

Type 945U High Current Screw Terminal Capacitors

Metallized Polypropylene Dielectric



Type 945U uses advanced metallized film technology to achieve long-life, high reliability in DC link applications. High voltage and high current ratings packaged in screw-terminal cases allow for replacement of series-parallel banks of aluminum electrolytic capacitors in high ripple current application.

Highlights / Applications

Advantages over Electrolytics

- Exceptionally low ESR
- High ripple current
- Non-polar
- High voltage ratings
- Dry construction - no electrolyte

Typical Applications

- Renewable Energy Inverters:
Solar, Wind, Fuel Cell
- Transportation:
Electric Vehicles, Traction
- Industrial:
Welders, Motor Drives, Elevators,
Overhead Cranes

Specifications



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

Capacitance Range: 65 μ F to 500 μ F

Voltage Range: 600 Vdc to 1000 Vdc

Capacitance Tolerance: \pm 10% standard

Operating Temperature Range: -55 $^{\circ}$ C to +85 $^{\circ}$ C

Insulation Resistance: \geq 10,000M Ω

Dielectric Withstand: 130% Rated Vdc 60s - Between Terminals
3000 Vac 60s - Terminals to Case

Ratings

| Catalog Part Number | Cap (μ F) | Voltage (Vdc) | H Height (in) | H Height (mm) | 100kHz ESR (m Ω) | dV/dt (V/ μ s) | Rated Current @ 10 kHz 50 $^{\circ}$ C (Arms) |
|---------------------|----------------|---------------|---------------|---------------|--------------------------|--------------------|---|
| 945U221K601DBI | 220 | 600 | 3.16 | 80.2 | 4.0 | 30 | 47.0 |
| 945U301K601DCI | 300 | 600 | 4.16 | 105.2 | 4.5 | 25 | 46.0 |
| 945U401K601DEI | 400 | 600 | 5.16 | 131.2 | 5.0 | 26 | 44.0 |
| 945U501K601DMI | 500 | 600 | 6.16 | 156.2 | 6.0 | 22 | 43.0 |
| 945U141K751DBI | 140 | 750 | 3.16 | 80.2 | 4.5 | 30 | 44.0 |
| 945U191K751DCI | 190 | 750 | 4.16 | 105.2 | 5.0 | 25 | 43.0 |
| 945U251K751DEI | 250 | 750 | 5.16 | 131.2 | 6.0 | 37 | 42.0 |
| 945U321K751DMI | 320 | 750 | 6.16 | 156.2 | 6.5 | 30 | 41.0 |
| 945U900K901DBI | 90 | 900 | 3.16 | 80.2 | 5.0 | 42 | 42.0 |
| 945U131K901DCI | 130 | 900 | 4.16 | 105.2 | 5.5 | 35 | 41.0 |
| 945U171K901DEI | 170 | 900 | 5.16 | 131.2 | 6.5 | 43 | 40.0 |
| 945U221K901DMI | 220 | 900 | 6.125 | 156.2 | 7.5 | 36 | 38.0 |
| 945U650K102DBI | 65 | 1000 | 3.16 | 80.2 | 5.5 | 50 | 40.0 |
| 945U950K102DCI | 95 | 1000 | 4.16 | 105.2 | 6.0 | 40 | 39.0 |
| 945U131K102DEI | 130 | 1000 | 5.16 | 131.2 | 7.0 | 60 | 38.0 |
| 945U161K102DMI | 160 | 1000 | 6.16 | 156.2 | 8.0 | 50 | 37.0 |

Additional values available upon request.

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Part Numbering System

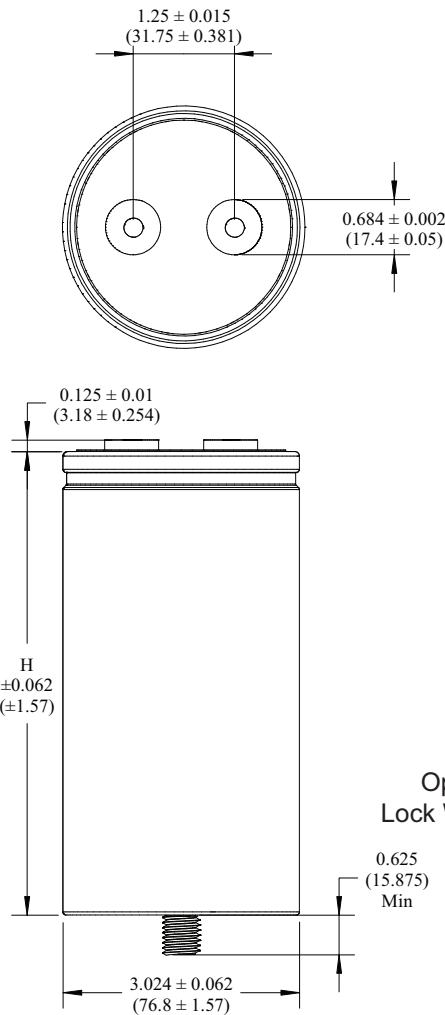
| 945U | 171 | K | 601 | D | B | I | S |
|------|-------------------|---------------|----------------|-----------------|---------------|-------------------|-----------------|
| Type | Capacitance | Tolerance | Voltage | Diameter D (in) | Height H (in) | Terminal | Mounting |
| 945U | 171 = 170 μ F | K = \pm 10% | 601 = 600 Vdc | D = 3.024 | B = 3.16 | I = ¼ - 28 Insert | blank = No Stud |
| | 950 = 95 μ F | | 751 = 750 Vdc | | C = 4.16 | | S = M12 Stud |
| | 900 = 90 μ F | | 901 = 900 Vdc | | E = 5.16 | | |
| | | | 102 = 1000 Vdc | | M = 6.16 | | |

