

# RS (CD26S)



- ◎ Load life 105°C and low ESR.
- ◎ Excellent ripple current capability. Used in communication equipments, switching power supply, industrial measuring.
- ◎ Adapted to the ROHS directive (2002/95/EC).

## ■ Specifications

| Item  | Performance Characteristics   |       |       |       |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
|---|---|-------|-------|-------|------|------|------|--|------|-------------|---------|-----|-----|---|----|-------|--|--|--|--|--|--|-----------|-------|-------|-------|-------|--|--|--|--|--|--|
| Operating temperature range                               | -40~ +105°C   |       |       |       |      |      |      |  |      | -25~ +105°C |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Rated voltage range                                       | 6.3 ~ 100V  |       |       |       |      |      |      |  |      | 160 ~ 450V  |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Nominal capacitance range                                 | 2.2~ 18000μF  |       |       |       |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Capacitance tolerance                                     | ± 20% (120Hz, +20°C)  |       |       |       |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Leakage current   | $I \leq 0.01CV$ or $3(\mu A)$<br>(at 20°C, after 2 minutes) (Whichever is greater)  |       |       |       |      |      |      | $CV \leq 1000: I = 0.1CV + 40(\mu A)$ max.<br>$CV > 1000: I = 0.04CV + 100(\mu A)$ max<br>after 1 minute |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| (tg δ)<br>Dissipation factor<br>(+20°C, 120Hz)            | $U_R$ (V)   | 6.3   | 10    | 16    | 25   | 35   | 50   | 63   | 100  | 160~250     | 400~450 |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
|   | tg δ  | 0.22  | 0.19  | 0.16  | 0.14 | 0.12 | 0.10 | 0.09   | 0.08 | 0.20        | 0.24    |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
|   | For capacitance value >1000μF, add 0.02per another 1000μF   |       |       |       |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Temperature Characteristics<br>(Impedance ratio at 120Hz) | $U_R$ (V)   | 6.3   | 10    | 16    | 25   | 35   | 50   | 63   | 100  | 160~250     | 400     | 450 |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
|   | Z-25°C/Z+20°C   | 4     | 3     | 3     | 3    | 3    | 3    | 2  | 2    | 3           | 5       | 6   |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
|   | Z-40°C/Z+20°C   | 8     | 6     | 4     | 4    | 3    | 3    | 3  | 3    |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Load life   | <p>Duration:</p> <table border="1"> <tr> <td>ϕ D</td><td>6.3</td><td>8</td><td>10</td><td>12.5~</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Load life</td><td>3000h</td><td>4000h</td><td>5000h</td><td>7000h</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>After applying rated voltage at +105°C and then resumed 16 hours:<br/>     Capacitance change : ±25% Initial measured value<br/>     Leakage current: ≤ Initial specified value<br/>     Dissipation factor: ≤ 2 times Initial specified value</p> |       |       |       |      |      |      |  |      |             |         | ϕ D | 6.3 | 8 | 10 | 12.5~ |  |  |  |  |  |  | Load life | 3000h | 4000h | 5000h | 7000h |  |  |  |  |  |  |
| ϕ D   | 6.3   | 8     | 10    | 12.5~ |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Load life   | 3000h   | 4000h | 5000h | 7000h |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |
| Shelf life  | <p>After storage for 1000 hours at +105°C and then resumed 16 hours<br/>     Capacitance change : ±25% Initial measured value<br/>     Leakage current: ≤ 2 times Initial specified value<br/>     Dissipation factor: ≤ 2 times Initial specified value</p>  |       |       |       |      |      |      |  |      |             |         |     |     |   |    |       |  |  |  |  |  |  |           |       |       |       |       |  |  |  |  |  |  |

## ■ Case size table

Unit:mm

The drawing shows a cylindrical case with a lead. Dimensions include: D (diameter) with a note '4mln 15 min L+a max'; F (height) with a note 'safety vent D>Φ8 F±0.5'; d (inner diameter) with a note 'ΦD+0.5'; and αMAX with notes '(L<20) 1.5' and '(L≤20) 2.0'.

