# DB, DBN ELECTRIC DOUBLE LAYER CAPACITORS "DYNACAP"





#### Specifications

| Item   | Performance   |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|
| Category temperature range (°C)                | -25 to +70  |  |  |  |  |  |  |
| Tolerance at rated capacitance (%)             | -20 to +80  |  |  |  |  |  |  |
| Internal resistance<br>at 1 kHz                | Rated capacitance (F)         0.047         0.1         0.22         0.33         0.47         0.47         1         1.5           Internal resistance (Ω Max.)         120         75         75         75         75(φ13.5)         30(φ21.5)         30         30 |  |  |  |  |  |  |
| Characteristics at high<br>and low temperature | Percentage of capacitance change         Within ±30% of the value at 20°C           Internal resistance         Less than five times of the value at 20°C   |  |  |  |  |  |  |
| Endurance (70°C)                               | Test time       1000 hours         Percentage of capacitance change       Within ±30% of the initial measured value         Internal resistance       Within four times of the initial specified value  |  |  |  |  |  |  |
| Shelf life (70°C)                              | Test time : 1000 hours ; Same as endurance.   |  |  |  |  |  |  |
| Applicable standards                           | Conforms to JIS C5160-1 2009 (IEC 62391-1 2006)   |  |  |  |  |  |  |

Unit : mm

## **Outline Drawing**

Specifications

EDLC



|   | Standard Ratings                           |                               |                  |                          |                   |  |  |  |  |  |  |
|---|--|-------------------------------|------------------|--------------------------|-------------------|--|--|--|--|--|--|
| ] | Max. operating voltage (V)                 | Rated capacitance (F          | ) ELN            | A Parts No.              | φD×L (mm)         |  |  |  |  |  |  |
| [ | 5.5  | 0.047                         | DB-              | 5R5D473T                 | 13.5×7.5          |  |  |  |  |  |  |
|   | 5.5  | 0.1                           | DB-              | 5R5D104T                 | 13.5×7.5          |  |  |  |  |  |  |
| [ | 5.5  | 0.22                          | DB-              | 5R5D224T                 | 13.5×7.5          |  |  |  |  |  |  |
|   | 5.5  | 0.33                          | DB-              | 5R5D334T                 | 13.5×7.5          |  |  |  |  |  |  |
|   | 5.5  | 0.47                          | DB-              | 5R5D474ST                | 13.5×7.5          |  |  |  |  |  |  |
| [ | 5.5  | 0.47                          | DB-              | 5R5D474T                 | 21.5×8.0          |  |  |  |  |  |  |
|   | 5.5  | 1                             | DB-              | 5R5D105T                 | 21.5×8.0          |  |  |  |  |  |  |
| [ | 5.5  | 1.5                           | DB-              | 5R5D155T                 | 21.5×8.0          |  |  |  |  |  |  |
| ſ |  |                               |                  |                          |                   |  |  |  |  |  |  |
|   | Part numbering system (example : 5.5V0.1F) |                               |                  |                          |                   |  |  |  |  |  |  |
|   | DB —                                       | 5R5                           | D                | 104                      | []] T             |  |  |  |  |  |  |
|   | Series code                                | Max. operating voltage symbol | Ferminal<br>code | Reted capacitance symbol | Additional symbol |  |  |  |  |  |  |

#### GREEN CAP 5.5V Low Resistance Series DBN

Part number is refer to above table. Low ESR

Internal resistance was reduced to 85% to DB series.

· It excels in rapid charge.(It can charge and discharge

with 1.5 times as much current (mA) as rated capacitance.)

