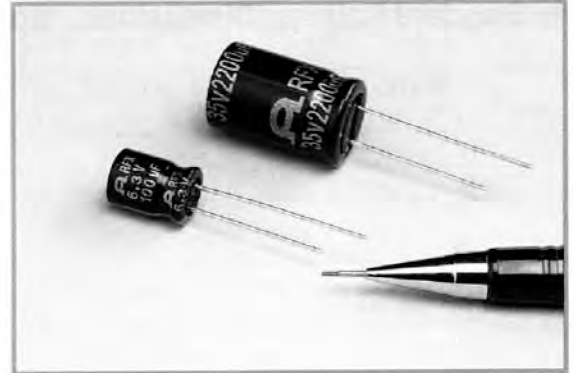


RFX SERIES

Low Z, High Ripple Current, Radial Leads

Features

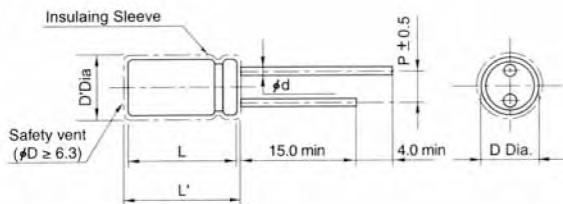
- Low impedance at high frequency (Lower than RFS)
- Large permissible ripple current
- For switching mode power supply
- Load life of 4000 hours at 105°C



Specifications

Item	Performance Characteristics									
Operating temperature range	-40°C ~ +105°C									
Rated working voltage range	6.3V ~ 100V									
Nominal capacitance range	22 μ F ~ 6800 μ F, \pm 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. $I \leq 0.01CV(1 \text{ min})$ or $3\mu A(2 \text{ min})$, whichever is greater Where I =Leakage current(μA) C=Nominal capacitance(μF) V=Rated voltage(V)									
Tan δ (max., at 20°C, 120Hz)	W.V(V)	6.3	10	16	25	35	50	63	100	
	Tan δ	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
	When capacitance is over 1000 μ F, Tan δ shall be added 0.02 to the listed value with increase of every each 1000 μ F									
Characteristics at low temperature (max.) (impedance ratio at 120Hz)	W.V(V)	6.3 ~ 10			16 ~ 35			50 ~ 100		
	Z-40°C/Z+20°C	3			3			3		
Load life	After applying rated working voltage for 4000 hours(ϕ 5, ϕ 6.3 : 2000 hours, ϕ 8 : 3000 hours) 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 δ	\leq 200% of the initial specified value								
	Leakage current	\leq The initial specified value								
Shelf life	After storage for 1000 hours 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 δ	\leq 200% of the initial specified value								
	Leakage current	\leq 200% of the initial specified value								

Dimensions



Standard lead style

ϕD	5.0	6.3	8.0	10.0	12.5	16.0
P	2.0	2.5	3.5	5.0		7.5
ϕd	0.5			0.6		0.8

D'=[D +0.5] Max.

L' =[L+1.0] Max. at D \leq 8.0

L' =[L+1.5]Max. at D \geq 10.0

Ripple current coefficient

Frequency

Cap(μ F)	Freq(Hz)	120	1K	10K	100K
Cap \leq 33		0.42	0.70	0.90	1.0
33 < Cap \leq 330		0.50	0.73	0.92	1.0
330 < Cap \leq 1000		0.55	0.77	0.94	1.0
1000 < Cap		0.60	0.80	0.96	1.0

Temperature

Temperature	\leq 70°C	85°C	105°C
Factor	2.1	1.7	1.0

RFX SERIES

Standard Ratings[Dimensions, Impedance, Ripple Current]

 ϕ D x L(mm)

Cap(μ F)	W.V(V)	6.3(0J)			10(1A)			16(1C)			25(1E)		
		SIZE	Z	I _r	SIZE	Z	I _r	SIZE	Z	I _r	SIZE	Z	I _r
47							5 x 11	0.30	250	5 x 11	0.03	250	
100					5 x 11	0.30	250	6.3 x 11	0.013	405	6.3 x 11	0.13	405
150		5 x 11	0.30	250	6.3 x 11	0.13	405	6.3 x 11	0.013	405	8 x 11.5	0.072	760
220		6.3 x 11	0.13	405	6.3 x 11	0.13	405	8 x 11.5	0.072	760	8 x 11.5	0.072	760
330		6.3 x 11	0.13	405	8 x 11.5	0.072	760	8 x 11.5	0.072	760	10 x 12.5	0.053	1030
470		8 x 11.5	0.072	760	8 x 11.5	0.072	760	10 x 12.5	0.053	1030	10 x 16	0.038	1430
680		10 x 12.5	0.053	1030	10 x 12.5	0.053	1030	10 x 16	0.038	1430	10 x 20	0.023	1820
1000		10 x 12.5	0.053	1030	10 x 16	0.038	1430	10 x 20	0.023	1820	12.5 x 20	0.021	2360
1200		10 x 16	0.038	1430	10 x 20	0.023	1820	10 x 20	0.023	1820	12.5 x 25	0.019	2650
1500		10 x 20	0.023	1820	10 x 20	0.023	1820	12.5 x 20	0.021	2350	12.5 x 25	0.018	2770
2200		10 x 20	0.023	1820	12.5 x 20	0.021	2360	12.5 x 25	0.018	2770	16 x 25	0.016	3460
3300		12.5 x 20	0.021	2360	12.5 x 25	0.018	2770	16 x 25	0.016	3460	16 x 31.5	0.015	3680
4700		12.5 x 25	0.018	2770	16 x 25	0.016	3460						
6800		16 x 25	0.016	3460									