|   |     |         |     |      |    |    |
|---|-----|---------|-----|------|----|----|
| D | 6.3 | 8       | 10  | 12.5 | 16 | 18 |
| F | 2.5 | 3.5     | 5.0 | 7.5  |    |    |
| d | 0.5 | 0.5~0.6 | 0.6 | 0.8  |    |    |

|      |            |
|------|------------|
| αMAX | (L<20) 1.5 |
|      | (L≤20) 2.0 |

## RIPPLE CURRENT MULTIPLIER

Frequency coefficient

| <i>Cap.(<math>\mu</math>F)</i> | (Hz) | 120  | 1K   | 10K  | 100K |
|--------------------------------|------|------|------|------|------|
| ~180                           |      | 0.40 | 0.75 | 0.90 | 1.00 |
| 220~560                        |      | 0.50 | 0.85 | 0.94 | 1.00 |
| 680~1800                       |      | 0.60 | 0.87 | 0.95 | 1.00 |
| 2200~3900                      |      | 0.75 | 0.90 | 0.95 | 1.00 |
| 4700~18000                     |      | 0.85 | 0.95 | 0.98 | 1.00 |

Temperature coefficient

| Temperature (°C) | ~55  | 60   | 70   | 85   | 105  |
|------------------|------|------|------|------|------|
| Factor           | 2.23 | 2.17 | 2.00 | 1.75 | 1.00 |

 $\text{OD} \times L(\text{mm})$ 

Impedance (20°C / 100kHz)

Rated Ripple Current (+105°C, 100kHz)

