

RZS

+ 105°C High Frequency Radial Lead Aluminum Electrolytic Capacitors



For Switching Power Supplies

FEATURES

- High Ripple Current
- Low Impedance
- Low ESL and ESR
- 100 kHz Operating Frequency Range
- Capacitance Range 22 μF to 2200 μF
- Voltage Range 6.3 WVDC to 63 WVDC
- Solvent Tolerant End Seals Standard

SPECIFICATIONS

Capacitance Tolerance		$\pm 20\%$ at 120Hz, 20°C								
Operating Temperature Range		-55°C to $+105^\circ\text{C}$								
Dissipation Factor 120Hz, 20°C	WVDC	6.3	10	16	25	35	50	63		
	tan δ	.2	.15	.1	.08	.07	.06	.05		
Note: For above D.F. specifications, add .02 for every 1,000 μF above 1,000 μF										
Impedance Ratio (Max.) @120Hz	WVDC	6.3	10	16	25	35	50	63		
	$-55^\circ\text{C}/20^\circ\text{C}$	2.0	1.5	1.5	1.5	1.5	1.5	1.5		
Leakage Current	WVDC	63 WVDC								
	Time	2 minutes								
		.01 CV or 3 μA whichever is greater								
Load Life		2,000 hours + 105°C with rated voltage								
		Capacitance change Dissipation factor Leakage current				20% of initial measured value 200% of initial specified value initial specified value				
Shelf Life		1,000 hours at $+105^\circ\text{C}$ with no voltage applied.								
		Capacitance change Dissipation factor Leakage current				20% initial readings 250% of initial specified value 200% of initial specified value				

SPECIAL ORDER OPTIONS

(See pages 7 thru 11)

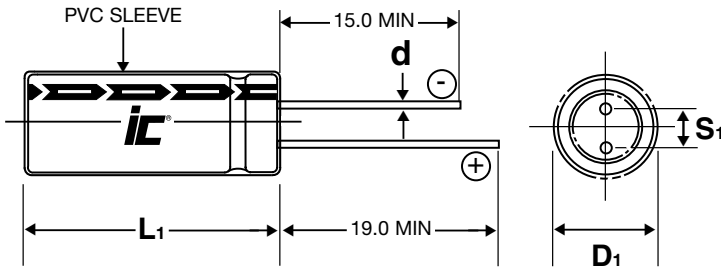
- Special tolerances: $\pm 10\%$ (K), $-10\% + 30\%$ (Q)
- Tape and Reel
- Tape Ammo Pack
- Cut, Formed, Cut and Formed and Snap In Leads
- Epoxy end seal
- Mylar® Polyester Sleeve

PHYSICAL DIMENSIONS

WVDC (SV) (μF)	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)
22						10x12.5	10x16
33					10x12.5		10x16
47					10x12.5	10x16	10x20
100			10x12.5	10x16	10x20	12.5x20	12.5x25
220	10x12.5		10x16	12.5x20	12.5x25	16x25	16x31.5
330	10x16		10x20	12.5x25	16x25	16x31.5	
470	10x20		12.5x20		16x25	16x35.5	
1,000		12.5x25	16x25	16x31.5			
2,200	16x25	16x31.5	16x35.5				

Convert to inches, divide by 25.4

DxL(mm)



NOTE: Case Vent is standard on all diameter 8.0mm

LEAD INFORMATION VS. CASE DIAMETER

D	5.0	6.3	8.0	10.0	12.5	16.0	18.0
S	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
B	0.5	0.5	0.5	0.5	0.8	0.5	0.5

L 16 L₁ = L + 1.5 mm Max.
 L > 16 L₁ = L + 2.0 mm Max.
 D₁ = D + B Max.
 D = 12.5 and L > 25, d = 0.8
 S₁ = S ± 0.5 mm

