

# Type 125 $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ , Ultra-High Temperature, Military Grade

## The Pace-Setter for Long Life and High Temperature



Exceeding the requirements of military aluminum electrolytic large can capacitors, the Type 125 performs in the most demanding filter applications delivering the longest life and the lowest leakage in low-voltage, aluminum-electrolytic capacitors. It's the choice for output capacitors in high temperature and military power supplies.

### Highlights

- Now 5000 hour load life
- Ripple Current to 50 amps
- ESRs to 4m $\Omega$
- >90% capacitance at  $-40^{\circ}\text{C}$
- Operates at  $+125^{\circ}\text{C}$

### Specifications

|                                    |                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Operating Temperature:</b>      | $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$                                                  |
| <b>Rated Voltage:</b>              | 5 to 40 Vdc                                                                                      |
| <b>Capacitance:</b>                | 2600 $\mu\text{F}$ to 190,000 $\mu\text{F}$                                                      |
| <b>Capacitance Tolerance:</b>      | $-10$ +75%                                                                                       |
| <b>Leakage Current:</b>            | $\leq 0.003$ CV $\mu\text{A}$ @ $+25^{\circ}\text{C}$ ; $\leq 0.009$ CV @ $+125^{\circ}\text{C}$ |
| <b>Cold Impedance:</b>             | $-55^{\circ}\text{C}$ Multiple of $+25^{\circ}\text{C}$ Z $\leq 2$                               |
| <b>Ripple Current Multipliers:</b> | <b>Ambient Temperature</b>                                                                       |

| <b>+45 <math>^{\circ}\text{C}</math></b> | <b>+55 <math>^{\circ}\text{C}</math></b> | <b>+65 <math>^{\circ}\text{C}</math></b> | <b>+75 <math>^{\circ}\text{C}</math></b> | <b>+85 <math>^{\circ}\text{C}</math></b> | <b>95 <math>^{\circ}\text{C}</math></b> | <b>105 <math>^{\circ}\text{C}</math></b> |
|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|-----------------------------------------|------------------------------------------|
| 1.80                                     | 1.63                                     | 1.45                                     | 1.25                                     | 1.00                                     | 0.87                                    | 0.71                                     |

#### Frequency

| <b>50 Hz</b> | <b>60 Hz</b> | <b>120 Hz</b> | <b>360 Hz</b> | <b>1 kHz</b> | <b>5 kHz</b> | <b>10 kHz &amp; Up</b> |
|--------------|--------------|---------------|---------------|--------------|--------------|------------------------|
| 0.85         | 0.87         | 1.00          | 1.10          | 1.22         | 1.32         | 1.33                   |