## DIMENSIONS

| $C_R(\mu\text{F})$ | $U_R$ | 6.3V(0J) |                                   |                              | 10V(1A)         |                                   |                              | 16V(1C)         |                                   |                              |
|--------------------|-------|----------|-----------------------------------|------------------------------|-----------------|-----------------------------------|------------------------------|-----------------|-----------------------------------|------------------------------|
|                    |       | Item     | case size<br>$\text{OD} \times L$ | Impedance<br>( $\Omega$ max) | Ripple<br>mArms | case size<br>$\text{OD} \times L$ | Impedance<br>( $\Omega$ max) | Ripple<br>mArms | case size<br>$\text{OD} \times L$ | Impedance<br>( $\Omega$ max) |
|                    |       |          |                                   |                              |                 |                                   |                              |                 |                                   |                              |
| 100                | 101   |          |                                   |                              |                 |                                   |                              |                 | 6.3x11                            | 0.286                        |
| 120                | 121   |          |                                   |                              |                 |                                   |                              |                 | 6.3x11                            | 0.286                        |
| 150                | 151   |          |                                   |                              |                 | 6.3x11                            | 0.286                        | 298             |                                   |                              |
| 180                | 181   |          |                                   |                              |                 | 6.3x11                            | 0.286                        | 298             | 8x12                              | 0.169                        |
| 220                | 221   | 6.3x11   | 0.286                             | 298                          |                 | 6.3x11                            | 0.286                        | 298             | 8x12                              | 0.169                        |
|                    |       |          |                                   |                              |                 | 8x12                              | 0.169                        | 561             |                                   | 561                          |
| 270                | 271   | 6.3x11   | 0.286                             | 298                          |                 |                                   |                              |                 | 8x12                              | 0.169                        |
| 330                | 331   | 6.3x11   | 0.286                             | 298                          |                 | 8x12                              | 0.169                        | 561             | 8x12                              | 0.169                        |
|                    |       | 8x12     | 0.169                             | 561                          |                 |                                   |                              |                 |                                   | 561                          |
| 390                | 391   | 8x12     | 0.169                             | 561                          |                 | 8x12                              | 0.169                        | 561             | 10x12.5                           | 0.104                        |
| 470                | 471   | 8x12     | 0.169                             | 561                          |                 | 8x12                              | 0.169                        | 561             | 8x16                              | 0.113                        |
| 560                | 561   | 8x12     | 0.169                             | 561                          |                 | 10x12.5                           | 0.104                        | 737             | 10x12.5                           | 0.104                        |
| 680                | 681   |          |                                   |                              |                 | 8x16                              | 0.113                        | 737             | 8x20                              | 0.090                        |
|                    |       |          |                                   |                              |                 | 10x12.5                           | 0.104                        | 759             | 10x16                             | 0.078                        |
| 820                | 821   | 8x16     | 0.113                             | 737                          |                 |                                   |                              |                 | 10x20                             | 0.060                        |
|                    |       | 10x16    | 0.078                             | 1061                         |                 | 10x16                             | 0.078                        | 1061            | 12.5x15                           | 0.064                        |
| 1000               | 102   | 10x16    | 0.078                             | 1061                         |                 | 8x20                              | 0.090                        | 921             | 10x20                             | 0.060                        |
| 1200               | 122   | 8x20     | 0.090                             | 921                          |                 | 10x16                             | 0.078                        | 1061            | 10x25                             | 0.055                        |
|                    |       | 10x16    | 0.078                             | 1061                         |                 | 10x20                             | 0.060                        | 1228            | 10x25                             | 0.055                        |
| 1500               | 152   | 10x20    | 0.060                             | 1228                         |                 |                                   |                              |                 | 10x30                             | 0.040                        |
|                    |       | 12.5x15  | 0.064                             | 1272                         |                 | 10x25                             | 0.055                        | 1675            | 12.5x20                           | 0.046                        |
| 1800               | 182   | 10x25    | 0.055                             | 1447                         |                 | 10x20                             | 0.060                        | 1447            | 16x15                             | 0.072                        |
|                    |       |          |                                   |                              |                 | 16x15                             | 0.065                        | 1863            | 12.5x25                           | 0.039                        |
| 2200               | 222   | 10x25    | 0.055                             | 1447                         |                 | 16x20                             | 0.046                        | 1649            | 18x15                             | 0.073                        |
|                    |       | 16x15    | 0.065                             | 1649                         |                 | 12.5x20                           | 0.046                        | 1938            | 12.5x25                           | 0.039                        |
| 2700               | 272   | 10x30    | 0.040                             | 1675                         |                 | 12.5x25                           | 0.039                        | 1863            | 16x20                             | 0.046                        |
|                    |       | 12.5x20  | 0.046                             | 1666                         |                 | 18x15                             | 0.066                        | 1772            | 16x20                             | 0.046                        |
|                    |       | 16x15    | 0.065                             | 1649                         |                 | 12.5x30                           | 0.034                        | 1938            | 16x25                             | 0.046                        |
| 3300               | 332   | 12.5x20  | 0.046                             | 1666                         |                 | 12.5x30                           | 0.034                        | 2214            | 12.5x35                           | 0.029                        |
|                    |       | 18x15    | 0.066                             | 1772                         |                 | 16x20                             | 0.046                        | 2188            | 18x20                             | 0.044                        |
| 3900               | 392   | 12.5x25  | 0.039                             | 1863                         |                 | 12.5x35                           | 0.029                        | 2406            | 16x25                             | 0.036                        |
|                    |       |          |                                   |                              |                 | 16x20                             | 0.046                        | 2238            | 18x20                             | 0.044                        |
| 4700               | 472   | 12.5x30  | 0.034                             | 2214                         |                 | 12.5x40                           | 0.025                        | 2188            | 16x30                             | 0.029                        |
|                    |       | 16x20    | 0.046                             | 1938                         |                 | 16x25                             | 0.036                        | 2657            | 18x25                             | 0.031                        |
| 5600               | 562   | 12.5x35  | 0.029                             | 2406                         |                 | 16x25                             | 0.036                        | 2238            | 16x35                             | 0.026                        |
|                    |       | 16x20    | 0.046                             | 1938                         |                 | 18x20                             | 0.044                        | 2430            | 18x30                             | 0.026                        |
| 6800               | 682   | 12.5x40  | 0.025                             | 2798                         |                 | 16x30                             | 0.029                        | 3157            | 16x40                             | 0.022                        |
|                    |       | 16x30    | 0.029                             | 2657                         |                 | 18x25                             | 0.031                        | 3408            |                                   |                              |
|                    |       | 18x25    | 0.031                             | 2430                         |                 |                                   |                              |                 |                                   |                              |

