

# Type 125 $-55\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ , 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  $-40\text{ }^{\circ}\text{C}$
- Operates at  $+125\text{ }^{\circ}\text{C}$

### Specifications

|                                    |   |
|------------------------------------|---|
| <b>Operating Temperature:</b>      | $-55\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$   |
| <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>            | $\leq 0.003\text{ CV } \mu\text{A}$ @ $+25\text{ }^{\circ}\text{C}$ ; $\leq 0.009\text{ CV}$ @ $+125\text{ }^{\circ}\text{C}$ |
| <b>Cold Impedance:</b>             | $-55\text{ }^{\circ}\text{C}$ Multiple of $+25\text{ }^{\circ}\text{C}$ $Z \leq 2$  |
| <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 @ $85\text{ }^{\circ}\text{C}$ 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 $+125\text{ }^{\circ}\text{C}$ 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 $-55\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ , 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.

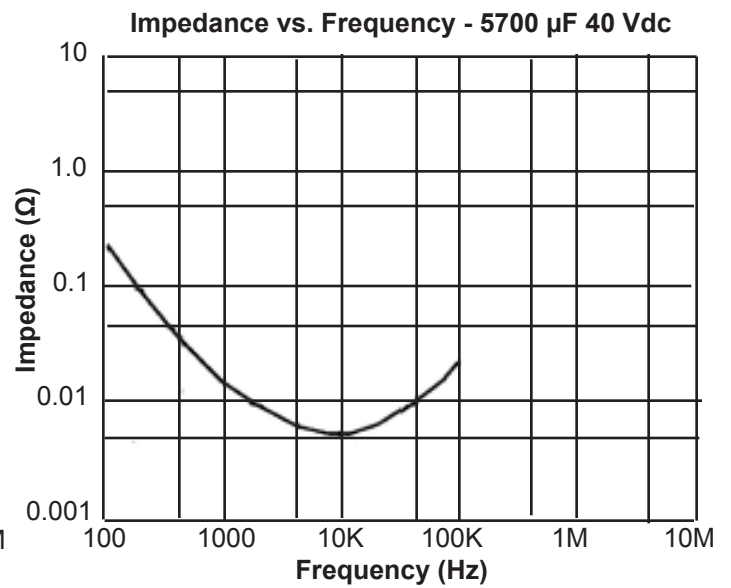
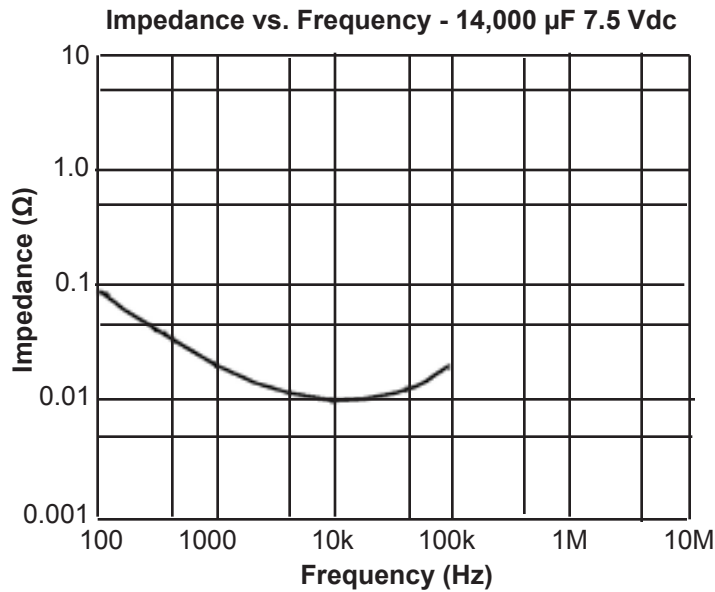
| Case Code | Diam. (D)   |            | Length (L)  |            | Terminals (S) |            | Typical Weight |     |
|-----------|-------------|------------|-------------|------------|---------------|------------|----------------|-----|
|           | $\pm 0.031$ | $\pm 0.78$ | $\pm 0.062$ | $\pm 1.57$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

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

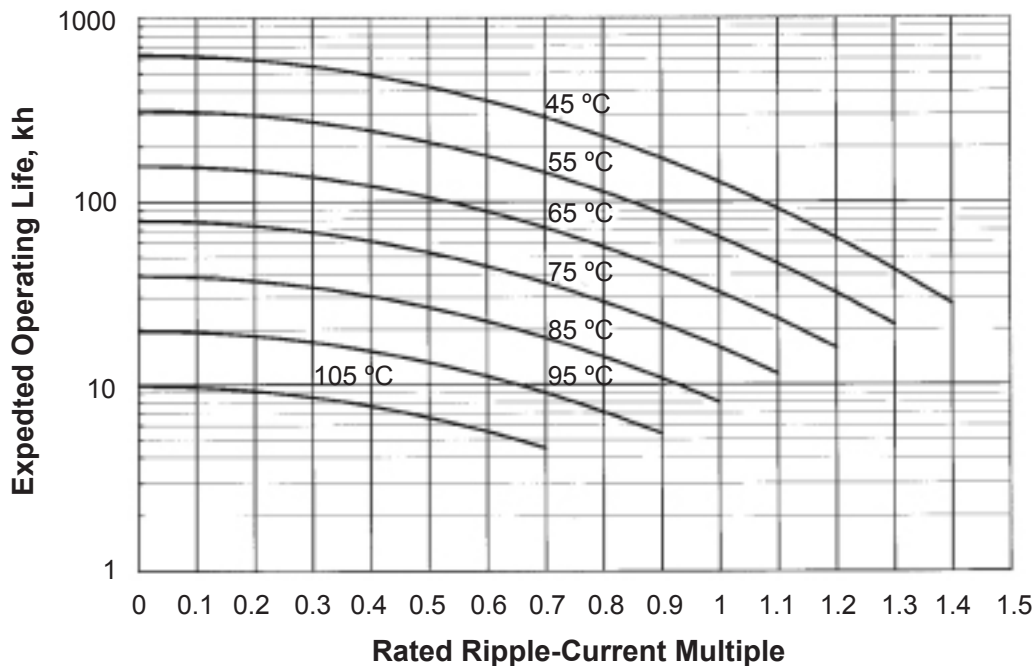
## Part Numbering System

|   |  |  |   |  |   |   |
|---|--|--|---|--|---|---|
| <b>125</b><br> <br><b>Type</b><br>100 = 10 $\mu$ F<br>101 = 100 $\mu$ F | <b>333</b><br> <br><b>Capacitance</b><br>100 = 10 $\mu$ F<br>101 = 100 $\mu$ F | <b>U</b><br> <br><b>Tolerance</b><br>U = -10% +75% | <b>7R5</b><br> <br><b>Voltage</b><br>6R3 = 6.3 Vdc<br>063 = 63 Vdc<br>100 = 100 Vdc | <b>AA</b><br> <br><b>Case Code</b><br>See Ratings<br>Table | <b>1</b><br> <br><b>Insulation</b><br>0 = None<br>1 = Polyester | <b>B</b><br> <br><b>Terminal</b><br>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) | 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<br>(Ω)       | 20 kHz | 120 Hz<br>(Arms)       | 20 kHz |                                   |                             |                        | 120 Hz<br>(Ω)       | 20 kHz | 120 Hz<br>(Arms)       | 20 kHz |                                   |
| <b>5Vdc (8 Vdc Surge)</b>     |                        |                     |        |                        |        |                                   | <b>15Vdc (25 Vdc Surge)</b> |                        |                     |        |                        |        |                                   |
| 25000                         | 125253U005AK1B         | 0.028               | 0.022  | 10.3                   | 15.5   | 1 3/8 x 1 5/8                     | 47000                       | 125473U015AC1B         | 0.008               | 0.005  | 25.1                   | 31.0   | 1 3/8 x 4 1/8                     |
| 49000                         | 125493U005AA1B         | 0.017               | 0.013  | 17.2                   | 21.0   | 1 3/8 x 2 1/8                     | 55000                       | 125553U015AD1B         | 0.007               | 0.005  | 26.5                   | 32.3   | 1 3/8 x 4 5/8                     |
