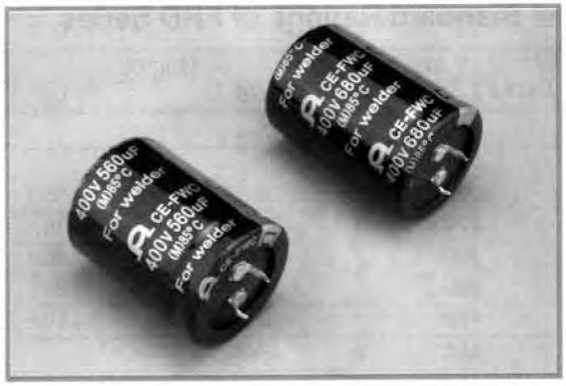
FWC SERIES

85°C, For welding, high ripple current

▣ Features

- PCB Mounting
- Compact size
- High CV density, high ripple current
- High reliability for continuous operation
- Load life of 2000 hours at 85°C

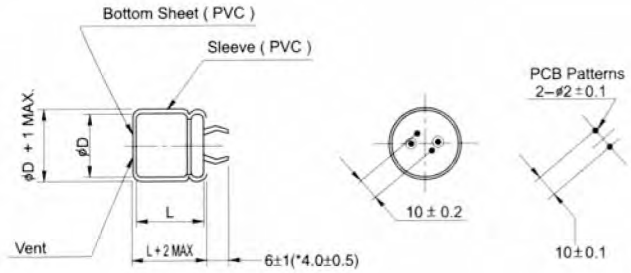


▣ Specifications

Item	Performance Characteristics	
Operating temperature range	−25˚C ~ +105˚C	
Rated working voltage range	350V ~ 400V	
Nominal capacitance range	82㎌ ~ 820㎌, ±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 ≤ 0.02CV or 2mA(3 min), whichever is less Where I =Leakage current(㎂) C=Nominal capacitance(㎌) V=Rated voltage(V)	
Tanδ (max., at 20˚C, 120Hz)	W.V(V)	350 ~ 400
	Tan δ	0.10
Characteristics at low temperature(max.) (impedance ratio at 120Hz)	W.V(V)	350 ~ 400
	Z-25˚C/+20˚C	6
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 ± 20% of the initial measured value
	Tan δ	≤ 150% of the initial specified value
	Leakage current	≤ 200% of the initial specified value

▣ Dimensions

D= ϕ 22~35



* Shorter terminal is available upon request

▣ Ripple current coefficient

• Frequency

W.V(V) \ Freq(Hz)	50	120	500	1K	10K	100K
350~450	0.8	1.0	1.20	1.25	1.35	1.40

• Temperature

Temperature	≤ 45˚C	60˚C	70˚C	85˚C
Factor	1.48	1.30	1.15	1.0

FWC SERIES

▣ Standard Ratings of FWC Series

φD x L (mm)

W.V(V) / Cap(μF)	350(2V)				400(2G)			
	22 φ	25 φ	30 φ	35 φ	22 φ	25 φ	30 φ	35 φ
82					22x25 0.78			
100	22x25 0.86				22x30 0.90	25x25 0.90		
120	22x30 0.99	25x25 0.99			22x35 1.02	25x25 0.98		
150	22x35 1.14	25x30 1.10			22x40 1.16	25x30 1.14	30x25 1.16	
180	22x40 1.28	25x30 1.24	30x25 1.24		22x45 1.31	25x35 1.30	30x30 1.44	35x25 1.32
220	22x45 1.44	25x35 1.44	30x30 1.44	35x25 1.44	22x45 1.49	25x40 1.47	30x35 1.57	35x25 1.47
270	22x50 1.64	25x40 1.63	30x35 1.66	35x30 1.63	22x50 1.64	25x45 1.67	30x35 1.66	35x30 1.69
330		25x50 1.88	30x35 1.83	35x30 1.87		25x50 1.88	30x40 1.90	35x30 1.87
390			30x40 2.06	35x35 2.03			30x45 2.13	35x35 2.08
470			30x50 2.40	35x40 2.33			30x50 2.40	35x40 2.39
560				35x40 2.60				35x45 2.69
680				35x45 2.96				35x50 3.04
820				35x50 3.04				

I_R : Maximum Permissible Ripple Current[A(rms) at 85°C,120Hz]
Case size [φ DxL(mm)]

High Power

ORDERING INFORMATION for Leaded Type

Lead-Free RoHS Compliant

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

RM 102 M 1E B 1020 E
(1) (2) (3) (4) (5) (6) (7)

- (7) Lead Spacing
- (6) Dimensions (Dia x H in mm
- (5) Packaging & Lead Style
- (4) Rated Voltage
- (3) Capacitance Tolerance
- (2) Capacitance Value
- (1) Series

(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 then 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		