

TS-UP Series 85°C, 3000 hours*

- Compact size for general purpose and industrial applications
- 2 and 3 pin versions available
- 20mm lengths for low profile applications



| | | |
|---|---|---|
| Rated Working Voltage: | 16 ~ 250 VDC | 350 ~ 500 VDC |
| Operating Temperature: | -40 ~ +85°C | -25 ~ +85°C |
| Nominal Capacitance: | 120 ~ 82000µF (±20% tolerance) | 33 ~ 1000µF (±20% tolerance) |
| Dissipation Factor: (120 Hz, +20°C) | Working Voltage [V]: | 16 25 35 50 63 80 100 160 ~ 500 |
| | Max. D.F. (%): | 50 40 35 30 25 20 20 15 |
| For capacitance values > 33000µF, add the value of: $\frac{\text{rated cap. } [\mu\text{F}] - 33000}{1000}$ | | |
| Leakage Current: | $3\sqrt{CV}$ (µA) max. after 5 minutes; C = Capacitance in µF, V = WV | |
| Ripple Current Multipliers: | Frequency(Hz): | 50 60 100-120 500 1k 10k- |
| | 16-100WV: 160-500WV: | 0.93 0.95 1.0 1.05 1.08 1.15 0.75 0.8 1.0 1.2 1.25 1.4 |
| Ripple Current Ambient Temperature Factors** Temperature (°C): 85°C 70°C 60°C ≤45°C Multiplier: 1.0 1.3 1.4 1.5 | | |
| Endurance: | 3000 hours at +85°C with maximum specified ripple current (see page 6) *2000 hours for 20mm length sizes | |

**Use of temperature ripple current multipliers may limit life to the hours specified for the maximum operating temperature.

Part Number System

| | | | | | | | | | | | |
|--|----------|--|--|--------------|----------|--------|--|------------------|--|------------------------------|--|
| E | C | | | | P | | | | | | |
| Common Code / Terminal Type | | | | Voltage Code | | Series | | Capacitance Code | | Case Diameter | |
| ECOS 2 pin, 6.3mm Length Terminal (Standard) | | | | | | | | | | Insulation Options | |
| ECEC 2 pin, 4.0mm Length "Short" Terminal | | | | | | | | | | 25 ~ 50mm lengths | |
| ECE3 3 Pin, 4.0mm Length Terminal | | | | | | | | | | A PVC with top plate | |
| (Please see page 10 for details) | | | | | | | | | | B PVC without top plate | |
| | | | | | | | | | | 20mm length | |
| | | | | | | | | | | L PVC with top plate | |
| | | | | | | | | | | G PVC without top plate | |
| | | | | | | | | | | Extended Capacitance Ratings | |
| | | | | | | | | | | X PVC with top plate | |

TS-UP Standard Ratings (part numbers shown with 2 pins, 6.3mm length terminal, and top vinyl plate)

| Cap. (µF) | Size (mm) D x L | Max 85°C R.C. (A _{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number |
|---|-----------------|-----------------------------------|--------|-------------------|-------|-----------------------|
| | | 120Hz | 10kHz~ | 120Hz | 20kHz | |
| 16 VDC Working, 20 VDC Surge | | | | | | |