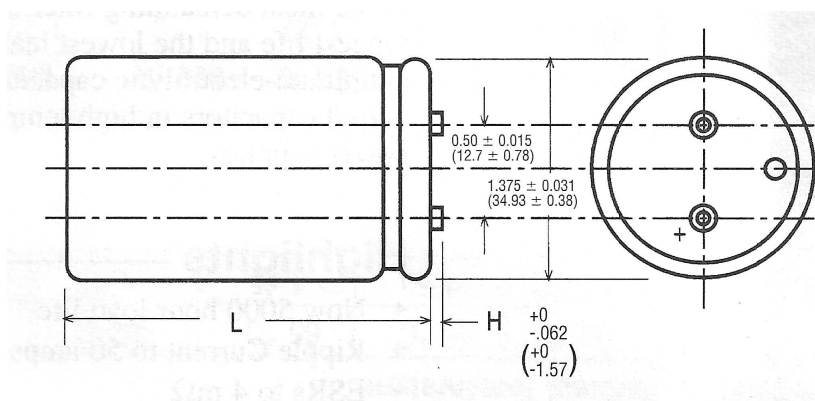


Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

|                         |                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>EIA Ripple Life:</b> | 5,000 h at full load @ $85^{\circ}\text{C}$ per EIA IS-749<br>$\Delta$ Capacitance $\pm 20\%$<br>ESR 200% of limit<br>DCL 100% of limit |
| <b>Life Test:</b>       | 5,000 h at $+125^{\circ}\text{C}$ and rated voltage<br>$\Delta$ Capacitance $\pm 20\%$<br>ESR 200% of limit<br>DCL 100% of limit        |
| <b>Shelf Life:</b>      | 500 h @ 105 VC, capacitance, ESR and DCL, initial requirements                                                                          |
| <b>Vibration:</b>       | 10 to 55 Hz, 0.06" and 10 g max, 1.5 h each of 2 axis                                                                                   |

# Type 125 -55 °C to +125 °C, Ultra-High Temperature, Military Grade

## Outline Drawing



## Terminal Dimensions

| Terminal Style | Code | Post Diameter |     | H max |     | Thread | min Full Thread |     | Torque |      |
|----------------|------|---------------|-----|-------|-----|--------|-----------------|-----|--------|------|
|                |      | in            | mm  | in    | mm  |        | in              | mm  | in·lb  | N·m  |
| Low Post       | A    | 0.314         | 8.0 | 0.094 | 2.4 | 10-32  | 0.218           | 5.5 | 25     | 2.82 |
| High Post      | B    | 0.314         | 8.0 | 0.281 | 7.1 | 10-32  | 0.375           | 9.5 | 25     | 2.82 |

## Case Dimensions

### Uninsulated Case Dimensions

For insulated case, add 0.024" (0.610 mm) to "D" and 0.030" (0.762 mm) to height.