## DIMENSIONS

$\text{OD} \times L(\text{mm})$   
 Impedance ( $20^\circ\text{C}$  /  $100\text{KHz}$ )  
 Rated Ripple Current ( $+105^\circ\text{C}$ ,  $100\text{KHz}$ )

| $C_R(\mu\text{F})$ | Item<br>Code | $U_R$   | 6.3V(0J)                          |                 |         | 10V(1A)                           |                 |         | 16V(1C)                           |                 |        |
|--------------------|--------------|---------|-----------------------------------|-----------------|---------|-----------------------------------|-----------------|---------|-----------------------------------|-----------------|--------|
|                    |              |         | case size<br>$\text{OD} \times L$ | Impedance       | Ripple  | case size<br>$\text{OD} \times L$ | Impedance       | Ripple  | case size<br>$\text{OD} \times L$ | Impedance       | Ripple |
|                    |              |         |                                   | ( $\Omega$ max) | mArms   |                                   | ( $\Omega$ max) | mArms   |                                   | ( $\Omega$ max) | mArms  |
| 8200               | 822          |         | 16×35                             | 0.026           | 2740    | 16×35                             | 0.026           | 2740    | 18×35                             | 0.025           | 3191   |
|                    |              |         |                                   |                 |         | 18×30                             | 0.026           | 3157    |                                   |                 |        |
| 10000              | 103          |         | 16×35                             | 0.026           | 2740    | 18×35                             | 0.025           | 3191    | 18×40                             | 0.020           | 3316   |
|                    |              |         | 18×30                             | 0.026           | 3157    |                                   |                 |         |                                   |                 |        |
| 12000              | 123          |         | 16×40                             | 0.022           | 3408    | 18×40                             | 0.020           | 3316    |                                   |                 |        |
|                    |              |         | 18×35                             | 0.025           | 3191    |                                   |                 |         |                                   |                 |        |
| 15000              | 153          |         | 18×35                             | 0.025           | 3191    |                                   |                 |         |                                   |                 |        |
| 18000              | 183          |         | 18×40                             | 0.020           | 3316    |                                   |                 |         |                                   |                 |        |
| $C_R(\mu\text{F})$ | Item<br>Code | $U_R$   | 25V(1E)                           |                 |         | 35V(1V)                           |                 |         | 50V(1H)                           |                 |        |
|                    |              |         | case size<br>$\text{OD} \times L$ | Impedance       | Ripple  | case size<br>$\text{OD} \times L$ | Impedance       | Ripple  | case size<br>$\text{OD} \times L$ | Impedance       | Ripple |
|                    |              |         |                                   | ( $\Omega$ max) | mArms   |                                   | ( $\Omega$ max) | mArms   |                                   | ( $\Omega$ max) | mArms  |
| 33                 | 330          |         |                                   |                 |         |                                   |                 |         | 6.3×11                            | 0.390           | 259    |
| 39                 | 390          |         |                                   |                 |         |                                   |                 |         | 6.3×11                            | 0.390           | 259    |
| 47                 | 470          |         |                                   |                 |         | 6.3×11                            | 0.286           | 298     | 6.3×11                            | 0.390           | 259    |
| 56                 | 560          |         |                                   |                 |         | 6.3×11                            | 0.286           | 298     | 8×12                              | 0.221           | 487    |
| 68                 | 680          |         |                                   |                 |         | 6.3×11                            | 0.286           | 298     | 8×12                              | 0.221           | 487    |
| 82                 | 820          | 6.3×11  | 0.286                             | 298             |         | 8×12                              | 0.169           | 561     | 8×12                              | 0.221           | 487    |
| 100                | 101          | 6.3×11  | 0.286                             | 298             |         | 8×12                              | 0.169           | 561     | 10×12.5                           | 0.156           | 487    |
| 120                | 121          | 8×12    | 0.169                             | 561             | 8×12    | 0.169                             | 561             | 8×16    | 0.156                             | 667             |        |
|                    |              |         |                                   |                 |         |                                   |                 |         |                                   |                 |        |
| 150                | 151          |         |                                   |                 |         | 8×12                              | 0.169           | 561     | 10×16                             | 0.109           | 667    |
| 180                | 181          | 8×12    | 0.169                             | 561             | 10×12.5 | 0.104                             | 759             | 8×16    | 0.118                             | 921             |        |
|                    |              |         |                                   |                 |         |                                   |                 |         |                                   |                 |        |
| 220                | 221          | 8×12    | 0.169                             | 561             | 8×16    | 0.113                             | 737             | 10×20   | 0.078                             | 921             |        |
|                    |              |         |                                   |                 | 10×12.5 | 0.104                             | 759             | 12.5×15 | 0.079                             | 1070            |        |