STANDARD PART LISTING

Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR +20°C, 120Hz/100kHz	Maximum RMS Ripple Current (mA) 100kHz,+105°C	Impedance 20°C 10kHz	Dimensions DxL (mm)
22	50	226RZS050M	4.52/1.42	150	2.25	10x12.5
22	63	226RZS063M	3.77/1.09	200	1.88	10x16
33	35	336RZS035M	3.52/1.07	180	1.72	10x12.5
33	63	336RZS063M	2.51/.73	240	1.34	10x16
47	35	476RZS035M	2.47/.75	210	1.26	10x12.5
47	50	476RZS050M	2.12/.61	260	1.02	10x16
47	63	476RZS063M	1.76/.51	310	.92	10x20
100	16	107RZS016M	1.66/.66	240	.89	10x12.5
100	25	107RZS025M	1.33/.47	310	.71	10x16
100	35	107RZS035M	1.16/.35	370	.64	10x20
100	50	107RZS050M	0.99/.29	450	.54	12.5x20
100	63	107RZS063M	0.83/.24	540	.44	12.5x25
220	6.3	227RZS6R3M	1.51/.65	250	.79	10x12.5
220	16	227RZS016M	0.75/.30	400	.40	10x16
220	25	227RZS025M	0.6/.21	540	.34	12.5x20
220	35	227RZS035M	0.53/.16	650	.30	12.5x25
220	50	227RZS050M	0.45/.13	820	.23	16x25

- NOTE 1:** WVDC: MAXIMUM RATED DC WORKING VOLTAGE AT +105°C.
NOTE 2: SVDC: MAXIMUM RATED DC SURGE VOLTAGE AT +105°C.
NOTE 3: DISSIPATION FACTOR (tan δ) MAXIMUM;120 Hz, +25°C.
NOTE 4: ESR: MAXIMUM EQUIVALENT SERIES RESISTANCE; 120 Hz, +25°C MINIMUM CAPACITANCE, MAXIMUM DISSIPATION FACTOR.

Capacitance (µF)	WVDC	IC [®] PART NUMBER	Maximum ESR +20°C, 120Hz/100kHz	Maximum RMS Ripple Current (mA) 100kHz,+105°C	Impedance 20°C 10kHz	Dimensions DxL (mm)
220	63	227RZS063M	0.38/.12	1080	.22	16x31.5
330	6.3	337RZS6R3M	1/.39	360	.50	10x16
330	16	337RZS016M	0.5/.20	520	.29	10x20
330	25	337RZS025M	0.4/.16	700	.24	12.5x25
330	35	337RZS035M	0.35/.14	840	.20	16x25
330	50	337RZS050M	0.3/.10	1030	.16	16x31.5
470	6.3	477RZS6R3M	0.71/.22	490	.34	10x20
470	16	477RZS016M	0.35/.14	700	.19	12.5x20
470	35	477RZS035M	0.25/.10	1090	.15	16x25
470	50	477RZS050M	0.21/.08	1350	.13	16x35.5
1,000	10	108RZS010M	0.25/.12	900	.12	12.5x25
1,000	16	108RZS016M	0.17/.09	1150	.09	16x25
1,000	25	108RZS025M	0.13/.08	1320	.08	16x31.5
2,200	6.3	228RZS6R3M	0.17/.10	1090	.10	16x25
2,200	10	228RZS010M	0.14/.06	1520	.06	16x31.5
2,200	16	228RZS016M	0.11/.05	1780	.05	16x35.5

- NOTE 5:** MAXIMUM LEAKAGE CURRENT; RATED WVDC, 2 MINUTES, +25°C.
NOTE 6: RMS RIPPLE CURRENT; 10 kHz-100kHz.
NOTE 7: CAPACITANCE TOLERANCE IS MEASURED AT 120 Hz, +25°C.
NOTE 8: ALL MEASUREMENTS ARE PERFORMED USING THE BRIDGE METHOD.

Ripple Current Multiplier

NOTE: When operated at temperatures below +105°C or at frequencies below 10kHz-100kHz, RMS Ripple current may be varied according to the multiplier values listed below. Peak Voltage not to exceed rated DC voltage.

Ripple Current Multipliers

(WVDC)	Frequency(Hz)						Temperature(°C)		
	60	120	400	1K	10K	100K	+105°C	+85°C	+70°C
6.3-16	.54	.70	.85	.95	1.0	1.0	1.0	2.20	2.83
25-35	.43	.57	.73	.88	1.0	1.0	1.0	2.20	2.83
50-63	.39	.55	.71	.86	1.0	1.0	1.0	2.20	2.83

Caution: The surface temperature of the Capacitor shall not rise more than 10°C above the ambient temperature and shall never exceed +105°C.