

# PUH SERIES

## Computer Grade, Large Capacitor

### Features

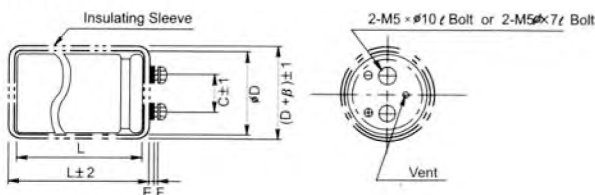
- Screw terminal type
- Ideal for inverter, computer
- Large allowable ripple current
- High reliability for continuous operation
- Computer Grade, Large Capacity
- Load life of 2000 hours at 105°C



### Specifications

Item	Performance Characteristics							
<b>Operating temperature range</b>	10V ~ 250V : -40°C ~ +105°C, 350V~ 400V : -25°C ~ +105°C							
<b>Rated working voltage range</b>	10V ~ 400V							
<b>Nominal capacitance range</b>	220 $\mu$ F ~ 470000 $\mu$ F, -10 ~ $\pm$ 50%(at 20°C, 120Hz)							
<b>D.C Leakage current(at 20°C)</b>	The following specifications shall be satisfied when the rated voltage is applied for the required time. $I \leq 0.02CV$ or 5mA (5 min), whichever is greater Where I =Leakage current( $\mu$ A) C=Nominal capacitance( $\mu$ F) V=Rated voltage(V)							
<b>Tan<math>\delta</math>(max., at 20°C, 120Hz)</b>	W.V(V)	10~16	25	35	50	63~100	160~250	350~400
	CAP( $\mu$ F)	10~16	25	35	50	63~100	160~250	350~400
	220~10000	—	1.50	0.35	0.30	0.25	0.15	0.15
	15000~47000	0.50	—	0.50	0.40	0.35	0.30	0.20
	68000~100000	0.75	—	1.00	0.50	0.40	—	—
	150000~220000	1.00	—	—	—	—	—	—
<b>Characteristics at low temperature(max.) (impedance ratio at 120Hz)</b>	W.V(V)	10~16	25~35	50~100	160~250	350~450		
	Z-25°C/Z 20°C	4	3	2	2	6		
	Z-40°C/Z 20°C	12	6	4	8	—		
<b>Load life</b>	After applying rated working voltage for 2000hours at +105°C and then being stabilized at +20°C, capacitors shall meet following limits.							
	Capacitance change	Within $\pm$ 25% of the initial measured value						
	Tan $\delta$	$\leq$ 200% of the initial specified value						
	Leakage current	$\leq$ The initial specified value						
<b>Shelf life</b>	After storage for 1000hours at + 105°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet following limits.							
	Capacitance change	Within $\pm$ 25% of the initial measured value						
	Tan $\delta$	$\leq$ 200% of the initial specified value						
	Leakage current	$\leq$ 200% of the initial specified value						

### Dimensions



#### • Standard lead style

$\phi$ D	C	E	F	$\beta$
35	12.7	2.5	6.0	1.0
51	22.0	2.5	6.0	1.5
63.5	28.6	2.5	6.0	1.5
76	31.0	1.5	6.5	1.5

### Ripple current coefficient

#### • Frequency

Freq(Hz)	50	120	400	1K	10K
Factor	0.80	1.0	1.2	1.3	1.4

#### • Temperature

Temperature	$\leq$ 45°C	65°C	85°C	105°C
Factor	3.0	2.6	2.0	1.0



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## Standard Ratings of PUH Series

φ DXL(mm)

W.V(V) Cap(μF)	10(1A)		16(1C)		25(1E)		35(1V)		50(1H)		63(1J)		80(1K)	
	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>
2200													35x50	2.8
3300											35x50	2.8	35x60	3.6
4700									35x50	3.0	35x60	3.6	35x80	4.8
6800							35x50	3.7	35x70	4.1	35x80	4.8	35x100	5.2
10000					35x50	4.3	35x70	4.9	35x90	5.2	35x100	6.2	51x80	6.9
15000			35x50	4.0	35x70	5.9	35x90	6.5	35x100	6.2	51x90	8.1	51x110	8.8
22000	35x50	4.3	35x70	6.0	35x90	6.9	35x120	7.9	51x90	8.1	63.5x100	10.4	63.5x120	12.9
33000	35x70	6.4	35x90	7.2	35x120	8.3	51x100	9.6	63.5x100	11.0	63.5x120	13.2	76x120	16.2
47000	35x90	7.2	35x120	8.0	51x90	9.8	51x120	11.9	63.5x120	13.8	76x120	16.8		
68000	35x100	7.7	51x90	10.4	51x120	10.6	63.5x100	13.8	76x120	16.9				
100000	51x90	9.6	51x120	12.4	63.5x100	12.5	76x120	16.9						
150000	51x120	12.0	63.5x100	13.4	76x120	16.9								
220000	63.5x100	14.2	76x100	16.2										
330000	76x100	18.8												
470000	76x140	20.8												