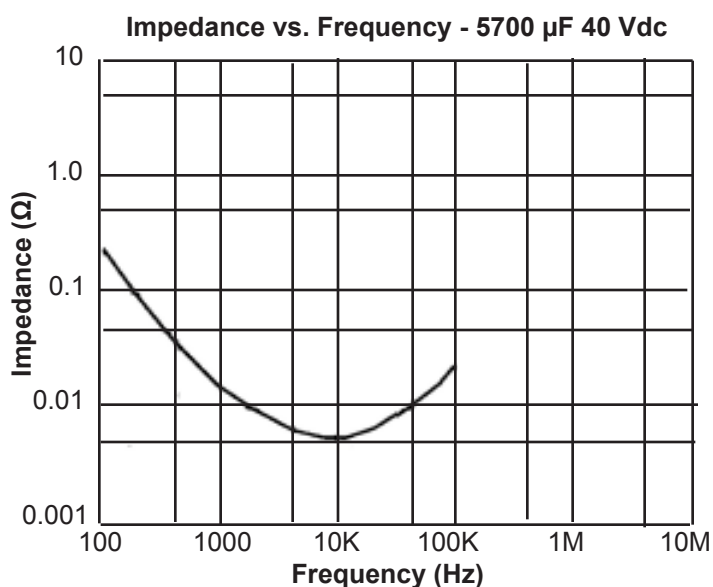
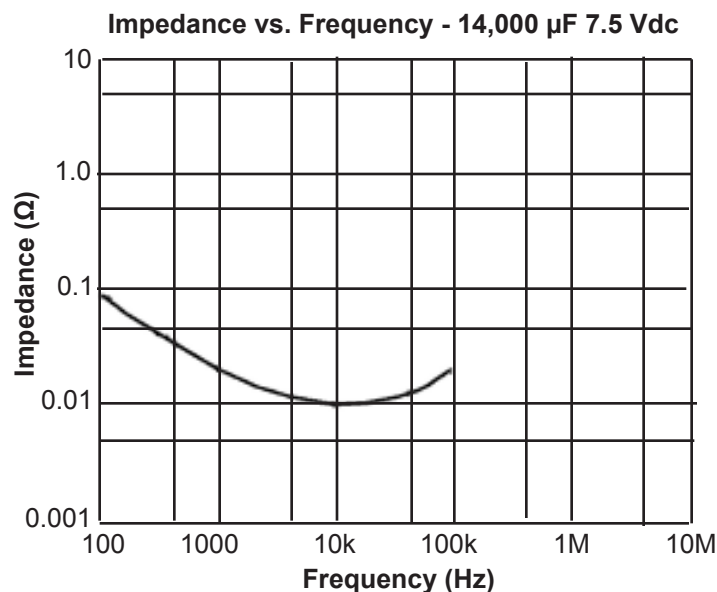
| Case Code | Diam. (D)   |            | Length (L)  |            | Terminals (S) |            | Typical Weight |     |
|-----------|-------------|------------|-------------|------------|---------------|------------|----------------|-----|
|           | $\pm 0.031$ | $\pm 0.78$ | $\pm 0.062$ | $\pm 1.57$ | $\pm 0.015$   | $\pm 0.78$ |                |     |
|           | Inches      | mm         | Inches      | mm         | Inches        | mm         | oz             | g   |
| AK        | 1.375       | 34.93      | 1.625       | 41.28      | 0.5           | 12.7       | 1.9            | 54  |
| AA        | 1.375       | 34.93      | 2.125       | 53.98      | 0.5           | 12.7       | 2.0            | 57  |
| AH        | 1.375       | 34.93      | 2.625       | 66.68      | 0.5           | 12.7       | 2.7            | 77  |
| AB        | 1.375       | 34.93      | 3.125       | 79.38      | 0.5           | 12.7       | 3.3            | 94  |
| AJ        | 1.375       | 34.93      | 3.625       | 92.08      | 0.5           | 12.7       | 3.8            | 108 |
| AC        | 1.375       | 34.93      | 4.125       | 104.78     | 0.5           | 12.7       | 4.4            | 125 |
| AD        | 1.375       | 34.93      | 4.625       | 117.48     | 0.5           | 12.7       | 5.1            | 145 |
| AE        | 1.375       | 34.93      | 5.125       | 130.18     | 0.5           | 12.7       | 5.7            | 193 |
| AF        | 1.375       | 34.93      | 5.625       | 142.88     | 0.5           | 12.7       | 6.4            | 230 |