| 65000                         | 125653U005AH1B         | 0.012               | 0.010  | 21.0                   | 25.4   | 1 3/8 x 2 5/8                     | 62000                       | 125623U015AE1B         | 0.006               | 0.005  | 27.8                   | 33.6   | 1 3/8 x 5 1/8                     |
| 89000                         | 125893U005AB1B         | 0.010               | 0.008  | 24.0                   | 28.5   | 1 3/8 x 3 1/8                     | 70000                       | 125703U015AF1B         | 0.006               | 0.004  | 28.1                   | 33.4   | 1 3/8 x 5 5/8                     |
| 110000                        | 125114U005AJ1B         | 0.008               | 0.006  | 26.1                   | 31.0   | 1 3/8 x 3 5/8                     | <b>20Vdc (25 Vdc Surge)</b> |                        |                     |        |                        |        |                                   |
| 130000                        | 125134U005AC1B         | 0.007               | 0.006  | 28.2                   | 32.9   | 1 3/8 x 4 1/8                     | 7000                        | 125702U020AK1B         | 0.034               | 0.022  | 10.4                   | 10.4   | 1 3/8 x 1 5/8                     |
| 150000                        | 125154U005AD1B         | 0.006               | 0.005  | 29.3                   | 34.1   | 1 3/8 x 4 5/8                     | 12000                       | 125123U020AA1B         | 0.020               | 0.013  | 14.4                   | 14.4   | 1 3/8 x 2 1/8                     |
| 170000                        | 125174U005AE1B         | 0.006               | 0.005  | 30.6                   | 35.3   | 1 3/8 x 5 1/8                     | 18000                       | 125183U020AH1B         | 0.015               | 0.010  | 17.5                   | 17.5   | 1 3/8 x 2 5/8                     |
| 190000                        | 125194U005AF1B         | 0.005               | 0.004  | 30.7                   | 35.1   | 1 3/8 x 5 5/8                     | 24000                       | 125243U020AB1B         | 0.012               | 0.008  | 20.0                   | 20.0   | 1 3/8 x 3 1/8                     |
| <b>6.3Vdc (10 Vdc Surge)</b>  |                        |                     |        |                        |        |                                   | 29000                       | 125293U020AJ1B         | 0.010               | 0.006  | 22.1                   | 22.1   | 1 3/8 x 3 5/8                     |
| 23000                         | 125233U6R3AK1B         | 0.028               | 0.022  | 11.3                   | 15.5   | 1 3/8 x 1 5/8                     | 35000                       | 125353U020AC1B         | 0.008               | 0.006  | 23.8                   | 23.8   | 1 3/8 x 4 1/8                     |
| 38000                         | 125383U6R3AA1B         | 0.047               | 0.013  | 17.2                   | 21.0   | 1 3/8 x 2 1/8                     | 40000                       | 125403U020AD1B         | 0.007               | 0.005  | 25.1                   | 25.1   | 1 3/8 x 4 5/8                     |
| 58000                         | 125583U6R3AH1B         | 0.012               | 0.009  | 21.0                   | 25.4   | 1 3/8 x 2 5/8                     | 46000                       | 125463U020AE1B         | 0.007               | 0.005  | 26.5                   | 26.5   | 1 3/8 x 5 1/8                     |