| 270                | 271          | 10×12.5 | 0.104                             | 759             | 10×16   | 0.078                             | 1061            | 10×25   | 0.072                             | 1105            |        |
| 330                | 331          | 8×16    | 0.113                             | 737             | 8×20    | 0.090                             | 921             | 10×30   | 0.056                             | 1263            |        |
|                    |              | 10×12.5 | 0.104                             | 759             | 10×16   | 0.078                             | 1061            | 12.5×20 | 0.059                             | 1482            |        |
| 390                | 391          | 10×16   | 0.078                             | 1061            | 10×20   | 0.060                             | 1228            | 12.5×20 | 0.059                             | 1456            |        |
|                    |              |         |                                   |                 | 12.5×15 | 0.064                             | 1272            | 16×15   | 0.072                             | 1456            |        |
| 470                | 471          | 8×20    | 0.090                             | 921             | 10×20   | 0.060                             | 1228            | 10×30   | 0.056                             | 482             |        |
|                    |              | 10×16   | 0.078                             | 1061            |         |                                   |                 | 12.5×25 | 0.044                             | 1482            |        |
| 560                | 561          | 10×20   | 0.060                             | 1228            | 10×25   | 0.055                             | 1447            | 12.5×25 | 0.044                             | 1710            |        |
|                    |              | 12.5×15 | 0.064                             | 1272            | 12.5×20 | 0.046                             | 1666            | 18×15   | 0.070                             | 1710            |        |
| 680                | 681          | 10X20   | 0.060                             | 1228            | 10×30   | 0.056                             | 1482            | 12.5×30 | 0.039                             | 1693            |        |
|                    |              |         |                                   |                 | 12.5×25 | 0.039                             | 1863            | 16×20   | 0.044                             | 2026            |        |
|                    |              |         |                                   |                 | 16×15   | 0.072                             | 1570            |         |                                   |                 |        |
| 820                | 821          | 10×25   | 0.055                             | 1447            | 12.5×25 | 0.039                             | 1863            | 12.5×35 | 0.033                             | 2201            |        |
|                    |              | 12.5×20 | 0.046                             | 1666            | 18×15   | 0.073                             | 1687            | 18×20   | 0.047                             | 2184            |        |
| 1000               | 102          | 10×30   | 0.040                             | 1675            | 12.5×25 | 0.039                             | 1863            | 12.5×35 | 0.027                             | 2561            |        |
|                    |              | 12.5×20 | 0.046                             | 1666            | 16×20   | 0.046                             | 1938            | 16×25   | 0.033                             | 2241            |        |
|                    |              | 16×15   | 0.072                             | 1570            |         |                                   |                 |         |                                   |                 |        |
| 1200               | 122          | 12.5×25 | 0.039                             | 1863            | 12.5×30 | 0.034                             | 2214            | 16×30   | 0.029                             | 2640            |        |
|                    |              | 18×15   | 0.073                             | 1687            | 16×20   | 0.046                             | 1938            | 18×25   | 0.034                             | 2403            |        |
| 1500               | 152          | 12.5×25 | 0.039                             | 1863            | 12.5×35 | 0.029                             | 2406            | 16×35   | 0.025                             | 2763            |        |
|                    |              | 16×20   | 0.046                             | 1938            | 16×25   | 0.036                             | 2238            |         |                                   |                 |        |
| 1800               | 182          | 12.5×30 | 0.034                             | 2214            | 18×20   | 0.044                             | 2188            | 16×40   | 0.021                             | 3254            |        |
|                    |              | 16×20   | 0.046                             | 1938            | 12.5×40 | 0.025                             | 2798            | 18×30   | 0.027                             | 3188            |        |
|                    |              |         |                                   |                 | 16×25   | 0.036                             | 2238            |         |                                   |                 |        |
| 2200               | 222          | 12.5×35 | 0.029                             | 2406            | 16×30   | 0.029                             | 2657            | 18×35   | 0.022                             | 3228            |        |
|                    |              | 18×20   | 0.044                             | 2188            | 18×25   | 0.031                             | 2430            |         |                                   |                 |        |
| 2700               | 272          | 16×25   | 0.036                             | 2238            | 16×35   | 0.026                             | 2740            | 18×40   | 0.018                             | 3333            |        |
|                    |              |         |                                   |                 | 18×30   | 0.026                             | 3157            |         |                                   |                 |        |
| 3300               | 332          | 16×30   | 0.029                             | 2657            | 18×35   | 0.025                             | 3191            |         |                                   |                 |        |
|                    |              | 18×25   | 0.031                             | 2430            |         |                                   |                 |         |                                   |                 |        |