| 4700 | 22 x 20 | 1.60 | 1.84 | 0.159 | 0.135 | ECOS1CP472BL |
| | 22 x 25 | 1.77 | 2.04 | 0.159 | 0.135 | ECOS1CP472BA |
| 6800 | 22 x 25 | 2.57 | 2.96 | 0.110 | 0.093 | ECOS1CP682BA |
| | 25 x 20 | 1.80 | 2.07 | 0.110 | 0.093 | ECOS1CP682CL |
| 8200 | 22 x 25 | 3.10 | 3.57 | 0.091 | 0.077 | ECOS1CP822BA |
| 10000 | 22 x 30 | 3.78 | 4.35 | 0.075 | 0.063 | ECOS1CP103BA |
| | 25 x 25 | 3.78 | 4.35 | 0.075 | 0.063 | ECOS1CP103CA |
| | 30 x 20 | 2.40 | 2.76 | 0.083 | 0.070 | ECOS1CP103DL |
| 12000 | 22 x 30 | 4.52 | 5.20 | 0.062 | 0.053 | ECOS1CP123BA |
| | 25 x 25 | 4.52 | 5.20 | 0.062 | 0.053 | ECOS1CP123CA |
| 15000 | 22 x 35 | 5.26 | 6.05 | 0.053 | 0.045 | ECOS1CP153BA |
| | 25 x 30 | 5.26 | 6.05 | 0.053 | 0.045 | ECOS1CP153CA |
| | 35 x 20 | 3.20 | 3.68 | 0.055 | 0.047 | ECOS1CP153EL |
| 18000 | 22 x 40 | 5.57 | 6.41 | 0.046 | 0.039 | ECOS1CP183BA |
| | 25 x 30 | 5.57 | 6.41 | 0.046 | 0.039 | ECOS1CP183CA |
| 22000 | 22 x 45 | 6.10 | 7.02 | 0.038 | 0.032 | ECOS1CP223BA |
| | 25 x 35 | 6.10 | 7.02 | 0.038 | 0.032 | ECOS1CP223CA |
| | 30 x 30 | 6.10 | 7.02 | 0.038 | 0.032 | ECOS1CP223DA |
| 27000 | 25 x 45 | 6.31 | 7.26 | 0.031 | 0.026 | ECOS1CP273CA |
| | 30 x 35 | 6.31 | 7.26 | 0.031 | 0.026 | ECOS1CP273DA |
| 33000 | 25 x 50 | 6.84 | 7.87 | 0.025 | 0.021 | ECOS1CP333CA |
| | 30 x 40 | 6.84 | 7.87 | 0.025 | 0.021 | ECOS1CP333DA |
| | 35 x 30 | 6.84 | 7.87 | 0.025 | 0.021 | ECOS1CP333EA |
| 39000 | 30 x 45 | 6.94 | 7.98 | 0.021 | 0.018 | ECOS1CP393DA |
| | 35 x 35 | 6.94 | 7.98 | 0.021 | 0.018 | ECOS1CP393EA |
| 47000 | 30 x 50 | 7.47 | 8.59 | 0.019 | 0.017 | ECOS1CP473DA |
| | 35 x 40 | 7.47 | 8.59 | 0.021 | 0.019 | ECOS1CP473EA |
| 56000 | 35 x 45 | 8.73 | 10.04 | 0.019 | 0.018 | ECOS1CP563EA |
| 68000 | 35 x 50 | 9.05 | 10.41 | 0.018 | 0.017 | ECOS1CP683EA |
| 25 VDC Working, 32 VDC Surge | | | | | | |
| 3300 | 22 x 20 | 1.60 | 1.84 | 0.176 | 0.141 | ECOS1EP332BL |
| | 22 x 25 | 1.68 | 1.93 | 0.161 | 0.129 | ECOS1EP332BA |
| 4700 | 22 x 25 | 2.39 | 2.75 | 0.113 | 0.090 | ECOS1EP472BA |
| | 25 x 20 | 1.80 | 2.07 | 0.123 | 0.099 | ECOS1EP472CL |
| 5600 | 22 x 25 | 2.86 | 3.29 | 0.095 | 0.076 | ECOS1EP562BA |
| 25 VDC Working, 32 VDC Surge (continued) | | | | | | |
| 6800 | 22 x 30 | 3.47 | 3.99 | 0.078 | 0.062 | ECOS1EP682BA |
| | 25 x 25 | 3.47 | 3.99 | 0.078 | 0.062 | ECOS1EP682CA |
| | 30 x 20 | 2.30 | 2.65 | 0.078 | 0.062 | ECOS1EP682DL |
| 8200 | 22 x 30 | 3.57 | 4.11 | 0.065 | 0.052 | ECOS1EP822BA |
| | 25 x 25 | 3.57 | 4.11 | 0.065 | 0.052 | ECOS1EP822CA |
| 10000 | 22 x 35 | 3.78 | 4.35 | 0.058 | 0.046 | ECOS1EP103BA |
