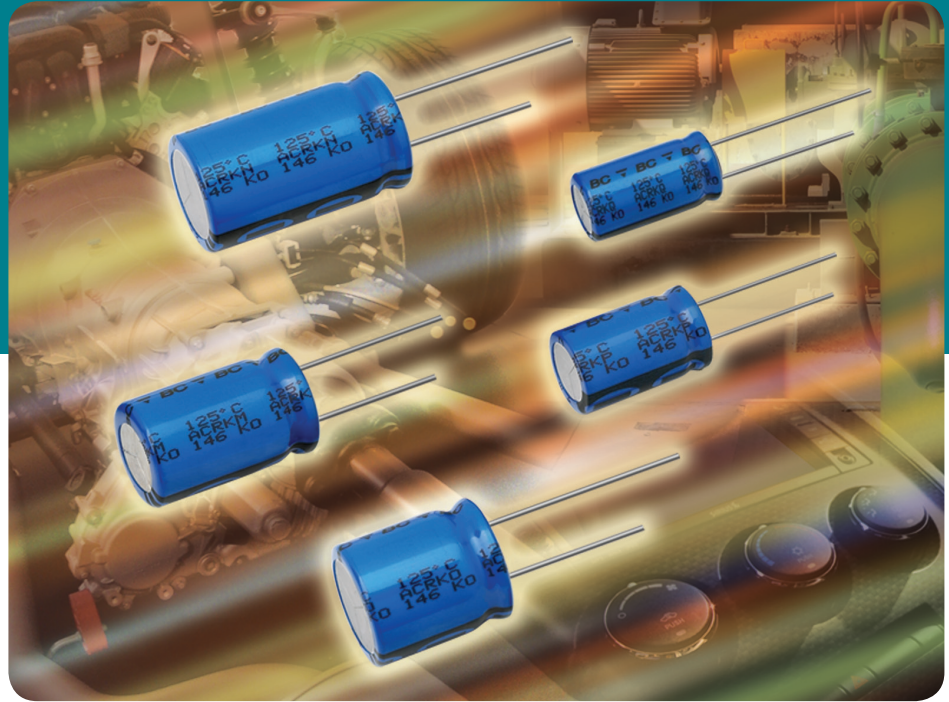




ALUMINUM CAPACITORS

146 RTI MAL2146.....E3



Radial Aluminum Capacitors for Advanced Applications

KEY BENEFITS

- Low impedance, high ripple current at high temperature
- Long useful life
- Compliant to RoHS directive 2002/95/EC
- Electronic circuits in automotive, industrial, and SMPS products
- Filtering of unwanted noise
- Smoothing by DC voltages
- Buffering of energy
- Decoupling of super-imposed AC ripple

AUTOMOTIVE APPLICATIONS

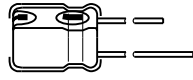
- Electro-hydraulic power steering (EHPS)
- Electric power steering (EPS)
- Engine control
- Electric brake (EPB)
- Variable speed ventilation (HVAC)
- Power management and conversion

INDUSTRIAL APPLICATIONS

- Variable speed motor control
- Drives
- SMPS, operating in harsh environment
- Variable speed pumps

Aluminum Capacitors

Raidal, High Temperature, Low Impedance



FEATURES

- Polarized aluminum electrolytic capacitors, non-solid electrolyte
- Radial leads, cylindrical aluminum case with pressure relief, insulated with a blue PET sleeve
- Charge and discharge proof
- Very long useful life: 2500 h to 6000 h at 125 °C, high stability, high reliability
- Very low ESR
- Excellent ripple current capability
- Compliant to RoHS directive 2002/95/EC

APPLICATIONS

- Power supplies (SMPS, dc to dc converters) for industrial, automotive, telecommunications and military
- Smoothing, filtering and buffering

MARKING

The capacitors are marked (where possible) with the following information:

- Rated capacitance (in μF)
- Tolerance on rated capacitance, code letter in accordance with IEC 60062 (M for $\pm 20\%$)
- Rated voltage (in V)
- Date code, in accordance with IEC 60062
- Code indicating factory of origin
- Logo of manufacturer
- Upper category temperature (125 °C)
- Negative terminal identification
- Series number (146)

DESCRIPTION	VALUE
Nominal case sizes (Ø D x L in mm)	10 x 12 to 18 x 35
Rated capacitance range, C_R	68 μF to 6800 μF
Tolerance on C_R	$\pm 20\%$
Rated voltage range, U_R	16 V to 63 V
Category temperature range	-55 °C to +125 °C
Endurance test at 125 °C	2000 hours to 5000 hours
Useful life at 125 °C	2500 hours to 6000 hours
Useful life at 40 °C, 1.8 x I _R applied	400 000 hours
Shelf life at 0 V, 125 °C	1000 hours
Based on sectional specification	IEC 60384-4/EN130300
Climatic category IEC 60068	55/125/56

QUICK REFERENCE DATA



RoHS COMPLIANT

SELECTION CHART FOR C_R , U_R AND RELEVANT NOMINAL CASE SIZES (Ø D x L in mm)

C_R (μF)	16			25			35			50			63		
	12.5 x 20			12.5 x 25			18 x 20			18 x 20			16 x 35		
1500	-			-			-			-			-		
1800	-			-			-			-			-		
2200	-			-			-			-			-		
2700	-			-			-			-			-		
3300	-			-			-			-			-		
3900	-			-			-			-			-		
4700	-			-			-			-			-		
5600	-			-			-			-			-		
6800	-			-			-			-			-		

NOMINAL CASE SIZE (Ø D x L (mm))	CASE CODE	ENDURANCE at 125 °C (h)		USEFUL LIFE at 125 °C (h)
		14	15	
10 x 12	14	2000	2000	2500
10 x 16	15	2000	2000	2500
10 x 20	16	2000	2000	3000
12.5 x 25	17	2000	2000	3000
16 x 20	18	3000	3000	5000
16 x 25	19a	3000	3000	4000
16 x 31	19	3000	3000	5000
16 x 35	20	4000	4000	6000
18 x 20	21	5000	5000	6000
18 x 25	1825	3000	3000	4000
18 x 31	1831	4000	4000	5000
18 x 35	22	5000	5000	6000

ENDURANCE TEST DURATION AND USEFUL LIFE AS A FUNCTION OF CASE SIZE

Revision 11-May-09

C_R (μF)	16			25			35			50			63		
	10 x 12			10 x 16			10 x 16			10 x 16			10 x 20		
68	-			-			-			-			-		
100	-			-			-			-			-		
150	-			-			-			-			-		
220	-			-			-			-			-		
330	-			-			-			-			-		
390	-			-			-			-			-		
470	-			-			-			-			-		
560	-			-			-			-			-		
680	-			-			-			-			-		
820	-			-			-			-			-		
1000	-			-			-			-			-		
1200	-			-			-			-			-		

SELECTION CHART FOR C_R , U_R AND RELEVANT NOMINAL CASE SIZES (Ø D x L in mm)

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