*OD × L(mm)*  
*Impedance (20°C / 100KHz)*  
*Rated Ripple Current (+105°C, 100KHz)*

## DIMENSIONS

| <i>C<sub>R</sub>(μF)</i> | <i>Code</i> | <i>U<sub>R</sub></i> | 25V(1E)          |                  |               | 35V(1V)          |                  |               | 50V(1H)          |                  |               |
|--------------------------|-------------|----------------------|------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|---------------|
|                          |             |                      | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> |
|                          |             |                      | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  |
| 3900                     | 392         | 16x35                | 0.026            | 2740             |               | 18x40            | 0.020            | 3316          |                  |                  |               |
|                          |             | 18x30                | 0.026            | 3157             |               |                  |                  |               |                  |                  |               |
| 4700                     | 472         | 18x35                | 0.025            | 3191             |               |                  |                  |               |                  |                  |               |
| 5600                     | 562         | 18x40                | 0.020            | 3316             |               |                  |                  |               |                  |                  |               |

| <i>C<sub>R</sub>(μF)</i> | <i>Code</i> | <i>U<sub>R</sub></i> | 63V(1J)          |                  |               | 100V(2A)         |                  |               | 160V(2C)         |                  |               |
|--------------------------|-------------|----------------------|------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|---------------|
|                          |             |                      | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> | <i>case size</i> | <i>Impedance</i> | <i>Ripple</i> |
|                          |             |                      | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  | <i>ØD×L</i>      | <i>(Ωmax)</i>    | <i>mArms</i>  |
| 6.8                      | 6R8         |                      |                  |                  |               |                  |                  |               |                  |                  |               |
|                          |             |                      |                  |                  |               |                  |                  |               |                  |                  |               |
| 10                       | 100         |                      |                  |                  |               |                  |                  |               | 10x16            | 2.925            | 219           |
| 12                       | 120         |                      |                  |                  |               |                  |                  |               |                  |                  |               |
| 15                       | 150         |                      |                  |                  |               | 6.3x11           | 1.560            | 101           |                  |                  |               |
| 18                       | 180         |                      |                  |                  |               |                  |                  |               |                  |                  |               |
| 22                       | 220         | 6.3x11               | 1.560            | 101              |               |                  |                  |               | 10x20            | 1.950            | 307           |
| 27                       | 270         |                      |                  |                  |               | 8x12             | 0.819            | 203           |                  |                  |               |
| 33                       | 330         | 6.3x11               | 1.560            | 101              |               |                  |                  |               | 12.5x20          | 1.391            | 366           |
| 39                       | 390         | 8x12                 | 0.819            | 203              |               | 8x16             | 0.585            | 263           |                  |                  |               |
| 47                       | 470         | 8x12                 | 0.819            | 203              |               | 10x12.5          | 0.559            | 253           | 12.5x25          | 0.897            | 526           |
| 56                       | 560         | 8x12                 | 0.819            | 203              |               | 8x20             | 0.429            | 317           |                  |                  |               |
| 68                       | 680         | 8x12                 | 0.819            | 203              |               | 10x16            | 0.403            | 313           |                  |                  |               |
| 82                       | 820         | 10x12.5              | 0.559            | 253              |               | 10x20            | 0.273            | 409           |                  |                  |               |
|                          |             |                      |                  |                  |               | 12.5x15          | 0.299            | 409           |                  |                  |               |
| 100                      | 101         | 8x16                 | 0.585            | 263              |               | 10x25            | 0.260            | 466           | 16x25            | 0.455            | 798           |
|                          |             | 10x12.5              | 0.559            | 253              |               |                  |                  |               |                  |                  |               |
| 120                      | 121         | 10x16                | 0.403            | 313              |               | 10x30            | 0.195            | 581           |                  |                  |               |
