



NIC COMPONENTS CORP.

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LOAD LIFE – TEMPERATURE TABLES

PRODUCTS: LIQUID ELECTROLYTE ALUMINUM ELECTROLYTIC CAPACITORS

WHEN OPERATING AT TEMPERATURES LESS THAN THE RATED MAXIMUM, USE THE BELOW TABLE IN ESTIMATION OF LOAD LIFE - ENDURANCE PERFORMANCE (HOURS) OF LIQUID ELECTROLYTE ALUM ELECTROLYTIC CAPACITORS

| | | | | | RATING (hours) |
|---------|--------|--------|--------|--------|-------------------|
| +35C | +45C | +55C | +65C | +75C | +85C |
| 32,000 | 16,000 | 8,000 | 4,000 | 2,000 | 1,000 |
| 64,000 | 32,000 | 16,000 | 8,000 | 4,000 | 2,000 |
| 96,000 | 48,000 | 24,000 | 12,000 | 6,000 | 3,000 |
| 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 |
| 160,000 | 80,000 | 40,000 | 20,000 | 10,000 | 5,000 |

| | | | | | | | RATING (hours) |
|---------|---------|---------|--------|--------|--------|--------|-------------------|
| +35C | +45C | +55C | +65C | +75C | +85C | +95C | +105C |
| 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 | 2,000 | 1,000 |
| 256,000 | 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 | 2,000 |
| 384,000 | 192,000 | 96,000 | 48,000 | 24,000 | 12,000 | 6,000 | 3,000 |
| 512,000 | 256,000 | 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 |
| 640,000 | 320,000 | 160,000 | 80,000 | 40,000 | 20,000 | 10,000 | 5,000 |

| | | | | | | | | | RATING (hours) |
|-----------|---------|---------|---------|--------|--------|--------|-------|-------|-------------------|
| +35C | +45C | +55C | +65C | +75C | +85C | +95C | +105C | +115C | +125C |
| 512,000 | 256,000 | 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 | 2,000 | 1,000 |
| 768,000 | 384,000 | 192,000 | 96,000 | 48,000 | 24,000 | 12,000 | 6,000 | 3,000 | 1,500 |
| 1,024,000 | 512,000 | 256,000 | 128,000 | 64,000 | 32,000 | 16,000 | 8,000 | 4,000 | 2,000 |

| | | |
|----------------------------|--|----------------------------|
| 16,000 hours = 1.83 years | | 24,000 hours = 2.74 years |
| 32,000 hours = 3.65 years | | 48,000 hours = 5.48 years |
| 64,000 hours = 7.31 years | | 96,000 hours = 11.0 years |
| 128,000 hours = 14.6 years | | 256,000 hours = 29.2 years |

:: Wear-Out Accelerators
 Electrical Overstress | Corrosive Agents | Reduced Pressure

:: Load Life Rating Follows Arrhenius Rate Law
 Temperature increase of 10°C approximately doubles the rate of the reaction

- + End-seal and electrolyte directly relates to component load life rating
- + In-circuit wear out rate is chiefly dependent upon operating temperature