



Not Recommended for New Design – See our [DGH](#) series for New Designs

### FEATURES

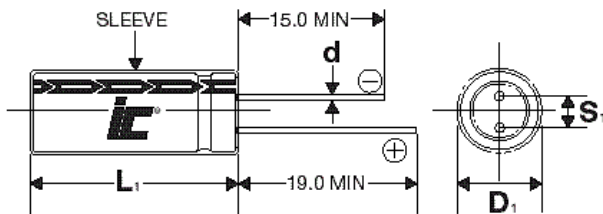
High Capacitance – Very fast charge/discharge – High power density

### APPLICATIONS

Battery backup/ alternative – LED Displays – DC/DC converters – Pulse power

|  |             |   |  |
|--|-------------|---|--|
| <b>Operating Temperature Range</b>   |             | <b>-25°C to +70°C</b>                       |  |
| <b>Storage Temperature</b>   |             | <b>-40°C to +70°C</b>                       |  |
| <b>Capacitance Tolerance</b>   |             | <b>+50%/-20% @ 25°C</b>                     |  |
| <b>Voltage</b>   | <b>WVDC</b> | <b>2.5</b>                                  |  |
|  | <b>SVDC</b> | <b>2.7</b>                                  |  |
| <b>Maximum Current</b>   |             | See standard part listing                   | <b>0.5*WVDC/(ESR<sub>DC</sub>+1/C)</b> |
| <b>Leakage Current</b>   |             | See standard part listing                   | 72 hours, 25°C                         |
| <b>Life time</b>   |             | <b>1000 hours at rated voltage and 70°C</b> |  |
|  |             | <b>Capacitance change</b>                   | ±30% of initially measured values      |
|  |             | <b>ESR</b>                                  | ≤200% of initially specified values    |
| <b>Life cycles</b><br>( 25°C) 1 cycle= Charge to WVDC for 20s, constant voltage charging for 10s, discharge to ½ WVDC for 20s, rest for 10 s |             | <b>500,000 cycles</b>                       |  |
|  |             | <b>Capacitance change</b>                   | ±30% of initially measured values      |
|  |             | <b>ESR</b>                                  | ≤200% of initially specified values    |

**D= 8 to 18mm**



| Lead spacing VS. Case diameter |         |         |     |     |     |
|--------------------------------|---------|---------|-----|-----|-----|
| <b>D</b>                       | 8(L>20) | 8(L>20) | 10  | 16  | 18  |
| <b>S</b>                       | 3.5     | 3.5     | 5.0 | 7.5 | 7.5 |
| <b>d</b>                       | 0.5     | 0.6     | 0.6 | 0.8 | 0.8 |

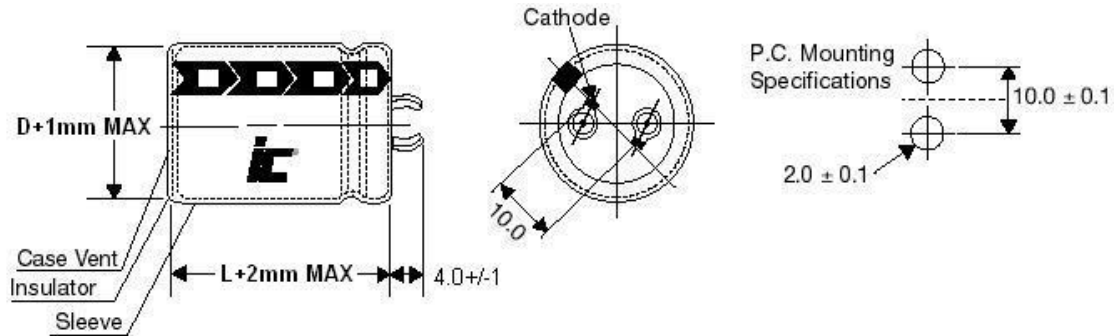
$L_1 = L(<20\text{mm} + 1.5\text{mm}) (\geq 20\text{mm} + 2.0\text{mm})$   
 $D_1 = D(<20\text{mm} + 0.5\text{mm}) (\geq 20\text{mm} + 1.0\text{mm})$   
 $S_1 = S \pm 0.5\text{mm}$