| | 25 x 30 | 3.78 | 4.35 | 0.058 | 0.046 | ECOS1EP103CA |
| | 30 x 25 | 3.78 | 4.35 | 0.058 | 0.046 | ECOS1EP103DA |
| | 35 x 20 | 2.70 | 3.11 | 0.061 | 0.049 | ECOS1EP103EL |
| 12000 | 22 x 40 | 4.10 | 4.72 | 0.048 | 0.039 | ECOS1EP123BA |
| | 25 x 35 | 4.10 | 4.72 | 0.048 | 0.039 | ECOS1EP123CA |
| | 30 x 30 | 4.10 | 4.72 | 0.048 | 0.039 | ECOS1EP123DA |
| 15000 | 22 x 50 | 4.63 | 5.32 | 0.039 | 0.031 | ECOS1EP153BA |
| | 25 x 40 | 4.63 | 5.32 | 0.039 | 0.031 | ECOS1EP153CA |
| | 30 x 30 | 4.63 | 5.32 | 0.039 | 0.031 | ECOS1EP153DA |
| 18000 | 25 x 45 | 5.47 | 6.29 | 0.035 | 0.028 | ECOS1EP183CA |
| | 30 x 35 | 5.47 | 6.29 | 0.035 | 0.028 | ECOS1EP183DA |
| 22000 | 25 x 50 | 6.10 | 7.02 | 0.029 | 0.023 | ECOS1EP223CA |
| | 30 x 40 | 6.10 | 7.02 | 0.029 | 0.023 | ECOS1EP223DA |
| 27000 | 30 x 45 | 6.21 | 7.14 | 0.023 | 0.019 | ECOS1EP273DA |
| | 35 x 35 | 6.21 | 7.14 | 0.025 | 0.020 | ECOS1EP273EA |
| 33000 | 30 x 50 | 6.84 | 7.87 | 0.020 | 0.017 | ECOS1EP333DA |
| | 35 x 40 | 6.84 | 7.87 | 0.020 | 0.017 | ECOS1EP333EA |
| 39000 | 35 x 45 | 7.36 | 8.46 | 0.019 | 0.017 | ECOS1EP393EA |
| 47000 | 35 x 50 | 8.00 | 9.20 | 0.017 | 0.015 | ECOS1EP473EA |
| 35 VDC Working, 44 VDC Surge | | | | | | |
| 2200 | 22 x 20 | 1.40 | 1.61 | 0.181 | 0.136 | ECOS1VP222BL |
| | 22 x 25 | 1.52 | 1.75 | 0.166 | 0.124 | ECOS1VP222BA |
| 3300 | 22 x 25 | 2.29 | 2.63 | 0.111 | 0.083 | ECOS1VP332BA |
| | 25 x 20 | 1.70 | 1.96 | 0.121 | 0.090 | ECOS1VP332CL |
| 3900 | 22 x 25 | 2.71 | 3.12 | 0.094 | 0.070 | ECOS1VP392BA |
| 4700 | 22 x 30 | 3.26 | 3.75 | 0.078 | 0.058 | ECOS1VP472BA |
| | 25 x 25 | 3.26 | 3.75 | 0.078 | 0.058 | ECOS1VP472CA |
| | 30 x 20 | 2.00 | 2.30 | 0.088 | 0.066 | ECOS1VP472DL |
| 5600 | 22 x 30 | 3.36 | 3.86 | 0.080 | 0.060 | ECOS1VP562BA |

Design and specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact us immediately for technical consultation.

TS-UP Standard Ratings (continued)

| Cap. (μ F) | Size (mm) D x L | Max 85°C R.C. (A_{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number | Cap. (μ F) | Size (mm) D x L | Max 85°C R.C. (A_{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number |
|---|--------------------|-----------------------------|--------|----------------------------|--------------|--------------------------|---|---------------------------------------|-----------------------------|---------|----------------------------|--------------|--------------------------|
| | | 120Hz | 10kHz- | 120Hz | 20kHz | | | | 120Hz | 10kHz- | 120Hz | 20kHz | |
| 35 VDC Working, 44 VDC Surge (continued) | | | | | | | 63 VDC Working, 79 VDC Surge (continued) | | | | | | |