# Type 125 $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ , Ultra-High Temperature, Military Grade

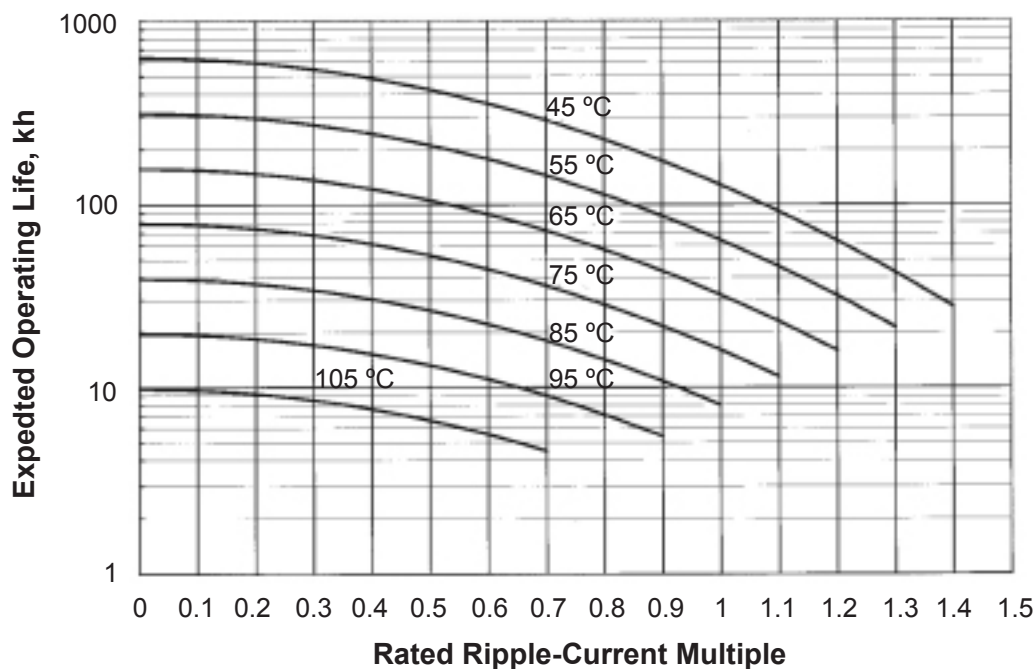
## Part Numbering System

|            |                                                   |                     |                                                |                      |                           |                               |
|------------|---------------------------------------------------|---------------------|------------------------------------------------|----------------------|---------------------------|-------------------------------|
| <b>125</b> | <b>333</b>                                        | <b>U</b>            | <b>7R5</b>                                     | <b>AA</b>            | <b>1</b>                  | <b>B</b>                      |
| Type       | Capacitance                                       | Tolerance           | Voltage                                        | Case Code            | Insulation                | Terminal                      |
|            | 100 = 10 $\mu\text{F}$<br>101 = 100 $\mu\text{F}$ | U = $-10\%$ $+75\%$ | 6R3 = 6.3 Vdc<br>063 = 63 Vdc<br>100 = 100 Vdc | See Ratings<br>Table | 0 = None<br>1 = Polyester | A = Low Post<br>B = High Post |

