

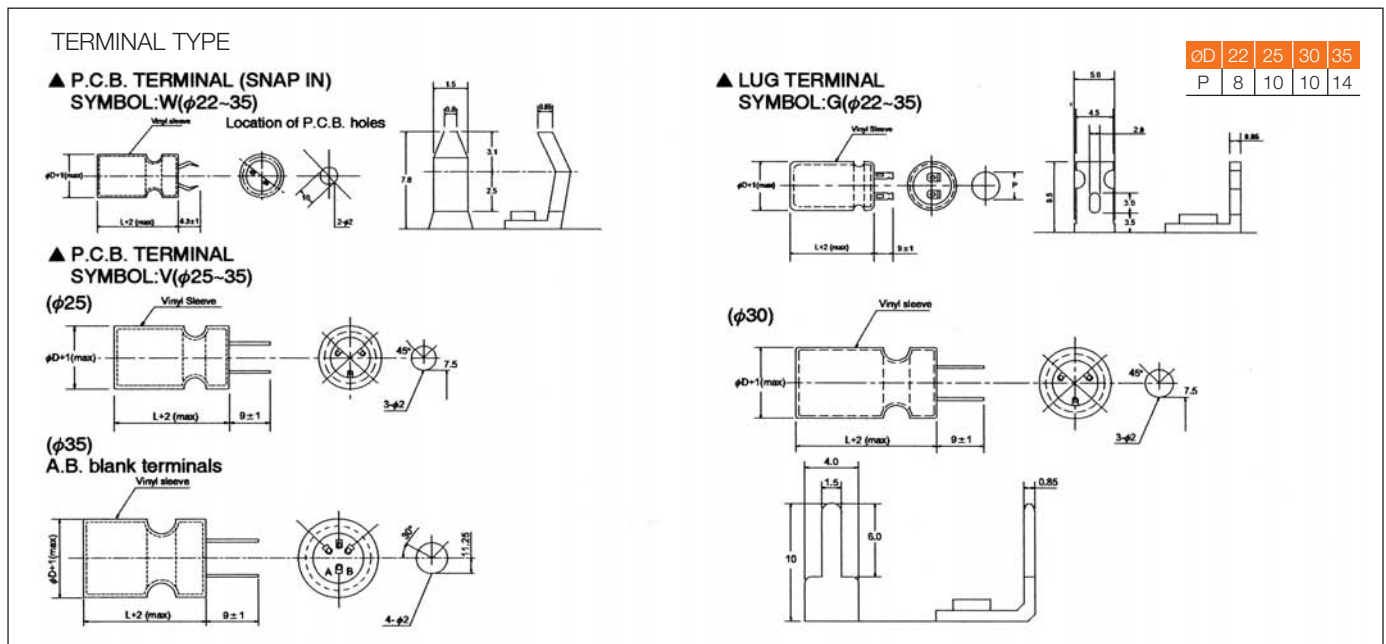
**HP SERIES**  
**Snap-in Terminal Type**  
**Wide Temperature Range**



- Three kinds of terminal are available for your use.
- High temperature 105 °C, high ripple current and high reliability.

**SPECIFICATION**

Item	Characteristic												
Operation Temperature Range	-40 ~ +105 °C						-25 ~ +105 °C						
Rated Working Voltage	16 ~ 100 VDC						160 ~ 400 VDC						
Capacitance Tolerance (120 Hz 20 °C)	±20%(M)												
Leakage Current (20 °C)	$I \leq 0.02CV$ or 3 (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	100	160	200	250	350	400	
	S.V.	20	32	44	63	79	125	200	250	300	400	450	
Dissipation Factor tan δ (120 Hz 20 °C)	W.V.	16	25	35	50	63	100	160	200	250	350	400	
	tan δ	0.45	0.35	0.30	0.25	0.25	0.20	0.15	0.15	0.15	0.20	0.20	
Low Temperature Stability	Impedance ratio at 120 Hz												
	Rated Voltage (V)		16	25	35	50	63~100	160~250	350~400				
	-25 °C / +20 °C		6	6	6	4	3	4	6				
	-40 °C / +20 °C		15	15	10	8	6	-	-				
Load Life	After 2.000 hours application of W.V. at +105 °C, the capacitor shall meet the following limits.												
	Capacitance Change		≤ ±20% of initial value										
	Dissipation Factor		≤ 200% of initial specified value										
	Leakage Current		≤ initial specified value										
Shelf Life	At +105 °C no voltage application after 1.000 hours, the capacitor shall meet the limits for load life characteristics (with voltage treatment)												