| 5600 | 25 x 25 | 3.36 | 3.86 | 0.080 | 0.060 | ECOS1VP562CA | 4700 | 35 x 25 | 4.86 | 5.59 | 0.081 | 0.061 | ECOS1JP472EA |
| 6800 | 22 x 35 | 3.68 | 4.23 | 0.066 | 0.049 | ECOS1VP682BA | 5600 | 25 x 45 | 5.36 | 6.16 | 0.068 | 0.051 | ECOS1JP562CA |
| | 25 x 30 | 3.68 | 4.23 | 0.066 | 0.049 | ECOS1VP682CA | | 30 x 35 | 5.36 | 6.16 | 0.068 | 0.051 | ECOS1JP562DA |
| | 35 x 20 | 2.40 | 2.76 | 0.071 | 0.053 | ECOS1VP682EL | | 35 x 30 | 5.36 | 6.16 | 0.068 | 0.051 | ECOS1JP562EA |
| 8200 | 22 x 40 | 4.00 | 4.60 | 0.057 | 0.042 | ECOS1VP822BA | 6800 | 25 x 50 | 5.84 | 6.72 | 0.061 | 0.046 | ECOS1JP682CA |
| | 25 x 35 | 4.00 | 4.60 | 0.057 | 0.042 | ECOS1VP822CA | | 30 x 40 | 5.84 | 6.72 | 0.061 | 0.046 | ECOS1JP682DA |
| 10000 | 22 x 45 | 4.42 | 5.08 | 0.050 | 0.037 | ECOS1VP103BA | | 35 x 30 | 5.84 | 6.72 | 0.061 | 0.046 | ECOS1JP682EA |
| | 25 x 40 | 4.42 | 5.08 | 0.050 | 0.037 | ECOS1VP103CA | 8200 | 30 x 45 | 6.00 | 6.90 | 0.051 | 0.038 | ECOS1JP822DA |
| | 30 x 30 | 4.42 | 5.08 | 0.050 | 0.037 | ECOS1VP103DA | | 35 x 35 | 6.00 | 6.90 | 0.051 | 0.038 | ECOS1JP822EA |
| 12000 | 35 x 25 | 4.42 | 5.08 | 0.050 | 0.037 | ECOS1VP103EA | 10000 | 35 x 40 | 6.52 | 7.50 | 0.041 | 0.033 | ECOS1JP103EA |
| | 25 x 45 | 5.05 | 5.81 | 0.044 | 0.033 | ECOS1VP123CA | | 12000 | 35 x 50 | 7.15 | 8.22 | 0.035 | 0.028 |
| | 30 x 35 | 5.05 | 5.81 | 0.044 | 0.033 | ECOS1VP123DA | 80 VDC Working, 100 VDC Surge | | | | | | |
| 15000 | 35 x 30 | 5.05 | 5.81 | 0.044 | 0.033 | ECOS1VP123EA | 680 | 22 x 20 | 1.00 | 1.15 | 0.439 | 0.329 | ECOS1KP681BL |
| | 25 x 50 | 5.57 | 6.41 | 0.036 | 0.027 | ECOS1VP153CA | | 22 x 25 | 1.02 | 1.17 | 0.390 | 0.293 | ECOS1KP681BA |
| | 30 x 40 | 5.57 | 6.41 | 0.036 | 0.027 | ECOS1VP153DA | 1000 | 22 x 25 | 1.51 | 1.74 | 0.265 | 0.199 | ECOS1KP102BA |
| 35 x 30 | 5.57 | 6.41 | 0.036 | 0.027 | ECOS1VP153EA | 25 x 20 | | 1.20 | 1.38 | 0.298 | 0.224 | ECOS1KP102CL | |
| 18000 | 30 x 45 | 5.68 | 6.53 | 0.030 | 0.023 | ECOS1VP183DA | 1200 | 22 x 25 | 1.81 | 2.08 | 0.221 | 0.166 | ECOS1KP122BA |
| | 35 x 35 | 5.68 | 6.53 | 0.030 | 0.023 | ECOS1VP183EA | | 1500 | 22 x 30 | 2.26 | 2.60 | 0.177 | 0.133 |
| 22000 | 30 x 50 | 6.10 | 7.02 | 0.026 | 0.020 | ECOS1VP223DA | 25 x 25 | | 2.26 | 2.60 | 0.177 | 0.133 | ECOS1KP152CA |
| | 35 x 40 | 6.10 | 7.02 | 0.026 | 0.020 | ECOS1VP223EA | 30 x 20 | 1.40 | 1.61 | 0.199 | 0.149 | ECOS1KP152DL | |
| 27000 | 35 x 45 | 6.84 | 7.87 | 0.021 | 0.017 | ECOS1VP273EA | 1800 | 22 x 35 | 2.52 | 2.90 | 0.147 | 0.111 | ECOS1KP182BA |