|                          |             |                      |                  |                  |               | 12.5x20          | 0.208            | 605           |                  |                  |               |
| 150                      | 151         | 8x20                 | 0.429            | 317              |               | 16x15            | 0.182            | 697           |                  |                  |               |
| 180                      | 181         | 10x20                | 0.273            | 409              |               | 12.5x25          | 0.156            | 688           |                  |                  |               |
|                          |             | 12.5x15              | 0.299            | 409              |               | 18x15            | 0.156            | 807           |                  |                  |               |
| 220                      | 221         | 10x20                | 0.273            | 409              |               | 12.5x30          | 0.130            | 794           | 18x35            | 0.273            | 1202          |
|                          |             | 10x25                | 0.260            | 466              |               | 16x20            | 0.118            | 912           |                  |                  |               |
|                          |             | 12.5x20              | 0.208            | 605              |               |                  |                  |               |                  |                  |               |
| 270                      | 271         | 16x15                | 0.182            | 697              |               | 12.5x35          | 0.108            | 921           |                  |                  |               |
|                          |             |                      |                  |                  |               | 16x25            | 0.095            | 1096          |                  |                  |               |
| 330                      | 331         | 10x30                | 0.195            | 581              |               | 12.5x40          | 0.092            | 1035          |                  |                  |               |
|                          |             | 12.5x20              | 0.208            | 605              |               | 18x20            | 0.104            | 1088          |                  |                  |               |
| 390                      | 391         | 12.5x25              | 0.156            | 688              |               | 16x30            | 0.070            | 1377          |                  |                  |               |
|                          |             | 18x15                | 0.156            | 807              |               | 18x25            | 0.074            | 1307          |                  |                  |               |
| 470                      | 471         | 12.5x30              | 0.130            | 794              |               | 16x35            | 0.059            | 1570          |                  |                  |               |
|                          |             | 16x20                | 0.118            | 912              |               | 18x30            | 0.061            | 1430          |                  |                  |               |
| 560                      | 561         | 16x25                | 0.095            | 1096             |               | 18x35            | 0.052            | 1570          |                  |                  |               |
| 680                      | 681         | 12.5x35              | 0.108            | 921              |               | 18x35            | 0.052            | 1570          |                  |                  |               |
|                          |             | 16x25                | 0.095            | 1096             |               |                  |                  |               |                  |                  |               |
|                          |             | 18x20                | 0.104            | 1088             |               |                  |                  |               |                  |                  |               |
| 820                      | 821         | 12.5x40              | 0.092            | 1035             |               | 18x40            | 0.047            | 2044          |                  |                  |               |
|                          |             | 16x30                | 0.070            | 1377             |               |                  |                  |               |                  |                  |               |
|                          |             | 18x25                | 0.074            | 1307             |               |                  |                  |               |                  |                  |               |
| 1000                     | 102         | 16x30                | 0.070            | 1377             |               |                  |                  |               |                  |                  |               |
|                          |             | 16x35                | 0.059            | 1570             |               |                  |                  |               |                  |                  |               |
| 1200                     | 122         | 16x40                | 0.052            | 1772             |               |                  |                  |               |                  |                  |               |
|                          |             | 18x30                | 0.061            | 1430             |               |                  |                  |               |                  |                  |               |
| 1500                     | 152         | 18x35                | 0.052            | 1570             |               |                  |                  |               |                  |                  |               |
| 1800                     | 182         | 18x40                | 0.047            | 2044             |               |                  |                  |               |                  |                  |               |