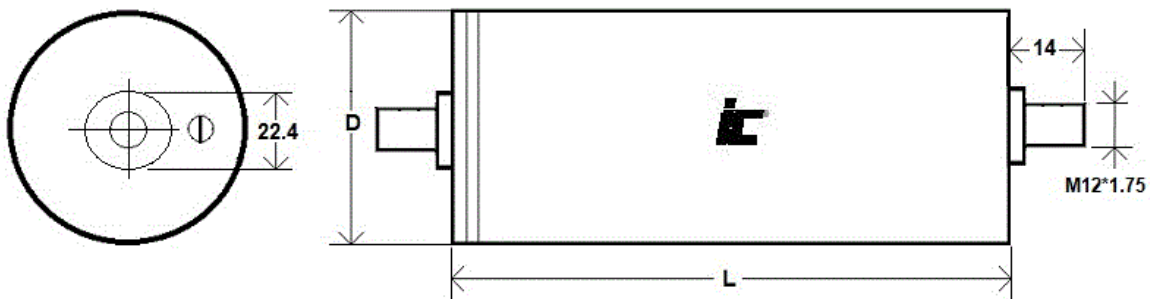
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### Snap in types

$20\text{mm} \leq D < 60\text{mm}$



Capacitance = 500F to 650F



# DER

Radial lead, +70°C

| WVDC | Capacitance (F) | IC PART NUMBER | MAX Current (A) | Maximum Continuous Current (A) ( $\Delta T=15^{\circ}\text{C}$ ) | Short Circuit Current (A) | ESR AC 1 kHz (m $\Omega$ ) | DC ESR (m $\Omega$ ) 20°C | Max stored energy (mWh) | LC (mA), (72 hrs) | Energy Density (Wh/kg) | Energy Volumetric Density (Wh/l) | Power Density (kW/kg) | Power Volumetric Density (kW/l) |
|------|-----------------|----------------|-----------------|--|---------------------------|----------------------------|---------------------------|-------------------------|-------------------|------------------------|----------------------------------|-----------------------|---------------------------------|
| 2.5  | 1.0             | 105DER2R5SFN   | 0.63            | 500  | 1000                      | 500                        | 1000                      | 0.868                   | 0.008             | 1.0117                 | 1.4391                           | 0.8741                | 1.2434                          |
| 2.5  | 2.0             | 205DER2R5SFQ   | 1.19            | 350  | 550                       | 350                        | 550                       | 1.736                   | 0.01              | 1.6001                 | 2.1587                           | 1.2568                | 1.6955                          |
| 2.5  | 3.0             | 305DER2R5SFU   | 1.91            | 200  | 320                       | 200                        | 320                       | 2.604                   | 0.012             | 2.075                  | 2.5904                           | 1.8675                | 2.3314                          |
| 2.5  | 3.3             | 335DER2R5SGU   | 2.01            | 200  | 320                       | 200                        | 320                       | 2.865                   | 0.014             | 1.3641                 | 1.8237                           | 1.1161                | 1.4921                          |
| 2.5  | 4.7             | 475DER2R5SGU   | 2.49            | 180  | 290                       | 180                        | 290                       | 4.08                    | 0.016             | 1.7997                 | 2.5973                           | 1.1408                | 1.6464                          |
| 2.5  | 7.0             | 705DER2R5SGV   | 3.44            | 140  | 220                       | 140                        | 220                       | 6.076                   | 0.02              | 2.3736                 | 3.0947                           | 1.3317                | 1.7362                          |
| 2.5  | 10.0            | 106DER2R5SGW   | 5               | 100  | 150                       | 100                        | 150                       | 8.681                   | 0.03              | 2.7957                 | 3.6841                           | 1.6103                | 2.1221                          |
| 2.5  | 10.0            | 106DER2R5STV   | 4.81            | 100  | 160                       | 100                        | 160                       | 8.681                   | 0.03              | 2.4887                 | 2.8294                           | 1.3439                | 1.5279                          |
| 2.5  | 22.0            | 226DER2R5SKV   | 8.59            | 60   | 100                       | 60                         | 100                       | 19.097                  | 0.06              | 2.6639                 | 3.7993                           | 1.0462                | 1.4921                          |
| 2.5  | 30.0            | 306DER2R5SKW   | 12.1            | 40   | 70                        | 40                         | 70                        | 26.042                  | 0.07              | 3.1486                 | 4.3174                           | 1.2954                | 1.7763                          |
| 2.5  | 50.0            | 506DER2R5SLZ   | 17.9            | 30   | 50                        | 30                         | 50                        | 43.403                  | 0.16              | 3.061                  | 4.2641                           | 1.058                 | 1.4737                          |
| 2.5  | 100.0           | 107DER2R5SBG   | 27.8            | 25   | 35                        | 25                         | 35                        | 86.806                  | 0.3               | 4.4379                 | 5.0746                           | 1.0955                | 1.2527                          |
| 2.5  | 100.0           | 107DER2R5SLB   | 27.8            | 25   | 35                        | 25                         | 35                        | 86.806                  | 0.3               | 4.1613                 | 5.6854                           | 1.0273                | 1.4035                          |
| 2.5  | 150.0           | 157DER2R5SCP   | 34.1            | 22   | 30                        | 22                         | 30                        | 130.207                 | 0.55              | 3.8523                 | 4.8229                           | 0.7396                | 0.926                           |
| 2.5  | 200.0           | 207DER2R5SDH   | 7.4             | 20   | 25                        | 20                         | 25                        | 173.611                 | 0.7               | 4.4075                 | 4.9122                           | 0.7616                | 0.8488                          |
| 2.5  | 250.0           | 257DER2R5SDP   | 48.1            | 18   | 22                        | 18                         | 22                        | 217.014                 | 0.8               | 4.4977                 | 5.582                            | 0.7065                | 0.8769                          |
| 2.5  | 350.0           | 357DER2R5SEZ   | 70              | 12   | 15                        | 12                         | 15                        | 303.819                 | 1                 | 4.5818                 | 5.2631                           | 0.754                 | 0.8661                          |
| 2.5  | 500.0           | 507DER2R5SEW   | 89              | 10   | 12                        | 10                         | 12                        | 434.028                 | 1.3               | 3.7                    | 4.7486                           | 0.5328                | 0.6838                          |
| 2.5  | 650.0           | 657DER2R5SZZ   | 502             | 0.8  | 0.95                      | 0.8                        | 0.95                      | 564.236                 | 2.3               | 2.5                    | 3.326                            | 3.498                 | 4.6537                          |