| 33000 | 35 x 50 | 7.15 | 8.22 | 0.018 | 0.014 | ECOS1VP333EA | | 25 x 30 | 2.52 | 2.90 | 0.147 | 0.111 | ECOS1KP182CA |
| 50 VDC Working, 63 VDC Surge | | | | | | | 2200 | 22 x 40 | 2.73 | 3.14 | 0.121 | 0.090 | ECOS1KP222BA |
| 1500 | 22 x 20 | 1.20 | 1.38 | 0.254 | 0.191 | ECOS1HP152BL | | 25 x 30 | 2.73 | 3.14 | 0.121 | 0.090 | ECOS1KP222CA |
| | 22 x 25 | 1.24 | 1.43 | 0.221 | 0.166 | ECOS1HP152BA | 30 x 25 | 2.73 | 3.14 | 0.121 | 0.090 | ECOS1KP222DA | |
| 2200 | 22 x 25 | 1.82 | 2.09 | 0.151 | 0.113 | ECOS1HP222BA | 35 x 20 | 1.70 | 1.96 | 0.136 | 0.102 | ECOS1KP222EL | |
| | 25 x 20 | 1.40 | 1.61 | 0.173 | 0.130 | ECOS1HP222CL | 2700 | 22 x 45 | 2.78 | 3.20 | 0.098 | 0.074 | ECOS1KP272BA |
| 2700 | 22 x 25 | 2.23 | 2.56 | 0.123 | 0.092 | ECOS1HP272BA | | 25 x 35 | 2.78 | 3.20 | 0.098 | 0.074 | ECOS1KP272CA |
| | 3300 | 22 x 30 | 2.73 | 3.14 | 0.100 | 0.075 | ECOS1HP332BA | 30 x 30 | 2.78 | 3.20 | 0.098 | 0.074 | ECOS1KP272DA |
| 25 x 25 | | 2.73 | 3.14 | 0.100 | 0.075 | ECOS1HP332CA | 3300 | 22 x 50 | 3.21 | 3.69 | 0.085 | 0.064 | ECOS1KP332BA |
| 30 x 20 | | 1.70 | 1.96 | 0.116 | 0.087 | ECOS1HP332DL | | 25 x 40 | 3.21 | 3.69 | 0.085 | 0.064 | ECOS1KP332CA |
| 3900 | 22 x 30 | 2.75 | 3.16 | 0.085 | 0.064 | ECOS1HP392BA | 30 x 30 | 3.21 | 3.69 | 0.085 | 0.064 | ECOS1KP332DA | |
| | 25 x 25 | 2.75 | 3.16 | 0.085 | 0.064 | ECOS1HP392CA | 3900 | 25 x 45 | 3.59 | 4.13 | 0.077 | 0.057 | ECOS1KP392CA |
| 4700 | 22 x 35 | 3.03 | 3.48 | 0.071 | 0.053 | ECOS1HP472BA | | 30 x 35 | 3.59 | 4.13 | 0.077 | 0.057 | ECOS1KP392DA |
| | 25 x 30 | 3.03 | 3.48 | 0.071 | 0.053 | ECOS1HP472CA | 4700 | 25 x 50 | 4.09 | 4.70 | 0.063 | 0.048 | ECOS1KP472CA |
| | 30 x 25 | 3.03 | 3.48 | 0.071 | 0.053 | ECOS1HP472DA | | 30 x 40 | 4.09 | 4.70 | 0.063 | 0.048 | ECOS1KP472DA |
| 5600 | 35 x 20 | 2.10 | 2.42 | 0.081 | 0.061 | ECOS1HP472EL | 5600 | 30 x 45 | 4.55 | 5.23 | 0.056 | 0.042 | ECOS1KP562DA |
| | 22 x 40 | 3.42 | 3.93 | 0.059 | 0.044 | ECOS1HP562BA | | 35 x 35 | 4.55 | 5.23 | 0.056 | 0.042 | ECOS1KP562EA |
| | 25 x 35 | 3.42 | 3.93 | 0.059 | 0.044 | ECOS1HP562CA | 6800 | 30 x 50 | 5.16 | 5.93 | 0.046 | 0.035 | ECOS1KP682DA |
| 30 x 30 | 3.42 | 3.93 | 0.059 | 0.044 | ECOS1HP562DA | 35 x 40 | | 5.16 | 5.93 | 0.046 | 0.035 | ECOS1KP682EA | |
| 6800 | 22 x 50 | 3.85 | 4.43 | 0.049 | 0.037 | ECOS1HP682BA | 8200 | 35 x 50 | 5.83 | 6.70 | 0.038 | 0.029 | ECOS1KP822EA |
| | 25 x 40 | 3.85 | 4.43 | 0.049 | 0.037 | ECOS1HP682CA | | 100 VDC Working, 125 VDC Surge | | | | | |
| | 30 x 30 | 3.85 | 4.43 | 0.049 | 0.037 | ECOS1HP682DA | 470 | 22 x 20 | 1.00 | 1.15 | 0.459 | 0.298 | ECOS2AP471BL |