## Typical Performance Curves



## Type 125 Operating Life in Kilohours vs. Ripple Current



# Type 125 -55 °C to +125 °C, Ultra-High Temperature, Military Grade

## Ratings

| Cap<br>µF              | Catalog<br>Part Number | ESR Max<br>@ +25 °C |        | Ripple Max<br>@ +85 °C |          | Nominal<br>Size D x L<br>(Inches) |
|------------------------|------------------------|---------------------|--------|------------------------|----------|-----------------------------------|
|                        |                        | 120 Hz              | 20 kHz | 120 Hz                 | 20 kHz   |                                   |
|                        |                        | (Ω)                 | (Arms) | (Arms)                 | (Inches) |                                   |
| 5Vdc (8 Vdc Surge)     |                        |                     |        |                        |          |                                   |
| 25000                  | 125253U005AK1B         | 0.028               | 0.022  | 10.3                   | 15.5     | 1 3/8 x 1 5/8                     |
| 49000                  | 125493U005AA1B         | 0.017               | 0.013  | 17.2                   | 21.0     | 1 3/8 x 2 1/8                     |
| 65000                  | 125653U005AH1B         | 0.012               | 0.010  | 21.0                   | 25.4     | 1 3/8 x 2 5/8                     |
| 89000                  | 125893U005AB1B         | 0.010               | 0.008  | 24.0                   | 28.5     | 1 3/8 x 3 1/8                     |
| 110000                 | 125114U005AJ1B         | 0.008               | 0.006  | 26.1                   | 31.0     | 1 3/8 x 3 5/8                     |
| 130000                 | 125134U005AC1B         | 0.007               | 0.006  | 28.2                   | 32.9     | 1 3/8 x 4 1/8                     |
| 150000                 | 125154U005AD1B         | 0.006               | 0.005  | 29.3                   | 34.1     | 1 3/8 x 4 5/8                     |
| 170000                 | 125174U005AE1B         | 0.006               | 0.005  | 30.6                   | 35.3     | 1 3/8 x 5 1/8                     |
| 190000                 | 125194U005AF1B         | 0.005               | 0.004  | 30.7                   | 35.1     | 1 3/8 x 5 5/8                     |
| 6.3Vdc (10 Vdc Surge)  |                        |                     |        |                        |          |                                   |
| 23000                  | 125233U6R3AK1B         | 0.028               | 0.022  | 11.3                   | 15.5     | 1 3/8 x 1 5/8                     |
| 38000                  | 125383U6R3AA1B         | 0.047               | 0.013  | 17.2                   | 21.0     | 1 3/8 x 2 1/8                     |
| 58000                  | 125583U6R3AH1B         | 0.012               | 0.009  | 21.0                   | 25.4     | 1 3/8 x 2 5/8                     |
| 72000                  | 125723U6R3AB1B         | 0.009               | 0.008  | 24.0                   | 28.5     | 1 3/8 x 3 1/8                     |
| 89000                  | 125893U6R3AJ1B         | 0.008               | 0.006  | 26.1                   | 31.0     | 1 3/8 x 3 5/8                     |
| 110000                 | 125114U6R3AC1B         | 0.007               | 0.006  | 28.2                   | 32.9     | 1 3/8 x 4 1/8                     |
| 120000                 | 125124U6R3AD1B         | 0.006               | 0.005  | 29.6                   | 34.0     | 1 3/8 x 4 5/8                     |
| 140000                 | 125144U6R3AE1B         | 0.006               | 0.005  | 30.6                   | 35.3     | 1 3/8 x 5 1/8                     |
| 160000                 | 125164U6R3AF1B         | 0.005               | 0.004  | 30.7                   | 35.1     | 1 3/8 x 5 5/8                     |