Outline Drawing

Dimensions: Inches (millimeters)
H dimension in Ratings Table

Terminals are Tin Plated Brass
¼ - 28 Internal Thread - 0.437" Deep

¼ - 28 x 0.50" Round Head Screws provided

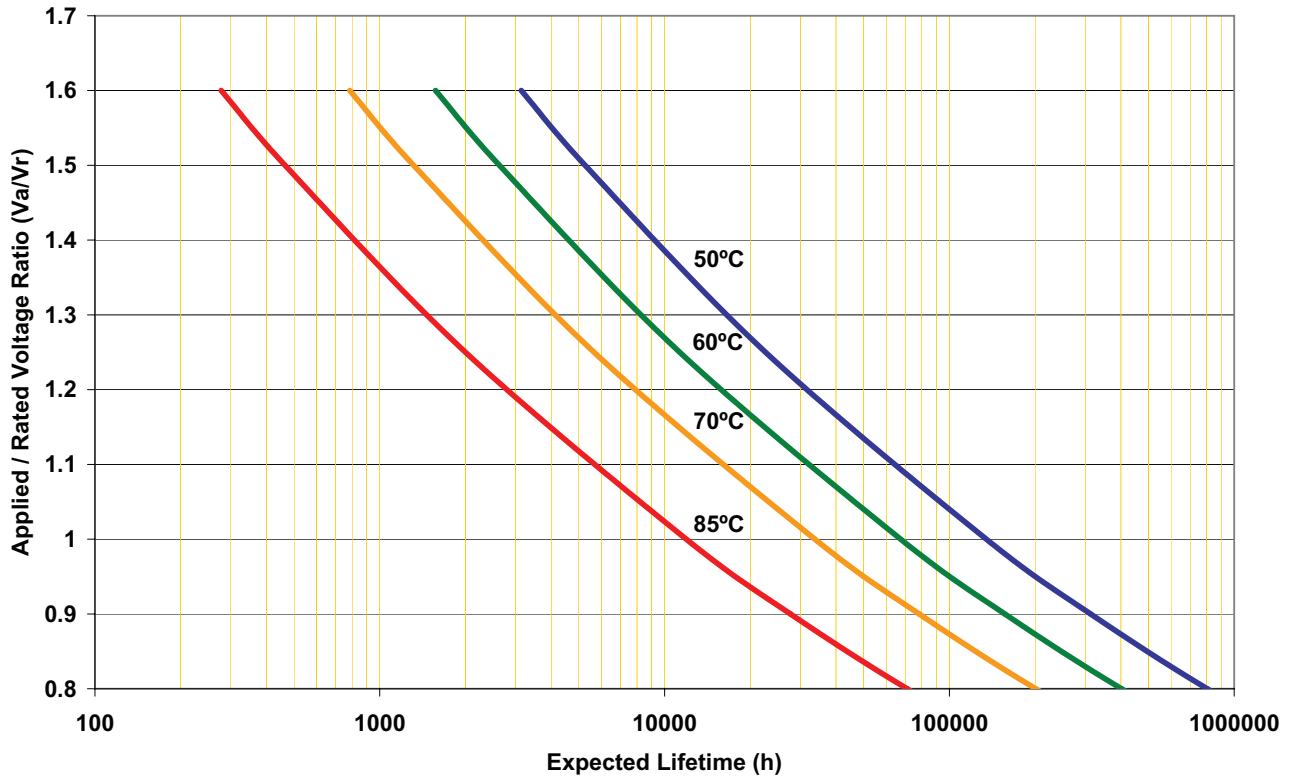


Optional M12 Mounting Stud
Lock Washer and Hex Nut provided

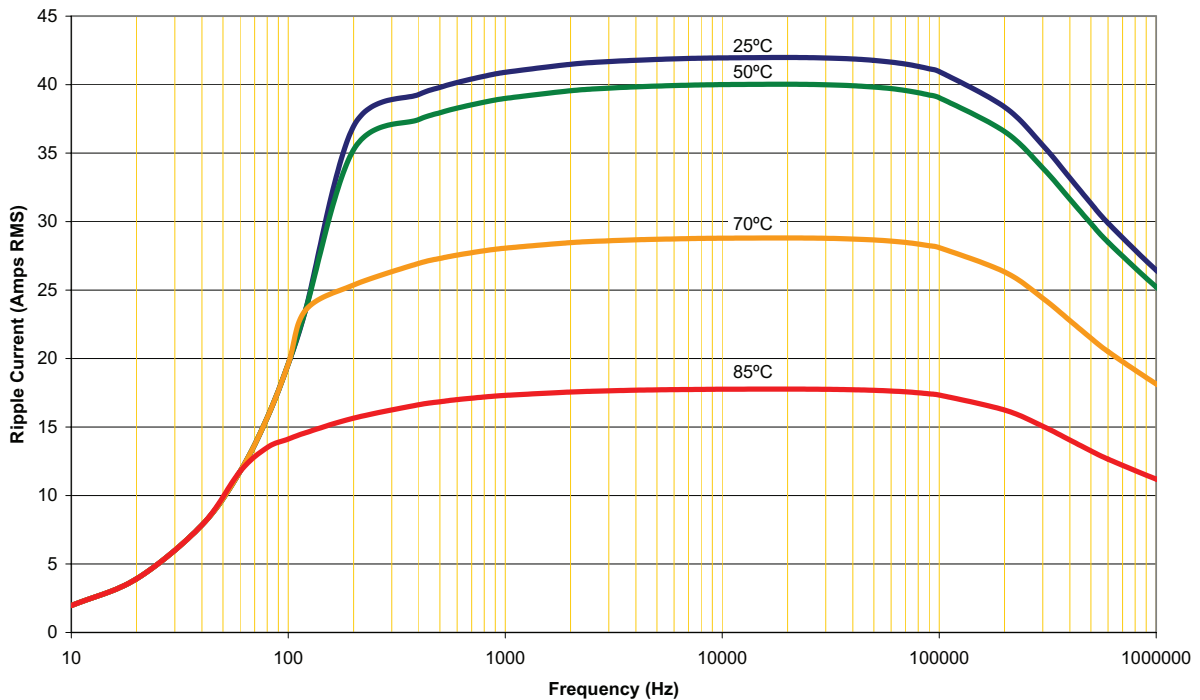