| 8200 | 25 x 45 | 4.41 | 5.07 | 0.040 | 0.030 | ECOS1HP822CA | | 22 x 25 | 1.11 | 1.28 | 0.459 | 0.298 | ECOS2AP471BA |
| | 30 x 35 | 4.41 | 5.07 | 0.040 | 0.030 | ECOS1HP822DA | 560 | 22 x 25 | 1.32 | 1.52 | 0.385 | 0.250 | ECOS2AP561BA |
| | 10000 | 25 x 50 | 4.97 | 5.72 | 0.036 | 0.027 | | ECOS1HP103CA | 680 | 22 x 25 | 1.61 | 1.85 | 0.317 |
| 12000 | 30 x 40 | 4.97 | 5.72 | 0.036 | 0.027 | ECOS1HP103DA | 25 x 20 | 1.10 | | 1.27 | 0.366 | 0.238 | ECOS2AP681CL |
| | 35 x 30 | 4.97 | 5.72 | 0.036 | 0.027 | ECOS1HP103EA | 1000 | 22 x 30 | 1.96 | 2.25 | 0.216 | 0.140 | ECOS2AP102BA |
| | 15000 | 30 x 45 | 5.58 | 6.42 | 0.032 | 0.024 | | ECOS1HP123DA | 25 x 25 | 1.96 | 2.25 | 0.216 | 0.140 |
| 18000 | 35 x 35 | 5.58 | 6.42 | 0.032 | 0.024 | ECOS1HP123EA | 30 x 20 | 1.20 | 1.38 | 0.249 | 0.162 | ECOS2AP102DL | |
| | 22000 | 35 x 50 | 7.57 | 8.71 | 0.021 | 0.017 | ECOS1HP223EA | 1200 | 22 x 35 | 2.31 | 2.66 | 0.193 | 0.126 |
| 63 VDC Working, 79 VDC Surge | | | | | | | 1500 | | 25 x 30 | 2.31 | 2.66 | 0.180 | 0.117 |
| 1000 | 22 x 20 | 1.20 | 1.38 | 0.381 | 0.286 | ECOS1JP102BL | | 22 x 40 | 2.57 | 2.96 | 0.155 | 0.101 | ECOS2AP152BA |
| | 22 x 25 | 1.20 | 1.38 | 0.332 | 0.249 | ECOS1JP102BA | 25 x 30 | 2.57 | 2.96 | 0.155 | 0.101 | ECOS2AP152CA | |
| 1500 | 22 x 25 | 1.72 | 1.98 | 0.221 | 0.166 | ECOS1JP152BA | 30 x 25 | 2.57 | 2.96 | 0.155 | 0.101 | ECOS2AP152DA | |
| | 25 x 20 | 1.30 | 1.50 | 0.254 | 0.191 | ECOS1JP152CL | 35 x 20 | 1.50 | 1.73 | 0.177 | 0.115 | ECOS2AP152EL | |
| 1800 | 22 x 25 | 2.06 | 2.37 | 0.184 | 0.138 | ECOS1JP182BA | 1800 | 22 x 45 | 2.84 | 3.27 | 0.129 | 0.084 | ECOS2AP182BA |
| 2200 | 22 x 30 | 2.52 | 2.90 | 0.151 | 0.113 | ECOS1JP222BA | | 25 x 35 | 2.84 | 3.27 | 0.138 | 0.090 | ECOS2AP182CA |
| | 25 x 25 | 2.52 | 2.90 | 0.151 | 0.113 | ECOS1JP222CA | 30 x 30 | 2.84 | 3.27 | 0.138 | 0.090 | ECOS2AP182DA | |
| 2700 | 30 x 20 | 1.50 | 1.73 | 0.173 | 0.130 | ECOS1JP222DL | 2200 | 22 x 50 | 3.14 | 3.61 | 0.121 | 0.078 | ECOS2AP222BA |
| | 22 x 35 | 3.73 | 4.29 | 0.123 | 0.092 | ECOS1JP272BA | | 25 x 40 | 3.14 | 3.61 | 0.121 | 0.078 | ECOS2AP222CA |
| | 25 x 30 | 3.73 | 4.29 | 0.123 | 0.092 | ECOS1JP272CA | 30 x 30 | 3.14 | 3.61 | 0.121 | 0.078 | ECOS2AP222DA | |
| 3300 | 22 x 40 | 4.10 | 4.72 | 0.105 | 0.079 | ECOS1JP332BA | 35 x 25 | 3.14 | 3.61 | 0.121 | 0.078 | ECOS2AP222EA | |
| | 25 x 30 | 4.10 | 4.72 | 0.105 | 0.079 | ECOS1JP332CA | 2700 | 25 x 45 | 3.71 | 4.27 | 0.104 | 0.068 | ECOS2AP272CA |
| | 30 x 25 | 4.10 | 4.72 | 0.105 | 0.079 | ECOS1JP332DA | | 30 x 35 | 3.71 | 4.27 | 0.104 | 0.068 | ECOS2AP272DA |