| 72000                         | 125723U6R3AB1B         | 0.009               | 0.008  | 24.0                   | 28.5   | 1 3/8 x 3 1/8                     | 51000                       | 125513U020AF1B         | 0.006               | 0.004  | 26.8                   | 26.8   | 1 3/8 x 5 5/8                     |
| 89000                         | 125893U6R3AJ1B         | 0.008               | 0.006  | 26.1                   | 31.0   | 1 3/8 x 3 5/8                     | <b>25Vdc (40 Vdc Surge)</b> |                        |                     |        |                        |        |                                   |
| 110000                        | 125114U6R3AC1B         | 0.007               | 0.006  | 28.2                   | 32.9   | 1 3/8 x 4 1/8                     | 5600                        | 125562U025AK1B         | 0.035               | 0.022  | 10.3                   | 14.2   | 1 3/8 x 1 5/8                     |
| 120000                        | 125124U6R3AD1B         | 0.006               | 0.005  | 29.6                   | 34.0   | 1 3/8 x 4 5/8                     | 9300                        | 125932U025AA1B         | 0.021               | 0.013  | 14.5                   | 19.2   | 1 3/8 x 2 1/8                     |
| 140000                        | 125144U6R3AE1B         | 0.006               | 0.005  | 30.6                   | 35.3   | 1 3/8 x 5 1/8                     | 14000                       | 125143U025AH1B         | 0.015               | 0.010  | 17.2                   | 23.3   | 1 3/8 x 2 5/8                     |
| 160000                        | 125164U6R3AF1B         | 0.005               | 0.004  | 30.7                   | 35.1   | 1 3/8 x 5 5/8                     | 18000                       | 125183U025AB1B         | 0.012               | 0.008  | 19.7                   | 26.4   | 1 3/8 x 3 1/8                     |
| <b>7.5Vdc (12 Vdc Surge)</b>  |                        |                     |        |                        |        |                                   | 22000                       | 125223U025AJ1B         | 0.010               | 0.006  | 21.7                   | 28.8   | 1 3/8 x 3 5/8                     |
| 20000                         | 125203U7R5AK1B         | 0.029               | 0.022  | 11.8                   | 15.5   | 1 3/8 x 1 5/8                     | 26000                       | 125263U025AC1B         | 0.009               | 0.006  | 23.5                   | 30.7   | 1 3/8 x 4 1/8                     |
| 33000                         | 125333U7R5AA1B         | 0.017               | 0.013  | 16.8                   | 20.9   | 1 3/8 x 2 1/8                     | 30000                       | 125303U025AD1B         | 0.008               | 0.005  | 24.8                   | 32.0   | 1 3/8 x 4 5/8                     |
| 48000                         | 125483U7R5AH1B         | 0.013               | 0.010  | 20.4                   | 25.2   | 1 3/8 x 2 5/8                     | 34000                       | 125343U025AE1B         | 0.007               | 0.005  | 26.1                   | 33.3   | 1 3/8 x 5 1/8                     |
| 63000                         | 125633U7R5AB1B         | 0.010               | 0.008  | 23.4                   | 28.5   | 1 3/8 x 3 1/8                     | 39000                       | 125393U025AF1B         | 0.006               | 0.004  | 26.4                   | 33.1   | 1 3/8 x 5 5/8                     |