W.V(V) Cap(μF)	100(2A)		160(2C)		200(2D)		250(2E)		350(2V)		400(2G)	
	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>	SIZE	I <sub>r</sub>
220							35x50	0.9	35x50	0.9	35x50	0.9
330					35x50	1.0	35x50	1.1	35x60	1.1	35x60	1.2
470			35x50	1.4	35x50	1.2	35x60	1.3	35x70	1.4	35x80	1.4
680			35x50	1.4	35x50	1.3	35x70	1.5	35x90	1.6	35x110	1.7
1000			35x50	1.7	35x60	1.8	35x80	1.8	35x110	1.9	51x80	2.3
1500	35x50	2.2	35x60	2.2	35x80	2.3	51x80	2.5	51x100	2.7	51x120	3.6
2200	35x60	2.4	35x80	2.8	35x100	3.0	51x100	3.2	51x120	3.8	63.5x120	4.0
3300	35x80	3.6	35x120	3.9	51x100	4.2	51x120	4.3	63.5x120	4.5	76x120	5.1
4700	35x100	4.8	51x100	4.8	63.5x100	5.6	63.5x120	5.7	76x120	5.7	76x150	6.7
6800	51x80	5.9	51x120	6.4	63.5x120	6.7	76x120	7.2	76x160	7.6		
10000	51x100	7.2	63.5x120	7.8	76x120	8.8	76x160	9.2				
15000	63.5x100	8.8	76x120	9.2	76x140	9.4						
22000	76x120	11.4	76x160	10.6								

I<sub>r</sub>: Maximum Permissible Ripple Current[A(rms) at 105°C, 120Hz]

# ORDERING INFORMATION for Leaded Type



Daewoo Components Corp.

## Through-Hole Part Numbering System Example:

**RM** = Leaded Radial 85°C Miniature Series, **102** = 1000µF, **M** =20% Tolerance, **1E** 25 Volts, **B** = Bulk,  
**1020** = Case size (Dia x H) = 10.0 x 20.0mm, **E** = 5.0mm



### (1) Series

See Quick Guide on page 2  
Example: RSS, RM, RMU,...

### (2) Capacitance Value Code

Capacitance expressed in micro Farads (µF)  
First two digits are significant figures  
Third digit denotes the number of zeros  
Use R for decimal point for values less than 10µF

#### Examples:

CODE	Capacitance
R10	0.1 µF
R68	0.68 µF
1R0	1.0 µF
100	10 µF
680	68 µF
471	470 µF
102	1000 µF
103	10000 µF

### (3) Capacitance Tolerance Code

CODE	Cap. Tol.	CODE	Cap. Tol.
J	±5%	V	-10% ~ +20%
K	±10%	Q	-10% ~ +30%
M	±20%	T	-10% ~ +50%
R	+20%, -0%		

### (4) Rated Voltage Code

CODE	Voltage	CODE	Voltage
0G	4.0V	2C	160V
0J	6.3V	2S	180V
1A	10V	2D	200V
1C	16V	2E	250V
1E	25V	2F	315V
1V	35V	2V	350V
1H	50V	2G	400V
1J	63V	2W	450V
1K	80V	3Z	1000V
2A	100V		

### (5) Packaging Form & Lead Style Code ( see page 7, 8, 9 for details)

	Code	Packaging Form & Lead Style
Bulk	B	Bulk: Standard Package
	L	Bulk: 4 -8ø Long Leads Formed to 5 mm Pitch
Snap-In	1	10-13ø Snap-in Cut 5.0mm
	2	16-13ø Snap-in Cut 5.0mm
	3	10-13ø Snap-in Cut 4.5mm
	4	16-18ø Snap-in Cut 4.5mm
	5	4-8ø Snap-in Cut 7.5mm
Form	F	4-8ø Forming Cut 6.5mm
	G	4-8ø Forming Cut 10.0mm
Straight Cut	C	4-18ø Straight Cut 4.0mm
	6	4-18ø Straight Cut 3.1mm
	7	4-18ø Straight Cut 5.0mm
	8	4-18ø Straight Cut 6.35mm
Ammo Tape (+) Leading	A	4-8ø Straight Ammo Detail Ranges: 4-6.3ø; F=2.5mm 8ø; F=3.5mm
		4-8ø Form Tape & Ammo 5mm Pitch
		10ø Straight Ammo Tape 5mm Pitch
		13ø Straight Ammo Tape 5mm Pitch
		16-18ø Straight Ammo Tape 5mm Pitch
Tape & Reel (+) Leading	T	4-8ø Straight Ammo Detail Ranges: 4-6.3ø; F=2.5mm 8ø; F=3.5mm
		4-13ø Form Tape & Reel 5mm Pitch
		10-13ø Straight Reel Tape 5mm Pitch

NOTE: Standard Pack Anode(+) Lead Leading FEEDS OFF FIRST  
Special Option Cathode(-) Lead Leading available upon request  
Standard Packages: B = Bulk, A = Ammo, T = Tape & Reel

### (6) Example Dimension Code (Diameter x Height in mm)

Size Code	Diameter	Height	Size Code	Diameter	Height
0405	4	5	1320	13	20
0407	4	7	1631	16	31.5
0505	5	5	1835	18	35.5
0507	5	7	2240	22	40
0607	6.3	7	2545	25	45
0511	5	11	3035	30	35
0605	6	5	3500	35	100
0611	6.3	11	3501	35	110
0805	8	5	5102	51	120
0811	8	11	6303	63.5	130
1012	10	12.5	7604	76	140
1220	12.5	20	8904	89	140

### (7) Lead Spacing Code (LS)

Code	X	A	B	C	D	E	J	F
LS	1.0	1.5	2.0	2.5	3.5	5.0	7.0	7.5
Code	K	M	G	P	H	Q	R	S
LS	8.0	10.0	10.5	12.0	12.5	12.8	15.0	16.0
Code	T	U	V	W	Y	Z		
LS	20.0	21.7	28.3	30.0	31.6	32		