Cap(μ F)	W.V(V)	35(1V)			50(1H)			63(1J)			100(2A)		
		SIZE	Z	I _r	SIZE	Z	I _r	SIZE	Z	I _r	SIZE	Z	I _r
22					5 x 11	0.34	238	6.3 x 11	0.30	270	8 x 11.5	0.30	360
33		5 x 11	0.30	250	6.3 x 11	0.13	405	6.3 x 11	0.30	270	10 x 12.5	0.25	460
47		6.3 x 11	0.13	405	6.3 x 11	0.13	405	8 x 11.5	0.20	500	10 x 16	0.20	600
100		8 x 11.5	0.072	760	8 x 11.5	0.074	724	10 x 16	0.10	950	12.5 x 20	0.10	1050
150		8 x 11.5	0.072	760	10 x 12.5	0.061	979	10 x 20	0.08	1100	12.5 x 25	0.070	1200
220		10 x 12.5	0.053	1030	10 x 16	0.042	1370	12.5 x 20	0.07	1300	16 x 25	0.060	1650
330		10 x 16	0.038	1430	10 x 20	0.028	1870	12.5 x 20	0.04	1495	16 x 31.5	0.040	1770
470		10 x 20	0.023	1820	12.5 x 20	0.027	2050	12.5 x 25	0.035	1900	18 x 40	0.030	2080
680		12.5 x 20	0.021	2360	12.5 x 25	0.021	2860	16 x 25	0.030	2780			
1000		12.5 x 25	0.018	2770	16 x 25	0.021	3010	16 x 35.5	0.020	2840			
1500		16 x 25	0.016	3460									
2200													

I_r : Maximum permissible ripple current[mA(rms) at 105°C, 100KHz]Z : Max. Impedance[Ω at 20°C, 100KHz]

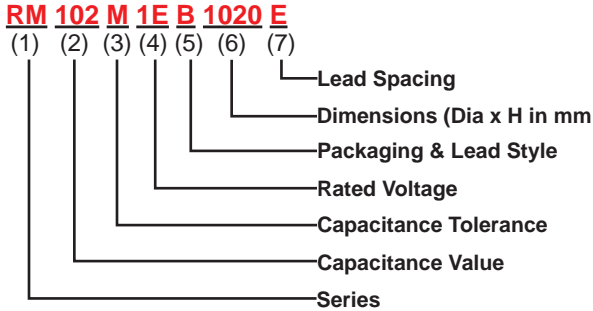
ORDERING INFORMATION (CEL)



Daewoo Components Corp.

Through-Hole Part Numbering System Example:

CEL = Leaded Type, **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	"FL" Bulk: 4 -8ø Long Leads Formed to 5 mm Pitch
Snap-In	1	"SA/S1A": 10-13ø Snap-in Cut 5.0mm
	2	"SB/SB1": 16-13ø Snap-in Cut 5.0mm
	3	"SC/S2A": 10-13ø Snap-in Cut 4.5mm
	4	"SE/S2B": 16-18ø Snap-in Cut 4.5mm
	5	"SG/S3A": 4-8ø Snap-in Cut 7.5mm
Form	F	"FF/FCF": 4-8ø Forming Cut 6.5mm
Straight Cut	C	"CJ": 4-18ø Straight Cut 4.0mm
	6	"CR": 4-18ø Straight Cut 3.1mm
	7	"CS": 4-18ø Straight Cut 5.0mm
	8	"CE": 4-18ø Straight Cut 6.35mm
Ammo Tape (+) Leading	A	"TS"/"TSSA": 4-8ø Straight Ammo Detail Ranges: 4-6.3ø; F=2.5mm 8ø; F=3.5mm
		"T5/TAA": 4-8ø Form Tape & Ammo 5mm Pitch
		"T7/TSAA": 10ø Straight Ammo Tape 5mm Pitch
		"T9/TSAA": 13ø Straight Ammo Tape 5mm Pitch
		"TB/TSAA": 16-18ø Straight Ammo Tape 5mm Pitch
Tape & Reel (+) Leading	T	"TQ/TSSRA": 4-8ø Straight Ammo Detail Ranges: 4-6.3ø; F=2.5mm 8ø; F=3.5mm
		"T1/TRA": 4-13ø Form Tape & Reel 5mm Pitch
		"T3/TSRA": 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		