**RIPPLE CURRENT COEFFICIENTS**

Temperature (°C)	Multiplier
45	2.55
60	2.25
85	1.65
105	1.00

Frequency (Hz)	60	120	300	1k	10k	100k
W.V.	Multiplier					
16~50V	0.90	1.00	1.03	1.05	1.10	1.10
63~100V	0.85	1.00	1.07	1.13	1.19	1.20
160~400V	0.80	1.00	1.15	1.25	1.35	1.40

## Case Size & Max Ripple Current

Case size: DxL mm - E.S.R.:  $\Omega$  20°C 120Hz  
 Max ripple current: A(rms) 105°C 120 Hz

		V (Code)								
		16 (1C)			25 (1E)			35 (1V)		
$\mu$ F	Code	Item								
		DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.
1.000	102							22x25	0.497	0.86
1.500	152							22x25	0.332	1.01
2.200	222				22x25	0.264	1.17	22x35	0.226	1.34
3.300	332	22x25	0.226	1.23	22x35	0.176	1.54	22x45	0.151	1.70
4.700	472	22x30	0.159	1.47	22x40	0.123	1.79	25x45	0.106	1.88
6.800	682	22x40	0.110	1.84	25x45	0.085	2.11	25x50	0.073	2.14
8.200	822	22x45	0.091	2.02	25x45	0.071	2.18			
10.000	103	25x45	0.075	2.14	25x50	0.058	2.35			
12.000	123	25x50	0.062	2.32						
15.000	153	25x50	0.050	2.40						

		V (Code)					
		50 (1H)			63 (1J)		
$\mu$ F	Code	Item					
		DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.
470	471						
560	561						
680	681				22x25	0.610	0.75
820	821				22x25	0.505	0.82
1.000	102	22x25	0.414	0.91	22x30	0.414	0.98
1.500	152	22x30	0.276	1.14	22x35	0.276	1.22
2.200	222	22x40	0.188	1.49	25x40	0.188	1.52
3.300	332	25x45	0.126	1.81	25x50	0.126	1.89
4.700	472	25x50	0.088	2.04			

		V (Code)								
		100 (2A)			160 (2C)			200 (2D)		
$\mu$ F	Code	Item								
		DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.
150	151							22x30	1.658	0.60
220	221				22x30	1.130	0.66	22x35	1.130	0.78
330	331				22x35	0.754	0.87	22x40	0.754	1.01
470	471	22x30	0.705	0.76	22x40	0.529	1.10	25x40	0.529	1.23
560	561	22x35	0.592	0.89	22x45	0.444	1.26	25x45	0.444	1.41
680	681	22x40	0.488	1.04	25x40	0.366	1.35	30x40	0.366	1.56
820	821	22x45	0.404	1.20	25x50	0.303	1.64	30x45	0.303	1.80
1.000	102	25x45	0.332	1.35	30x45	0.249	1.82	30x50	0.249	2.08
1.500	152	25x50	0.221	1.63						
2.200	222	30x40	0.151	1,78						

		V (Code)								
		250 (2E)			350 (2V)			400 (2G)		
$\mu$ F	Code	Item								
		DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.	DxL	E.S.R.	R.C.
47	470							22x25	7.055	0.30
100	101	22x25	2.487	0.51	22x35	3.316	0.48	22x40	3.316	0.53
150	151	22x35	1.658	0.72	22x45	2.210	0.65	22x50	2.210	0.72
220	221	22x45	1.130	0.97	25x40	1.507	0.77	25x50	1.507	0.89
330	331	25x45	0.754	1.21	30x45	1.005	1.09	30x50	1.005	1.14
470	471	25x50	0.529	1.52						
560	561	30x45	0.444	1.66						
680	681	30x50	0.366	1.92						