| 3900 | 35 x 20 | 1.70 | 1.96 | 0.126 | 0.094 | ECOS1JP332EL | 35 x 30 | 3.71 | 4.27 | 0.104 | 0.068 | ECOS2AP272EA | |
| | 22 x 45 | 4.44 | 5.11 | 0.098 | 0.073 | ECOS1JP392BA | 3300 | 25 x 50 | 4.06 | 4.67 | 0.090 | 0.059 | ECOS2AP332CA |
| | 25 x 35 | 4.44 | 5.11 | 0.098 | 0.073 | ECOS1JP392CA | | 30 x 40 | 4.06 | 4.67 | 0.090 | 0.059 | ECOS2AP332DA |
| 4700 | 30 x 30 | 4.44 | 5.11 | 0.098 | 0.073 | ECOS1JP392DA | 3900 | 30 x 45 | 4.54 | 5.22 | 0.077 | 0.050 | ECOS2AP392DA |
| | 22 x 50 | 4.86 | 5.59 | 0.081 | 0.061 | ECOS1JP472BA | | 35 x 35 | 4.54 | 5.22 | 0.081 | 0.052 | ECOS2AP392EA |
| | 25 x 40 | 4.86 | 5.59 | 0.081 | 0.061 | ECOS1JP472CA | 4700 | 30 x 50 | 5.13 | 5.90 | 0.071 | 0.049 | ECOS2AP472DA |
| 30 x 30 | 4.86 | 5.59 | 0.081 | 0.061 | ECOS1JP472DA | 35 x 40 | | 5.13 | 5.90 | 0.071 | 0.049 | ECOS2AP472EA | |
| 5600 | 25 x 45 | 5.36 | 6.16 | 0.068 | 0.051 | ECOS1JP562CA | 6800 | 35 x 45 | 5.75 | 6.61 | 0.059 | 0.041 | ECOS2AP562EA |
| | 35 x 50 | 6.60 | 7.59 | 0.049 | 0.037 | ECOS1JP682EA | | 35 x 50 | 6.60 | 7.59 | 0.049 | 0.037 | ECOS2AP682EA |

Design and specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact us immediately for technical consultation.

TS-UP Standard Ratings (continued)

| Cap. (μ F) | Size (mm) D x L | Max 85°C R.C. (A_{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number |
|---------------------------------------|--------------------|-----------------------------|--------|----------------------------|-------|--------------------------|
| | | 120Hz | 10kHz- | 120Hz | 20kHz | |
| 160 VDC Working, 200 VDC Surge | | | | | | |
| 220 | 22 x 20 | 0.75 | 1.05 | 0.980 | 0.490 | ECOS2CP221BL |
| | 22 x 25 | 0.91 | 1.27 | 0.829 | 0.414 | ECOS2CP221BA |
| 270 | 22 x 25 | 1.19 | 1.67 | 0.675 | 0.338 | ECOS2CP271BA |
| | 25 x 20 | 0.87 | 1.22 | 0.798 | 0.399 | ECOS2CP271CL |
| 330 | 22 x 25 | 1.45 | 2.03 | 0.553 | 0.276 | ECOS2CP331BA |
| 390 | 22 x 25 | 1.62 | 2.27 | 0.468 | 0.234 | ECOS2CP391BX |
| | 25 x 25 | 1.62 | 2.27 | 0.468 | 0.234 | ECOS2CP391CA |
| | 30 x 20 | 1.10 | 1.54 | 0.595 | 0.298 | ECOS2CP391DL |
| 470 | 22 x 30 | 2.11 | 2.95 | 0.423 | 0.212 | ECOS2CP471BA |
| | 25 x 25 | 2.11 | 2.95 | 0.423 | 0.212 | ECOS2CP471CA |
| 560 | 22 x 30 | 2.25 | 3.15 | 0.355 | 0.178 | ECOS2CP561BX |
| | 22 x 35 | 2.25 | 3.15 | 0.355 | 0.178 | ECOS2CP561BA |
| | 25 x 25 | 2.25 | 3.15 | 0.355 | 0.178 | ECOS2CP561CX |
| | 25 x 30 | 2.25 | 3.15 | 0.355 | 0.178 | ECOS2CP561CA |
| | 35 x 20 | 1.30 | 1.82 | 0.414 | 0.207 | ECOS2CP561EL |
| 680 | 22 x 35 | 2.50 | 3.50 | 0.293 | 0.146 | ECOS2CP681BX |
| | 22 x 40 | 2.50 | 3.50 | 0.293 | 0.146 | ECOS2CP681BA |