| 7.5Vdc (12 Vdc Surge)  |                        |                     |        |                        |          |                                   |
| 20000                  | 125203U7R5AK1B         | 0.029               | 0.022  | 11.8                   | 15.5     | 1 3/8 x1 5/8                      |
| 33000                  | 125333U7R5AA1B         | 0.017               | 0.013  | 16.8                   | 20.9     | 1 3/8 x 2 1/8                     |
| 48000                  | 125483U7R5AH1B         | 0.013               | 0.010  | 20.4                   | 25.2     | 1 3/8 x 2 5/8                     |
| 63000                  | 125633U7R5AB1B         | 0.010               | 0.008  | 23.4                   | 28.5     | 1 3/8 x 3 1/8                     |
| 78000                  | 125783U7R5AJ1B         | 0.008               | 0.006  | 25.7                   | 30.9     | 1 3/8 x 3 5/8                     |
| 93000                  | 125933U7R5AC1B         | 0.007               | 0.006  | 27.5                   | 32.9     | 1 3/8 x 4 1/8                     |
| 110000                 | 125114U7R5AD1B         | 0.006               | 0.005  | 28.8                   | 34.0     | 1 3/8 x 4 5/8                     |
| 120000                 | 125124U7R5AE1B         | 0.006               | 0.005  | 30.2                   | 35.3     | 1 3/8 x 5 1/8                     |
| 140000                 | 125144U7R5AF1B         | 0.005               | 0.004  | 30.2                   | 35.3     | 1 3/8 x 5 5/8                     |
| 12.5Vdc (20 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 13000                  | 125133U12R5AK1B        | 0.032               | 0.022  | 11.6                   | 15.2     | 1 3/8 x 1 5/8                     |
| 22000                  | 125223U12R5AA1B        | 0.019               | 0.014  | 15.7                   | 20.6     | 1 3/8 x 2 1/8                     |
| 32000                  | 125323U12R5AH1B        | 0.014               | 0.010  | 19.2                   | 25.0     | 1 3/8 x 2 5/8                     |
| 41000                  | 125413U12R5AB1B        | 0.011               | 0.008  | 21.9                   | 28.2     | 1 3/8 x 3 1/8                     |
| 51000                  | 125513U12R5AJ1B        | 0.009               | 0.007  | 24.1                   | 30.6     | 1 3/8 x 3 5/8                     |
| 61000                  | 125613U12R5AC1B        | 0.008               | 0.006  | 25.9                   | 32.4     | 1 3/8 x 4 1/8                     |
| 71000                  | 125713U12R5AD1B        | 0.007               | 0.005  | 27.2                   | 33.7     | 1 3/8 x 4 5/8                     |
| 81000                  | 125813U12R5AE1B        | 0.006               | 0.005  | 28.5                   | 35.0     | 1 3/8 x 5 1/8                     |
| 90000                  | 125903U12R5AF1B        | 0.006               | 0.004  | 28.8                   | 34.7     | 1 3/8 x 5 5/8                     |
| 15Vdc (25 Vdc Surge)   |                        |                     |        |                        |          |                                   |
| 10000                  | 125103U015AK1B         | 0.031               | 0.021  | 11.1                   | 14.4     | 1 3/8 x 1 5/8                     |
| 17000                  | 125173U015AA1B         | 0.019               | 0.013  | 15.2                   | 19.5     | 1 3/8 x 2 1/8                     |
| 24000                  | 125243U015AH1B         | 0.013               | 0.01   | 18.6                   | 23.7     | 1 3/8 x 2 5/8                     |
| 32000                  | 125323U015AB1B         | 0.011               | 0.008  | 21.2                   | 26.8     | 1 3/8 x 3 1/8                     |
| 40000                  | 125403U015AJ1B         | 0.009               | 0.006  | 23.4                   | 29.2     | 1 3/8 x 3 5/8                     |

