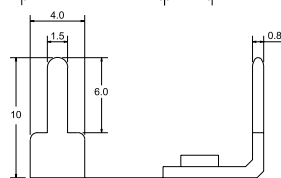
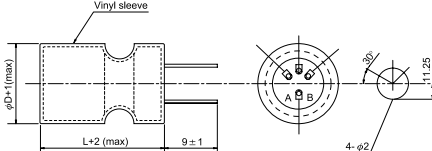
▲ LUG TERMINAL  
SYMBOL:G(φ22~35)



▲ P.C.B. TERMINAL  
SYMBOL:V(φ25~35)



(φ35)  
A.B. blank terminals



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## RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	40	60	70	85	105
Multiplier	2.50	2.20	2.00	1.80	1.00

Frequency(Hz)	60	120	400	1k	10k
W.V.	Multiplier				
≤100V	0.80	1.00	1.10	1.20	1.20
≥160V	0.80	1.00	1.10	1.30	1.40

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)  
Max ripple current : A(rms) 105°C 120Hz

μF	V(Code) Code φD	16 (1C)				25 (1E)				35 (1V)				50 (1H)			
		22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
1500	152													25			
														1.05			
2200	222									25				30	25		
										1.17				1.31	1.25		
3300	332					25				30	25			35	30	25	
						1.34				1.43	1.36			1.58	1.52	1.50	
4700	472	25				30	25			35	30	25		45	35	30	25
		1.36				1.58	1.51			1.65	1.58	1.56		1.90	1.74	1.73	1.86
6800	682	35	30			35	30	25		50	40	30	25	50	35	30	
		1.74	1.67			1.85	1.78	1.75		2.09	1.94	1.82	1.96	2.19	1.98	2.15	
10000	103	45	35	25		45	35	30	25	50	35	30				45	40
		2.09	1.92	1.77		2.19	2.01	2.00	2.15		2.24	2.03	2.20			2.39	2.62
15000	153		45	35	30		45	35	30			50	40				50
			2.29	2.17	2.36		2.54	2.41	2.61			2.79	2.92				3.52
22000	223			45	35			45	40								
				2.86	2.97			3.24	3.55								
33000	333				50				50								L(mm)
					4.21				4.78								R.C.

μF	V(Code) Code φD	63 (1J)				80 (1K)				100 (2A)				160 (2C)			
		22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
330	331													25			
														0.88			
390	391													30	25		
														1.03	1.03		
470	471													30	25		
														1.14	1.14		
560	561													35	30	25	
														1.32	1.33	1.38	
680	681													40	35	25	
														1.55	1.57	1.53	
820	821													45	40	30	25
														1.79	1.82	1.80	1.84
1000	102	25				30	25			30	25				45	35	25
		0.91				1.04	0.99			1.11	1.06				2.12	2.12	2.04
1200	122														50	35	30
															2.43	2.32	2.39
1500	152	30	25			35	30	25		40	35	25				45	35
		1.14	1.08			1.28	1.23	1.21		1.44	1.39	1.29				2.88	2.84
1800	182																40
																	3.28
2200	222	35	30	25		50	40	30	25		45	35					
		1.40	1.35	1.33		1.72	1.60	1.50	1.61		1.77	1.68					
3300	332	45	40	30	25		50	40	30			45	35				
		1.77	1.72	1.61	1.73		1.97	1.78	1.93			2.07	2.15				
4700	472		50	35	30			50	40				45				
			2.03	1.84	2.00			2.11	2.32				2.52				
6800	682			45	40				50								
				2.20	2.41				2.72								
10000	103				50												L(mm)
					2.87												R.C.

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)  
Max ripple current : A(rms) 105°C 120Hz

μF	V(Code) Code	φD	180 (2M)				200 (2D)				250 (2E)			
			22	25	30	35	22	25	30	35	22	25	30	35
220	221						25				30	25		
							0.85				0.91	0.91		
270	271		25				25				35	25		
			0.80				0.94				1.07	1.01		
330	331		30	25			30	25			35	30	25	
			0.95	0.95			1.12	1.12			1.19	1.20	1.24	
390	391		30	25			35	25			40	35	25	
			1.03	1.04			1.31	1.22			1.37	1.39	1.35	
470	471		35	30	25		40	30	25		50	40	30	25
			1.21	1.22	1.27		1.52	1.45	1.50		1.66	1.61	1.59	1.63
560	561		40	30	25		45	35	30			45	35	25
			1.40	1.34	1.39		1.75	1.68	1.76			1.85	1.85	1.78
680	681		45	35	30	25	50	40	30	25		50	35	30
			1.63	1.57	1.64	1.68	2.02	1.96	1.94	1.98		2.14	2.04	2.10
820	821		50	40	30	25		45	35	30			45	35
			1.88	1.83	1.80	1.85		2.27	2.26	2.33			2.49	2.45
1000	102			45	35	30		50	40	30				40
				2.12	2.12	2.18		2.63	2.64	2.58				2.86
1200	122			40	30			45	35					45
				2.45	2.39			3.04	3.00					3.29
1500	152			50	35					45				50
				2.91	2.74					3.58				3.68
1800	182			40						50				L(mm)
						3.17				4.10				R.C.

μF	V(Code) Code	φD	350 (2V)				400 (2G)				450 (2W)				500 (2H)			
			22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
47	470										25				25			
											0.39				0.27			
68	680						25				30	25			30	25		
							0.47				0.50	0.50			0.35	0.35		
82	820		25				30	25			35	30			35	30		
			0.43				0.56	0.56			0.59	0.60			0.41	0.41		
100	101		30	25			30	25			40	35	25		40	35	30	
			0.51	0.51			0.61	0.61			0.69	0.70	0.68		0.47	0.48	0.50	
120	121		30	25			35	30	25		45	35	30	25	50	40	35	25
			0.55	0.55			0.72	0.73	0.75		0.80	0.77	0.80	0.82	0.57	0.56	0.59	0.56
150	151		35	30	25		40	35	30			45	35	30		45	40	30
			0.66	0.67	0.69		0.85	0.86	0.90			0.96	0.96	0.99		0.66	0.69	0.68
180	181		40	35	30		45	40	30	25		50	35	30		50	40	35
			0.77	0.78	0.82		0.98	1.00	0.99	1.01		1.10	1.05	1.08		0.75	0.76	0.79
220	221		50	40	30	25		45	35	30			40	35			45	40
			0.94	0.91	0.90	0.92		1.17	1.16	1.20			1.22	1.27			0.88	0.92
270	271			45	35	30		50	40	30			50	40			50	45
				1.07	1.06	1.10		1.35	1.36	1.33			1.49	1.48			1.02	1.07
330	331			50	40	30			45	35				45				50
				1.23	1.24	1.21			1.58	1.56				1.72				1.23
390	391			45	35				40					50				
				1.42	1.40				1.79					1.96				
470	471				40				45									
					1.62				2.07									
560	561				45				50									L(mm)
					1.86				2.36									R.C.