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Performance

Expected Lifetime vs Applied Voltage and Core Temp



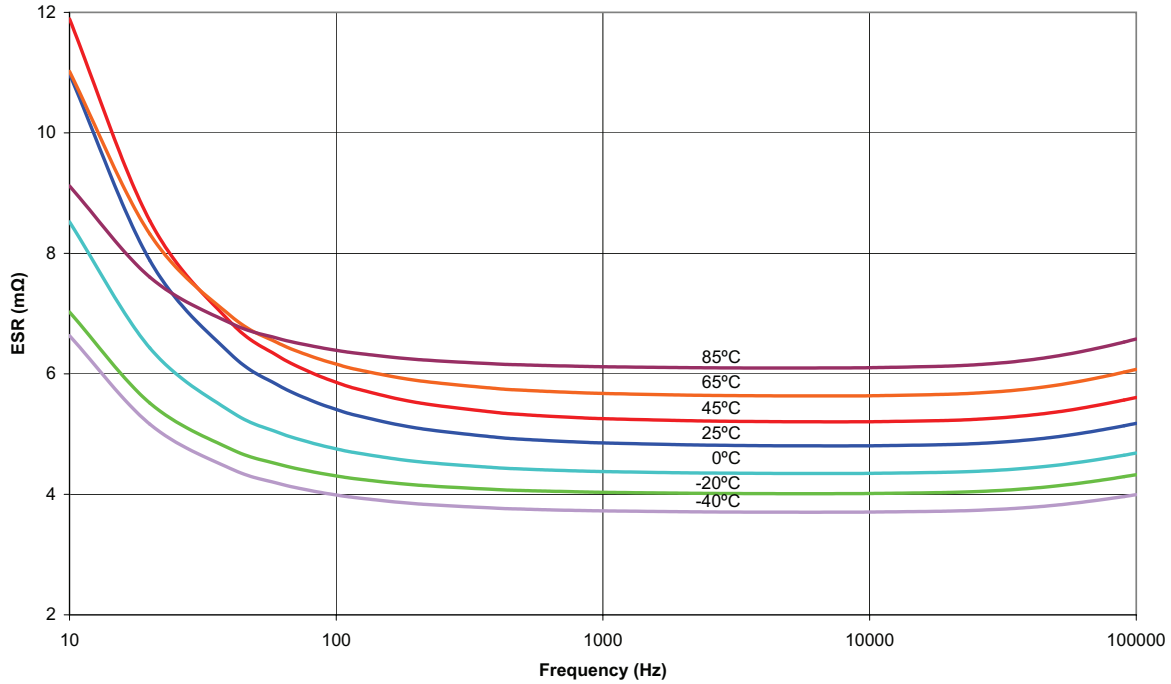
Ripple Current Ratings vs Frequency and Temperature
945U131K901DCI



Type 945U High Current Screw Terminal Capacitors

Performance

ESR vs Frequency and Temperature
945U131K901DCI



Impedance vs Frequency
945U131K901DCI