| 78000                         | 125783U7R5AJ1B         | 0.008               | 0.006  | 25.7                   | 30.9   | 1 3/8 x 3 5/8                     | <b>30Vdc (50 Vdc Surge)</b> |                        |                     |        |                        |        |                                   |
| 93000                         | 125933U7R5AC1B         | 0.007               | 0.006  | 27.5                   | 32.9   | 1 3/8 x 4 1/8                     | 4000                        | 125402U030AK1B         | 0.037               | 0.022  | 9.9                    | 14.1   | 1 3/8 x 1 5/8                     |
| 110000                        | 125114U7R5AD1B         | 0.006               | 0.005  | 28.8                   | 34.0   | 1 3/8 x 4 5/8                     | 7300                        | 125732U030AA1B         | 0.022               | 0.013  | 13.5                   | 19     | 1 3/8 x 2 1/8                     |
| 120000                        | 125124U7R5AE1B         | 0.006               | 0.005  | 30.2                   | 35.3   | 1 3/8 x 5 1/8                     | 11000                       | 125113U030AH1B         | 0.016               | 0.010  | 16.5                   | 23.1   | 1 3/8 x 2 5/8                     |
| 140000                        | 125144U7R5AF1B         | 0.005               | 0.004  | 30.2                   | 35.3   | 1 3/8 x 5 5/8                     | 14000                       | 125143U030AB1B         | 0.013               | 0.008  | 18.9                   | 26.2   | 1 3/8 x 3 1/8                     |
| <b>12.5Vdc (20 Vdc Surge)</b> |                        |                     |        |                        |        |                                   | 17000                       | 125173U030AJ1B         | 0.011               | 0.007  | 20.9                   | 28.6   | 1 3/8 x 3 5/8                     |
| 13000                         | 125133U12R5AK1B        | 0.032               | 0.022  | 11.6                   | 15.2   | 1 3/8 x 1 5/8                     | 20000                       | 125203U030AC1B         | 0.009               | 0.006  | 22.6                   | 30.5   | 1 3/8 x 4 1/8                     |
| 22000                         | 125223U12R5AA1B        | 0.019               | 0.014  | 15.7                   | 20.6   | 1 3/8 x 2 1/8                     | 24000                       | 125243U030AD1B         | 0.008               | 0.005  | 23.8                   | 31.7   | 1 3/8 x 4 5/8                     |
| 32000                         | 125323U12R5AH1B        | 0.014               | 0.010  | 19.2                   | 25.0   | 1 3/8 x 2 5/8                     | 27000                       | 125273U030AE1B         | 0.007               | 0.005  | 25.2                   | 33     | 1 3/8 x 5 1/8                     |
| 41000                         | 125413U12R5AB1B        | 0.011               | 0.008  | 21.9                   | 28.2   | 1 3/8 x 3 1/8                     | 30000                       | 125303U030AF1B         | 0.007               | 0.004  | 25.5                   | 33     | 1 3/8 x 5 5/8                     |