# DER

Radial lead, +70°C

| WVDC | Capacitance (F) | IC PART NUMBER               | Weight (grams) | Volume (mL) | Dims DxL (mm) | Lead Spacing S (mm) | Lead Diameter d (mm) |
|------|-----------------|------------------------------|----------------|-------------|---------------|---------------------|----------------------|
| 2.5  | 1.0             | <a href="#">105DER2R5SFN</a> | 0.858          | 0.603       | 8x12          | 3.5                 | 0.5                  |
| 2.5  | 2.0             | <a href="#">205DER2R5SFQ</a> | 1.085          | 0.804       | 8x16          | 3.5                 | 0.5                  |
| 2.5  | 3.0             | <a href="#">305DER2R5SFU</a> | 1.255          | 1.005       | 8x20          | 3.5                 | 0.6                  |
| 2.5  | 3.3             | <a href="#">335DER2R5SGU</a> | 2.1            | 1.571       | 10x20         | 5                   | 0.6                  |
| 2.5  | 4.7             | <a href="#">475DER2R5SGU</a> | 2.267          | 1.571       | 10x20         | 5                   | 0.6                  |
| 2.5  | 7.0             | <a href="#">705DER2R5SGV</a> | 2.56           | 1.963       | 10x25         | 5                   | 0.6                  |
| 2.5  | 10.0            | <a href="#">106DER2R5SGW</a> | 3.105          | 2.356       | 10x30         | 5                   | 0.6                  |
| 2.5  | 10.0            | <a href="#">106DER2R5STV</a> | 3.488          | 3.068       | 12.5x25       | 5                   | 0.6                  |
| 2.5  | 22.0            | <a href="#">226DER2R5SKV</a> | 7.169          | 5.027       | 16x25         | 7.5                 | 0.8                  |
| 2.5  | 30.0            | <a href="#">306DER2R5SKW</a> | 8.271          | 6.032       | 16x30         | 7.5                 | 0.8                  |
| 2.5  | 50.0            | <a href="#">506DER2R5SLZ</a> | 13.01          | 10.179      | 18x40         | 7.5                 | 0.8                  |
| 2.5  | 100.0           | <a href="#">107DER2R5SBG</a> | 19.56          | 17.106      | 22x45         | 10                  | 0                    |
| 2.5  | 100.0           | <a href="#">107DER2R5SLB</a> | 20.86          | 15.268      | 18x60         | 7.5                 | 7.5                  |
| 2.5  | 150.0           | <a href="#">157DER2R5SCP</a> | 33.8           | 26.998      | 25x55         | 10                  | 0                    |
| 2.5  | 200.0           | <a href="#">207DER2R5SDH</a> | 39.39          | 35.343      | 30x50         | 10                  | 1.5                  |
| 2.5  | 250.0           | <a href="#">257DER2R5SDP</a> | 48.25          | 38.877      | 30x55         | 10                  | 1.5                  |
| 2.5  | 350.0           | <a href="#">357DER2R5SEZ</a> | 66.31          | 57.727      | 35x60         | 0                   | 0                    |
| 2.5  | 500.0           | <a href="#">507DER2R5SEW</a> | 117.3          | 91.4        | 35x95         | 0                   | 0                    |
| 2.5  | 650.0           | <a href="#">657DER2R5SZZ</a> | 225.7          | 169.65      | 60x60         | 0                   | 0                    |