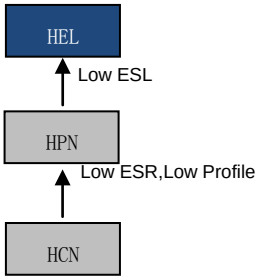
HEL Series

- Low ESL 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

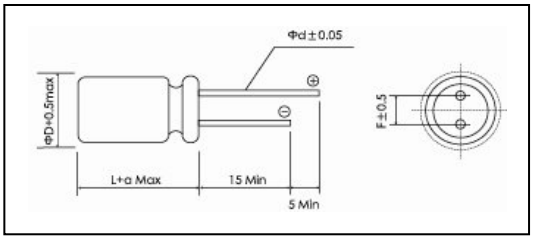


Items	Characteristics
Operating Temperature Range (°C)	-55 ~+105
Voltage Range (V)	2.5 ~ 16
Capacitance Range (μF) (20°C, 120Hz)	100~820
Capacitance Tolerance (20°C, 120Hz)	± 20%
Surge Voltage	URX1.15
Leakage Current (μA) ※1	Please see the attached ratings list (20°C. 2min)
Dissipation Factor (20°C, 120Hz)	Please see the attached ratings list
Equivalent Series Resistance(20°C, 100kHz)	Please see the 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	**2000h, Rated voltage applied at 105°C** 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)	**1000h, No-applied voltage 60°C ,90-95% RH** 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	**Flow method (260 ± 5°C x 10s)** 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	amax	F±0.5	Φd±0.05
E05	5	5	1.0	2.0	0.45
F05	6.3	5	1.0	2.5	0.45
F08	6.3	8	1.0	2.5	0.5

Size List

Cap.(μF) \ UR [S.V] (V)	2.5 [2.9]	4 [4.6]	6.3 [7.2]	10 [12]	16 [18]
82					F08
100					F08
180					
220				F08	
270				F08	
330	F08		F08		
470	F08		F08		
560	F08	F08	F08		
680			F08		
820	F08				

Ratings for HEL Series

U_R Code	Rated Capacitance 20℃, 120Hz	Max ESR 20℃, 100kHz	Rated Ripple Current 105℃, 100kHz	Dissipation Factor 20℃, 120Hz	Leakage Current 20℃, 2min	Size ΦD×L	P/N
(v)	(μF)	(mΩ)	(mArms)	(%)	(μA)	(mm)	-
2.5 0E	330	7	5,600	10	500.0	6.3x8	PCR0EEL331MF08□□
	470	7	5,600	10	500.0	6.3X8	PCR0EEL471MF08□□
	560	7	5,600	10	500.0	6.3X8	PCR0EEL561MF08□□
	820	7	5,600	10	500.0	6.3x8	PCR0EEL821MF08□□
4 0G	560	7	5,600	10	500.0	6.3x8	PCR0GEL561MF08□□
6.3 0J	330	10	4,680	10	500.0	6.3X8	PCR0JEL331MF08□□
	470	8	5,000	10	592.2	6.3x8	PCR0JEL471MF08□□
	560	8	5,000	10	705.6	6.3x8	PCR0JEL561MF08□□
	680	8	5,000	10	856.8	6.3X8	PCR0JEL681MF08□□
10 1A	220	10	4,680	10	500.0	6.3x8	PCR1AEL221MF08□□
	270	10	4,680	10	540.0	6.3x8	PCR1AEL271MF08□□
16 1C	100	10	4.680	10	500.0	6.3X8	PCR1CEL101MF08□□

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