| Performance                                |  |  |   |   |   |   |  |  |  |
|--|--|--|---|---|---|---|--|--|--|
| -25 to +70                                 |  |  |   |   |   |   |  |  |  |
| -20 to +80                                 |  |  |   |   |   |   |  |  |  |
| Rated capacitance (F)                      | 0.047  | 0.1  | 0.22  | 0.33  | 0.47  | 0.47  | 1  | 1.5  |  |
| Internal resistance (Ω)                    | 25   | 25   | 25  | 25  | 25 ( <i>φ</i> 13.5)   | 20( <i>φ</i> 21.5)  | 20   | 20   |  |
|  |  |  |   |   |   |   |  |  |  |
| Percentage of capacitance change           | Within $\pm 30\%$ of the value at $20^\circ\text{C}$   |  |   |   |   |   |  |  |  |
| Internal resistance                        | Less than five times of the value at 20°C  |  |   |   |   |   |  |  |  |
|  |  |  |   |   |   |   |  |  |  |
| Test time                                  | 1000 hours   |  |   |   |   |   |  |  |  |
| Percentage of capacitance change           | Within $\pm 30\%$ of the initial measured value  |  |   |   |   |   |  |  |  |
| Internal resistance                        |  |  | Within four times of the initial specified value  |   |   |   |  |  |  |
| Test time : 1000 hours : Same as endurance |  |  |   |   |   |   |  |  |  |
|  |  |  |   |   |   |   |  |  |  |
|  | Internal resistance (Ω) Percentage of capacitance change Internal resistance Test time Percentage of capacitance change Internal resistance Te | Internal resistance (Ω)     25       Percentage of capacitance change     Internal resistance       Internal resistance     Internal resistance       Percentage of capacitance change     Internal resistance       Internal resistance     Internal resistance | -25 to         -20 to         Rated capacitance (F)       0.047       0.1         Internal resistance (Ω)       25       25         Percentage of capacitance change       Internal resistance         Internal resistance       Internal resistance         Test time       Percentage of capacitance change         Internal resistance       Internal resistance         Test time       Test time         Internal resistance       Internal resistance | $-25 \text{ to } +70$ $-20 \text{ to } +80$ $\hline \text{Rated capacitance (F)} & 0.047 & 0.1 & 0.22$ $\hline \text{Internal resistance } (\Omega) & 25 & 25 & 25$ $\hline \text{Percentage of capacitance change} & \text{Within } \pm 3$ $\hline \text{Internal resistance} & \text{Less than}$ $\hline \text{Test time} & 1000 \text{ hour}$ $\hline \text{Percentage of capacitance change} & \text{Within } \pm 3$ $\hline \text{Internal resistance} & \text{Within } 5$ | -25 to +70         -20 to +80         Rated capacitance (F)       0.047       0.1       0.22       0.33         Internal resistance (Ω)       25       25       25       25         Percentage of capacitance change       Within ±30% of the       Less than five times of         Internal resistance       Less than five times of         Test time       1000 hours         Percentage of capacitance change       Within ±30% of the         Internal resistance       Within 0ur times of the         Internal resistance       Test time : 1000 hours ; Same as endurance. | $-25 \text{ to } +70$ $-20 \text{ to } +80$ $\boxed{\text{Rated capacitance (F)}  0.047  0.1  0.22  0.33  0.47}$ $\boxed{\text{Internal resistance (\Omega)}  25  25  25  25  25  25  25  41.5}$ $\boxed{\text{Percentage of capacitance change}} \qquad $ | $-25 \text{ to } +70$ $-20 \text{ to } +80$ $\boxed{\text{Rated capacitance (F)} 0.047 0.1 0.22 0.33 0.47 0.47} \\ \hline[ \text{Internal resistance (\Omega)} 25 25 25 25 25 ($\phi$ 13.5) 20($\phi$ 21.5)$} \\ \hline[ \text{Percentage of capacitance change} \\ \hline[ \text{Within } \pm 30\% \text{ of the value at } 20^{\circ}\text{C} \\ \hline[ \text{Internal resistance} \\ \hline[ \text{Internal resistance} \\ \hline[ \text{Internal resistance} \\ \hline[ \text{Test time} \\ \hline[ 1000 hours] \\ \hline[ \text{Percentage of capacitance change} \\ \hline[ \text{Within } \pm 30\% \text{ of the initial measured value} \\ \hline[ \text{Internal resistance} \\ \hline[ \text{Test time} \\ \hline[ 1000 hours] \\ \hline[ \text{Test time} \\ \hline[ 1000 hours] \\ \hline[ \text{Test time sof the initial specified value} \\ \hline[ \text{Internal resistance} \\ \hline[ \text{Test time : 1000 hours ; Same as endurance.} \\ \hline[ \end{tabular}$ | $-25 \text{ to } +70$ $-20 \text{ to } +80$ $\boxed{\text{Rated capacitance (F)} 0.047 0.1 0.22 0.33 0.47 0.47 1}$ $\boxed{\text{Internal resistance }(\Omega) 25 25 25 25 25 (\phi 13.5) 20(\phi 21.5) 20}$ $\boxed{\text{Percentage of capacitance change}}$ $\boxed{\text{Within } \pm 30\% \text{ of the value at } 20^{\circ}\text{C}}$ $\boxed{\text{Internal resistance}}$ $\boxed{\text{Less than five times of the value at } 20^{\circ}\text{C}}$ $\boxed{\text{Test time}}$ $\boxed{1000 \text{ hours}}$ $\boxed{\text{Percentage of capacitance change}}$ $\boxed{\text{Within } \pm 30\% \text{ of the initial measured value}}$ $\boxed{\text{Internal resistance}}$ $\boxed{\text{Within } \pm 30\% \text{ of the initial measured value}}$ $\boxed{\text{Internal resistance}}$ $\boxed{\text{Within four times of the initial specified value}}$ $\boxed{\text{Test time : 1000 \text{ hours ; Same as endurance.}}}$ |  |

70°C

### Standard Ratings

| Max. operating voltage (V) | Rated capacitance (F) | ELNA Parts No. | φD×L (mm) |  |  |  |  |
|----------------------------|-----------------------|----------------|-----------|--|--|--|--|
| 5.5                        | 0.047                 | DBN-5R5D473T   | 13.5×7.5  |  |  |  |  |
| 5.5                        | 0.1                   | DBN-5R5D104T   | 13.5×7.5  |  |  |  |  |
| 5.5                        | 0.22                  | DBN-5R5D224T   | 13.5×7.5  |  |  |  |  |
| 5.5                        | 0.33                  | DBN-5R5D334T   | 13.5×7.5  |  |  |  |  |
| 5.5                        | 0.47                  | DBN-5R5D474ST  | 13.5×7.5  |  |  |  |  |
| 5.5                        | 0.47                  | DBN-5R5D474T   | 21.5×8.0  |  |  |  |  |
| 5.5                        | 1                     | DBN-5R5D105T   | 21.5×8.0  |  |  |  |  |
| 5.5                        | 1.5                   | DBN-5R5D155T   | 21.5×8.0  |  |  |  |  |

| Part numbering system (example : 5.5V0.047F) |                               |               |                          |                   |   |  |  |  |
|--|-------------------------------|---------------|--------------------------|-------------------|---|--|--|--|
| DBN —  | 5R5                           | D             | 473                      |                   | Т |  |  |  |
| Series code                                  | Max. operating voltage symbol | Terminal code | Reted capacitance symbol | Additional symbol |   |  |  |  |
| Part number is refer to left table           |                               |               |                          |                   |   |  |  |  |

number is refer to left table.