$\text{OD} \times L(\text{mm})$   
 Impedance ( $20^{\circ}\text{C}$  /  $100\text{kHz}$ )  
 Rated Ripple Current ( $+105^{\circ}\text{C}$ ,  $100\text{kHz}$ )

## DIMENSIONS

| $C_R(\mu\text{F})$ | $U_R$ | Item<br>Code | 200V(2D)                          |                           |         | 250V(2E)                          |                           |         | 400V(2G)                          |                           |        |
|--------------------|-------|--------------|-----------------------------------|---------------------------|---------|-----------------------------------|---------------------------|---------|-----------------------------------|---------------------------|--------|
|                    |       |              | case size<br>$\text{ØD} \times L$ | Impedance                 | Ripple  | case size<br>$\text{ØD} \times L$ | Impedance                 | Ripple  | case size<br>$\text{ØD} \times L$ | Impedance                 | Ripple |
|                    |       |              |                                   | ( $\Omega_{\text{max}}$ ) | mArms   |                                   | ( $\Omega_{\text{max}}$ ) | mArms   |                                   | ( $\Omega_{\text{max}}$ ) | mArms  |
| 2.2                | 2R2   |              |                                   |                           |         |                                   |                           |         |                                   |                           |        |
| 3.3                | 3R3   |              |                                   |                           |         |                                   |                           |         | 10x20                             | 5.460                     | 171    |
| 4.7                | 4R7   |              |                                   |                           | 10x16   | 6.285                             | 145                       | 10x25   | 4.485                             | 193                       |        |
| 10                 | 100   | 10x16        | 2.925                             | 219                       | 10x20   | 5.200                             | 202                       | 12.5x25 | 2.340                             | 316                       |        |
| 22                 | 220   | 10x20        | 1.950                             | 307                       | 12.5x25 | 2.340                             | 316                       | 16x25   | 1.586                             | 500                       |        |
| 33                 | 330   | 12.5x20      | 1.391                             | 386                       | 12.5x25 | 2.340                             | 316                       | 16x30   | 0.897                             | 614                       |        |
| 47                 | 470   | 12.5X25      | 0.897                             | 526                       | 16x25   | 1.105                             | 500                       | 18x30   | 0.650                             | 754                       |        |
| 100                | 101   | 16x30        | 0.468                             | 1017                      | 18x35   | 0.585                             | 820                       |         |                                   |                           |        |
| 220                | 221   | 18x35        | 0.234                             | 1202                      | 18x40   | 0.520                             | 877                       |         |                                   |                           |        |

| $C_R(\mu\text{F})$ | $U_R$ | Item<br>Code | 450V(2W)                          |                           |        |  |  |  |  |  |  |
|--------------------|-------|--------------|-----------------------------------|---------------------------|--------|--|--|--|--|--|--|
|                    |       |              | case size<br>$\text{ØD} \times L$ | Impedance                 | Ripple |  |  |  |  |  |  |
|                    |       |              |                                   | ( $\Omega_{\text{max}}$ ) | mArms  |  |  |  |  |  |  |
| 2.2                | 2R2   |              | 10x16                             | 10.270                    | 96     |  |  |  |  |  |  |
| 3.3                | 3R3   |              | 10x20                             | 8.060                     | 118    |  |  |  |  |  |  |
| 4.7                | 4R7   |              | 12.5x20                           | 4.810                     | 158    |  |  |  |  |  |  |
| 10                 | 100   |              | 12.5x25                           | 3.380                     | 228    |  |  |  |  |  |  |
| 22                 | 220   |              | 16x30                             | 1.300                     | 421    |  |  |  |  |  |  |
| 33                 | 330   |              | 18x35                             | 0.806                     | 579    |  |  |  |  |  |  |