

FHY SERIES

85°C, Sub-miniature, PCB mounting

Features

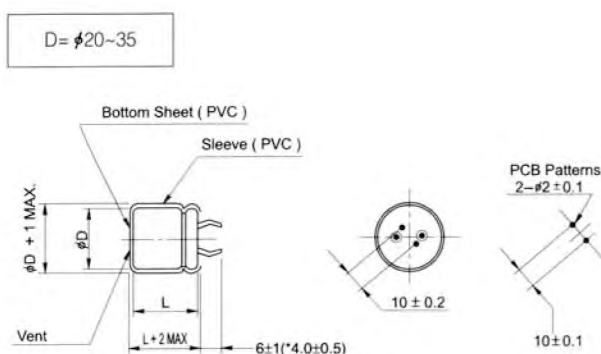
- PCB Mounting
- Very compact size (Smaller than FHX)
- High CV density
- Load life of 2000 hours at 85°C



Specifications

Item	Performance Characteristics		
Operating temperature range	160V~250V: -40°C~ +85°C, 350V~450V: -25°C ~ +85°C		
Rated working voltage range	160V ~ 450V		
Nominal capacitance range	56µF ~ 2700µF, ±20% (at 20°C, 120Hz)		
D.C Leakage current(at 20°C)	The following specifications shall be satisfied when the rated voltage is applied for the required time. $I \leq 0.02CV$ or 2mA(5 min), whichever is less Where I =Leakage current(µA) C=Nominal capacitance(µF) V=Rated voltage(V)		
Tan δ (max., at 20°C, 120Hz)	W.V(V)	160~250	350~450
	Tan δ	0.15	0.20
Characteristics at low temperature(max.) (impedance ratio at 120Hz)	W.V(V)	160~250	350~450
	Z-25°C/+20°C	4	8
	Z-40°C/+20°C	12	-
Load life	After applying rated working voltage for 2000 hours at +85°C and then being stabilized at +20°C, capacitors shall meet following limits.		
	Capacitance change	Within ±20% of the initial measured value	
	Tan δ	≤ ±200% of the initial specified value	
	Leakage current	≤ The initial specified value	
Shelf life	After storage for 1000 hours at +85°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet following limits.		
	Capacitance change	Within ±15% of the initial measured value	
	Tan δ	≤ 150% of the initial specified value	
	Leakage current	≤ The initial specified value	

Dimensions



Ripple current coefficient

• Frequency

W.V(V)	Freq(Hz)	50	120	1K	10K	100K
160~250	50	0.82	1.0	1.20	1.37	1.50
	120	0.82	1.0	1.18	1.23	1.40
350~450	50	0.82	1.0	1.18	1.23	1.40
350~450	120	0.82	1.0	1.18	1.23	1.40

• Temperature

Temperature	≤ 45°C	60°C	70°C	85°C
Factor	1.45	1.30	1.15	1.0

* Shorter terminal is available upon request



FHY SERIES

Standard Ratings of FHY Series

W.V(V) Cap(μF)	160(2C)					200(2D)					250(2E)				
	φ20	φ22	φ25	φ30	φ35	φ20	φ22	φ25	φ30	φ35	φ20	φ22	φ25	φ30	φ35
220											20x30				
											1.23				
270											20x35	22x25			
											1.28	1.28			
330						20x30					20x35	22x30	25x25		
						1.44					1.48	1.48	1.48		
390	20x30					20x35	22x25				20x40	22x35	25x25	30x25	
	1.35					1.66	1.60				1.70	1.70	1.70	1.68	
470	20x35	22x25				20x40	22x30	25x25			20x50	22x40	25x30	30x25	
	1.65	1.65				1.85	1.85	1.85			1.85	1.95	1.95	1.98	
560	20x35	22x30	25x25			20x40	22x35	25x30	30x25			22x45	25x35	30x30	35x25
	2.15	2.15	2.15			2.10	2.00	2.00	2.00			2.10	2.15	2.10	2.10
680	20x40	22x35	25x30	30x25		20x45	22x40	25x35	30x30			22x50	25x40	30x35	35x30
	2.35	2.35	2.33	2.33		2.35	2.30	2.35	2.30			2.45	2.45	2.45	2.45
820	20x45	22x40	25x30	30x25			22x45	25x40	30x30	35x25			25x45	30x35	35x30
	2.68		2.65	2.65			2.65	2.70	2.70	2.65			2.75	2.75	2.75
1000		22x45	25x35	30x30	35x25		22x50	25x45	30x35	35x30				30x40	35x35
		2.82	2.82	2.82	2.82		3.06	3.06	3.06	3.06				3.30	3.30
1200		22x50	25x40	30x35	35x30			25x50	30x40	35x35				30x45	35x40
		3.25	3.25	3.25	3.25			3.37	3.45	3.45				3.50	3.50
1500			25x45	30x40	35x30				30x45	35x40					35x45
			3.65	3.65	3.65				3.90	3.90					4.00
1800				30x45	35x35					35x45					
				4.20	4.20					4.45					
2200					35x40					35x50					
					4.96					4.95					
2700					35x45										
					5.57										

W.V(V) Cap(μF)	350(2V)					400(2G)					450(2W)				
	φ20	φ22	φ25	φ30	φ35	φ20	φ22	φ25	φ30	φ35	φ20	φ22	φ25	φ30	φ35
68											20x30				
											0.71				
82						20x30					20x35	22x25			
						0.89					0.86	0.86			
100	20x35					20x30	22x25				20x40	22x30	25x25		
	0.70					0.95	0.95				0.95	0.95	0.95		
120	20x30	22x25				20x35	22x30				20x45	22x30	25x30	30x25	
	1.04	1.04				1.09	1.03				1.07	1.07	1.07	1.07	
150	20x35	22x30	25x25			20x40	22x30	25x25			20x50	22x35	25x30	30x25	
	1.20	1.20	1.22			1.03	1.03	1.03			1.10	1.18	1.18	1.18	
180	20x40	22x35	25x30			20x45	22x35	25x30	30x25			22x40	25x35	30x30	
	1.34	1.34	1.37			1.10	1.10	1.10	1.15			1.25	1.25	1.25	
220	20x45	22x40	25x30	30x25			22x40	25x35	30x30			22x45	25x40	30x35	35x25
	1.40	1.47	1.53	1.54			1.20	1.20	1.33			1.34	1.34	1.34	1.34
270		22x45	25x35	30x30			22x45	25x40	30x35	35x25			25x45	30x40	35x30
		1.70	1.73	1.80			1.65	1.79	1.82	1.63			1.45	1.40	1.40
330		22x50	25x40	30x35	35x25			25x45	30x35	35x30				30x45	35x35
		1.87	1.97	2.03	1.80			2.00	2.05	2.05				1.68	1.68
390			25x45	30x35	35x30			25x50	30x40	35x35				30x50	35x40
			2.14	2.23	2.30			2.28	2.28	2.28				1.90	1.90
470			25x50	30x40	35x30				30x45	35x35					35x45
			2.55	2.53	2.55				2.51	2.54					2.10
560				30x45	35x35				30x50	35x40					35x50
				2.73	2.75				2.85	2.85					2.40
680					35x40					35x45					
					3.15					3.10					
820					35x45										
					3.47										

Max. permissible ripple current [A(rms) at 85°C, 120Hz]
Case size [φ DxL(mm)]

High Power

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		