| 51000                         | 125513U12R5AJ1B        | 0.009               | 0.007  | 24.1                   | 30.6   | 1 3/8 x 3 5/8                     | <b>40Vdc (60 Vdc Surge)</b> |                        |                     |        |                        |        |                                   |
| 61000                         | 125613U12R5AC1B        | 0.008               | 0.006  | 25.9                   | 32.4   | 1 3/8 x 4 1/8                     | 2600                        | 125262U040AK1B         | 0.040               | 0.022  | 9.4                    | 14.0   | 1 3/8 x 1 5/8                     |
| 71000                         | 125713U12R5AD1B        | 0.007               | 0.005  | 27.2                   | 33.7   | 1 3/8 x 4 5/8                     | 4600                        | 125462U040AA1B         | 0.024               | 0.014  | 12.8                   | 18.9   | 1 3/8 x 2 1/8                     |
| 81000                         | 125813U12R5AE1B        | 0.006               | 0.005  | 28.5                   | 35.0   | 1 3/8 x 5 1/8                     | 6700                        | 125672U040AH1B         | 0.017               | 0.010  | 15.8                   | 22.8   | 1 3/8 x 2 5/8                     |
| 90000                         | 125903U12R5AF1B        | 0.006               | 0.004  | 28.8                   | 34.7   | 1 3/8 x 5 5/8                     | 8800                        | 125882U040AB1B         | 0.014               | 0.008  | 18.0                   | 25.9   | 1 3/8 x 3 1/8                     |
| <b>15Vdc (25 Vdc Surge)</b>   |                        |                     |        |                        |        |                                   | 11000                       | 125113U040AJ1B         | 0.011               | 0.007  | 20.0                   | 28.3   | 1 3/8 x 3 5/8                     |
| 10000                         | 125103U015AK1B         | 0.031               | 0.021  | 11.1                   | 14.4   | 1 3/8 x 1 5/8                     | 13000                       | 125133U040AC1B         | 0.010               | 0.006  | 21.7                   | 30.2   | 1 3/8 x 4 1/8                     |
| 17000                         | 125173U015AA1B         | 0.019               | 0.013  | 15.2                   | 19.5   | 1 3/8 x 2 1/8                     | 15000                       | 125153U040AD1B         | 0.009               | 0.005  | 22.8                   | 31.4   | 1 3/8 x 4 5/8                     |
| 24000                         | 125243U015AH1B         | 0.013               | 0.01   | 18.6                   | 23.7   | 1 3/8 x 2 5/8                     | 17000                       | 125173U040AE1B         | 0.008               | 0.005  | 24.3                   | 32.7   | 1 3/8 x 5 1/8                     |
| 32000                         | 125323U015AB1B         | 0.011               | 0.008  | 21.2                   | 26.8   | 1 3/8 x 3 1/8                     | 19000                       | 125193U040AF1B         | 0.007               | 0.004  | 24.5                   | 32.7   | 1 3/8 x 5 5/8                     |
| 40000                         | 125403U015AJ1B         | 0.009               | 0.006  | 23.4                   | 29.2   | 1 3/8 x 3 5/8                     |                             |                        |                     |        |                        |        |                                   |



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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