| Cap<br>µF            | Catalog<br>Part Number | ESR Max<br>@ +25 °C |        | Ripple Max<br>@ +85 °C |          | Nominal<br>Size D x L<br>(Inches) |
|----------------------|------------------------|---------------------|--------|------------------------|----------|-----------------------------------|
|                      |                        | 120 Hz              | 20 kHz | 120 Hz                 | 20 kHz   |                                   |
|                      |                        | (Ω)                 | (Arms) | (Arms)                 | (Inches) |                                   |
| 15Vdc (25 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 47000                | 125473U015AC1B         | 0.008               | 0.005  | 25.1                   | 31.0     | 1 3/8 x 4 1/8                     |
| 55000                | 125553U015AD1B         | 0.007               | 0.005  | 26.5                   | 32.3     | 1 3/8 x 4 5/8                     |
| 62000                | 125623U015AE1B         | 0.006               | 0.005  | 27.8                   | 33.6     | 1 3/8 x 5 1/8                     |
| 70000                | 125703U015AF1B         | 0.006               | 0.004  | 28.1                   | 33.4     | 1 3/8 x 5 5/8                     |
| 20Vdc (25 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 7000                 | 125702U020AK1B         | 0.034               | 0.022  | 10.4                   | 10.4     | 1 3/8 x 1 5/8                     |
| 12000                | 125123U020AA1B         | 0.020               | 0.013  | 14.4                   | 14.4     | 1 3/8 x 2 1/8                     |
| 18000                | 125183U020AH1B         | 0.015               | 0.010  | 17.5                   | 17.5     | 1 3/8 x 2 5/8                     |
| 24000                | 125243U020AB1B         | 0.012               | 0.008  | 20.0                   | 20.0     | 1 3/8 x 3 1/8                     |
| 29000                | 125293U020AJ1B         | 0.010               | 0.006  | 22.1                   | 22.1     | 1 3/8 x 3 5/8                     |
| 35000                | 125353U020AC1B         | 0.008               | 0.006  | 23.8                   | 23.8     | 1 3/8 x 4 1/8                     |
| 40000                | 125403U020AD1B         | 0.007               | 0.005  | 25.1                   | 25.1     | 1 3/8 x 4 5/8                     |
| 46000                | 125463U020AE1B         | 0.007               | 0.005  | 26.5                   | 26.5     | 1 3/8 x 5 1/8                     |
| 51000                | 125513U020AF1B         | 0.006               | 0.004  | 26.8                   | 26.8     | 1 3/8 x 5 5/8                     |
| 25Vdc (40 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 5600                 | 125562U025AK1B         | 0.035               | 0.022  | 10.3                   | 14.2     | 1 3/8 x 1 5/8                     |
| 9300                 | 125932U025AA1B         | 0.021               | 0.013  | 14.5                   | 19.2     | 1 3/8 x 2 1/8                     |
| 14000                | 125143U025AH1B         | 0.015               | 0.010  | 17.2                   | 23.3     | 1 3/8 x 2 5/8                     |
| 18000                | 125183U025AB1B         | 0.012               | 0.008  | 19.7                   | 26.4     | 1 3/8 x 3 1/8                     |
| 22000                | 125223U025AJ1B         | 0.010               | 0.006  | 21.7                   | 28.8     | 1 3/8 x 3 5/8                     |
| 26000                | 125263U025AC1B         | 0.009               | 0.006  | 23.5                   | 30.7     | 1 3/8 x 4 1/8                     |
| 30000                | 125303U025AD1B         | 0.008               | 0.005  | 24.8                   | 32.0     | 1 3/8 x 4 5/8                     |
| 34000                | 125343U025AE1B         | 0.007               | 0.005  | 26.1                   | 33.3     | 1 3/8 x 5 1/8                     |
| 39000                | 125393U025AF1B         | 0.006               | 0.004  | 26.4                   | 33.1     | 1 3/8 x 5 5/8                     |
| 30Vdc (50 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 4000                 | 125402U030AK1B         | 0.037               | 0.022  | 9.9                    | 14.1     | 1 3/8 x 1 5/8                     |
| 7300                 | 125732U030AA1B         | 0.022               | 0.013  | 13.5                   | 19       | 1 3/8 x 2 1/8                     |
| 11000                | 125113U030AH1B         | 0.016               | 0.010  | 16.5                   | 23.1     | 1 3/8 x 2 5/8                     |
| 14000                | 125143U030AB1B         | 0.013               | 0.008  | 18.9                   | 26.2     | 1 3/8 x 3 1/8                     |
| 17000                | 125173U030AJ1B         | 0.011               | 0.007  | 20.9                   | 28.6     | 1 3/8 x 3 5/8                     |
| 20000                | 125203U030AC1B         | 0.009               | 0.006  | 22.6                   | 30.5     | 1 3/8 x 4 1/8                     |
| 24000                | 125243U030AD1B         | 0.008               | 0.005  | 23.8                   | 31.7     | 1 3/8 x 4 5/8                     |
| 27000                | 125273U030AE1B         | 0.007               | 0.005  | 25.2                   | 33       | 1 3/8 x 5 1/8                     |
| 30000                | 125303U030AF1B         | 0.007               | 0.004  | 25.5                   | 33       | 1 3/8 x 5 5/8                     |
| 40Vdc (60 Vdc Surge) |                        |                     |        |                        |          |                                   |
| 2600                 | 125262U040AK1B         | 0.040               | 0.022  | 9.4                    | 14.0     | 1 3/8 x 1 5/8                     |
| 4600                 | 125462U040AA1B         | 0.024               | 0.014  | 12.8                   | 18.9     | 1 3/8 x 2 1/8                     |
| 6700                 | 125672U040AH1B         | 0.017               | 0.010  | 15.8                   | 22.8     | 1 3/8 x 2 5/8                     |
| 8800                 | 125882U040AB1B         | 0.014               | 0.008  | 18.0                   | 25.9     | 1 3/8 x 3 1/8                     |
| 11000                | 125113U040AJ1B         | 0.011               | 0.007  | 20.0                   | 28.3     | 1 3/8 x 3 5/8                     |
| 13000                | 125133U040AC1B         | 0.010               | 0.006  | 21.7                   | 30.2     | 1 3/8 x 4 1/8                     |
| 15000                | 125153U040AD1B         | 0.009               | 0.005  | 22.8                   | 31.4     | 1 3/8 x 4 5/8                     |
| 17000                | 125173U040AE1B         | 0.008               | 0.005  | 24.3                   | 32.7     | 1 3/8 x 5 1/8                     |
| 19000                | 125193U040AF1B         | 0.007               | 0.004  | 24.5                   | 32.7     | 1 3/8 x 5 5/8                     |

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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