

- Low ESR, Large Capacitance 105°C, 2000 hours.
- Ultra Low ESR, high ripple current capability
- Applications: DC/DC Converter, Switching Power Supply, Back up Power Supplies for CPU etc.
- RoHS Compliant

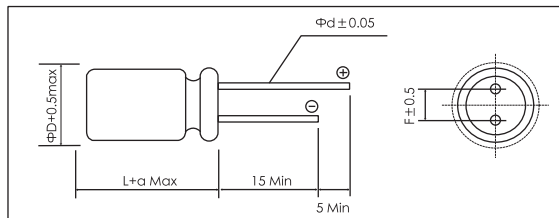


Items	Characteristics
Operating Temperature Range (°C)	-55 ~ +105
Voltage Range (V)	2.5 ~ 16
Capacitance Range (μF) (20°C, 120Hz)	180 ~ 2700
Capacitance Tolerance (20°C, 120Hz)	± 20%
Surge Voltage	Rated Voltage(V) x 1.15
Leakage Current (μA) ※1	Please see attached ratings list (20°C, 2min)
Dissipation Factor (20°C, 120Hz)	Please see attached ratings list
Equivalent Series Resistance (20°C, 100kHz)	Please see attached ratings list
Temperature Characteristics (Max Impedance Ratio at 100kHz)	Z +105°C / Z +20°C ≤ 1.25 Z -55°C / Z +20°C ≤ 1.25
Endurance	<b>2000h, Rated voltage applied at 105°C</b> Capacitance change: within ± 20% of the initial measured value Dissipation Factor (Tan δ): ≤ 150% of initial specified value ESR: ≤ 150% of initial specified value DC Leakage Current: ≤ the initial specified value
Damp heat(Steady state)	<b>1000h, No-applied voltage 60°C, 90-95% RH</b> Capacitance change: within ± 20% of the initial measured value Dissipation Factor (Tan δ): ≤ 150% of initial specified value ESR: ≤ 150% of initial specified value DC Leakage Current: ≤ the initial specified value (after voltage processing)
Resistance to soldering heat	<b>Flow method (260 ± 5°C x 10s)</b> Capacitance change: within ± 5% of the initial measured value Dissipation Factor (Tan δ): ≤ the initial specified value ESR: ≤ the initial specified value DC Leakage Current: ≤ the initial specified value (after voltage processing)

※1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C.

## Dimensions

mm



(unit:mm)

Size Code	ΦD±0.5	L	a <sub>max</sub>	F±0.5	Φd±0.05
BAB	8.0	11.5	1.5	3.5	0.6
CAC	10.0	12.5	1.5	5.0	0.6

## Size List

Cap.(μF)	U <sub>r</sub> [S.V.] (V)	2.5 [2.9]	4 [4.6]	6.3 [7.2]	10 [12]	16 [18]
180						BAB
270					BAB	BAB
330				BAB		BAB,CAC
390				BAB	BAB	
470				BAB	BAB,CAC	CAC
560			BAB	BAB	BAB,CAC	CAC
680		BAB	BAB	BAB,CAC	BAB,CAC	CAC
820		BAB	BAB,CAC	BAB,CAC		CAC
1000		BAB,CAC	BAB,CAC	BAB,CAC	CAC	CAC
1200			BAB,CAC			
1500		BAB,CAC		BAB,CAC		
1800			CAC			
2200			CAC	CAC		
2700		CAC				

## Ratings for HEN Series

U <sub>r</sub> Code	Rated Capacitance 20°C,120Hz	Max ESR 20°C,100kHz	Rated Ripple Current 105°C,100kHz	Dissipation Factor 20°C,120Hz	Leakage Current 20°C,2min	Size ΦD x L	P/N
(V)	(μF)	(mΩ)	(mA <sub>rms</sub> )	(%)	(μA)	(mm)	-
2.5 0E	680	7	5700	8	340.0	8×11.5	PCROEEN681MBAB□□
	820	7	6100	8	410.0	8×11.5	PCROEEN821MBAB□□
	1000	7	6100	8	500.0	8×11.5	PCROEEN102MBAB□□
	1500	7	6100	8	750.0	8×11.5	PCROEEN152MBAB□□
	1000	6	6640	8	500.0	10×12.5	PCROEEN102MCAC□□
	1200	6	6640	8	600.0	10×12.5	PCROEEN122MCAC□□
	1500	7	6100	8	750.0	10×12.5	PCROEEN152MCAC□□
4 0G	2700	7	6100	8	1350.0	10×12.5	PCROEEN272MCAC□□
	560	7	6100	8	448.0	8×11.5	PCROGEN561MBAB□□
	680	7	6100	8	544.0	8×11.5	PCROGEN681MBAB□□
	820	7	6100	8	656.0	8×11.5	PCROGEN821MBAB□□
	1000	7	6100	8	800.0	8×11.5	PCROGEN102MBAB□□
	1200	7	6100	8	960.0	8×11.5	PCROGEN122MBAB□□
	820	6	6640	8	656.0	10×12.5	PCROGEN821MCAC□□
	1000	6	6640	8	800.0	10×12.5	PCROGEN102MCAC□□
	1200	7	6100	8	960.0	10×12.5	PCROGEN122MCAC□□
	1800	7	6100	8	1440.0	10×12.5	PCROGEN182MCAC□□
6.3 0J	2200	7	6100	8	1760.0	10×12.5	PCROGEN222MCAC□□
	330	7	5700	8	415.8	8×11.5	PCROJEN331MBAB□□
	390	7	5700	8	491.4	8×11.5	PCROJEN391MBAB□□
	470	7	5700	8	592.2	8×11.5	PCROJEN471MBAB□□
	560	7	5700	8	705.6	8×11.5	PCROJEN561MBAB□□
	680	7	5700	8	856.8	8×11.5	PCROJEN681MBAB□□
	820	7	5700	8	1033.2	8×11.5	PCROJEN821MBAB□□
	1000	7	5700	8	1260.0	8×11.5	PCROJEN102MBAB□□
	1500	7	5700	8	1890.0	8×11.5	PCROJEN152MBAB□□
	680	7	6640	8	856.8	10×12.5	PCROJEN681MCAC□□
	820	7	6640	8	1033.2	10×12.5	PCROJEN821MCAC□□
	1000	7	6100	8	1260.0	10×12.5	PCROJEN102MCAC□□
	1500	10	5560	8	1890.0	10×12.5	PCROJEN152MCAC□□
10 1A	2200	10	5560	8	2772.0	10×12.5	PCROJEN222MCAC□□
	270	8	5650	8	540.0	8×11.5	PCRI AEN271MBAB□□
	390	8	5650	8	780.0	8×11.5	PCRI AEN391MBAB□□
	470	8	5650	8	940.0	8×11.5	PCRI AEN471MBAB□□
	560	8	5650	8	1120.0	8×11.5	PCRI AEN561MBAB□□
	680	8	5650	8	1360.0	8×11.5	PCRI AEN681MBAB□□
	470	7	6100	8	940.0	10×12.5	PCRI AEN471MCAC□□
	560	7	6100	8	1120.0	10×12.5	PCRI AEN561MCAC□□
	680	7	6100	8	1360.0	10×12.5	PCRI AEN681MCAC□□
	1000	8	6100	8	2000.0	10×12.5	PCRI AEN102MCAC□□
16 1C	180	11	5100	8	576.0	8×11.5	PCRI CEN181MBAB□□
	270	10	5100	8	864.0	8×11.5	PCRI CEN271MBAB□□
	330	10	5100	8	1056.0	8×11.5	PCRI CEN331MBAB□□
	330	10	6100	8	1056.0	10×12.5	PCRI CEN331MCAC□□
	470	10	6100	8	1504.0	10×12.5	PCRI CEN471MCAC□□
	560	10	6100	12	1792.0	10×12.5	PCRI CEN561MCAC□□
	680	10	6100	12	2176.0	10×12.5	PCRI CEN681MCAC□□
	820	10	6100	12	2624.0	10×12.5	PCRI CEN821MCAC□□
	1000	10	6100	12	3200.0	10×12.5	PCRI CEN102MCAC□□

Customer products are available on request.

## Frequency coefficient for ripple current

Frequency	120Hz ≤ f < 1kHz	1kHz ≤ f < 10kHz	10kHz ≤ f < 100kHz	100kHz ≤ f < 500kHz
Coefficient	0.05	0.3	0.7	1