| | 25 x 30 | 2.50 | 3.50 | 0.293 | 0.146 | ECOS2CP681CX |
| | 30 x 25 | 2.50 | 3.50 | 0.293 | 0.146 | ECOS2CP681DA |
| 820 | 22 x 40 | 2.50 | 3.50 | 0.243 | 0.121 | ECOS2CP821BX |
| | 22 x 45 | 2.75 | 3.85 | 0.263 | 0.131 | ECOS2CP821BA |
| | 25 x 35 | 2.75 | 3.85 | 0.263 | 0.131 | ECOS2CP821CA |
| | 30 x 25 | 2.75 | 3.85 | 0.263 | 0.131 | ECOS2CP821DX |
| 1000 | 30 x 30 | 2.75 | 3.85 | 0.263 | 0.131 | ECOS2CP821DA |
| | 22 x 45 | 3.00 | 4.20 | 0.216 | 0.108 | ECOS2CP102BX |
| | 25 x 40 | 3.00 | 4.20 | 0.216 | 0.108 | ECOS2CP102CX |
| | 25 x 45 | 3.00 | 4.20 | 0.232 | 0.128 | ECOS2CP102CA |
| 1200 | 30 x 30 | 3.00 | 4.20 | 0.232 | 0.128 | ECOS2CP102DX |
| | 30 x 35 | 3.00 | 4.20 | 0.232 | 0.128 | ECOS2CP102DA |
| | 35 x 30 | 3.00 | 4.20 | 0.232 | 0.128 | ECOS2CP102EA |
| | 25 x 50 | 3.25 | 4.55 | 0.207 | 0.114 | ECOS2CP122CA |
| 1500 | 30 x 35 | 3.25 | 4.55 | 0.207 | 0.114 | ECOS2CP122DA |
| | 35 x 30 | 3.25 | 4.55 | 0.207 | 0.114 | ECOS2CP122EA |
| | 25 x 50 | 3.73 | 5.22 | 0.166 | 0.091 | ECOS2CP152CX |
| | 30 x 45 | 3.73 | 5.22 | 0.166 | 0.091 | ECOS2CP152DA |
| 1800 | 35 x 30 | 3.73 | 5.22 | 0.166 | 0.091 | ECOS2CP152EA |
| | 35 x 35 | 3.73 | 5.22 | 0.166 | 0.091 | ECOS2CP152EX |
| | 30 x 50 | 4.20 | 5.88 | 0.138 | 0.083 | ECOS2CP182DA |
| | 35 x 35 | 4.20 | 5.88 | 0.138 | 0.083 | ECOS2CP182EX |
| 2200 | 30 x 50 | 4.78 | 6.69 | 0.105 | 0.053 | ECOS2CP222DX |
| | 35 x 40 | 4.78 | 6.69 | 0.113 | 0.073 | ECOS2CP222EX |
| | 35 x 45 | 4.78 | 6.69 | 0.113 | 0.073 | ECOS2CP222EA |
| 2700 | 35 x 50 | 5.45 | 7.63 | 0.092 | 0.060 | ECOS2CP272EA |
| 200 VDC Working, 250 VDC Surge | | | | | | |
| 150 | 22 x 20 | 0.65 | 0.91 | 1.326 | 0.597 | ECOS2DP151BL |
| | 22 x 25 | 0.71 | 0.99 | 1.216 | 0.547 | ECOS2DP151BA |
| 220 | 22 x 25 | 1.04 | 1.46 | 0.829 | 0.373 | ECOS2DP221BA |
| | 25 x 20 | 0.87 | 1.22 | 0.904 | 0.407 | ECOS2DP221CL |
| 270 | 22 x 25 | 1.41 | 1.97 | 0.614 | 0.276 | ECOS2DP271BA |
| 330 | 22 x 25 | 1.56 | 2.18 | 0.553 | 0.249 | ECOS2DP331BX |
| | 30 x 20 | 1.00 | 1.40 | 0.603 | 0.271 | ECOS2DP331DL |
| 390 | 22 x 30 | 1.68 | 2.35 | 0.468 | 0.210 | ECOS2DP391BA |
| | 25 x 25 | 1.68 | 2.35 | 0.468 | 0.210 | ECOS2DP391CA |
| 470 | 22 x 35 | 1.85 | 2.59 | 0.388 | 0.175 | ECOS2DP471BA |
| | 25 x 30 | 1.85 | 2.59 | 0.388 | 0.175 | ECOS2DP471CA |
| | 35 x 20 | 1.30 | 1.82 | 0.459 | 0.206 | ECOS2DP471EL |
| 560 | 22 x 40 | 2.43 | 3.40 | 0.326 | 0.147 | ECOS2DP561BA |
| | 25 x 30 | 2.43 | 3.40 | 0.326 | 0.147 | ECOS2DP561CX |
| | 30 x 25 | 2.43 | 3.40 | 0.326 | 0.147 | ECOS2DP561DA |
| 680 | 22 x 45 | 2.68 | 3.75 | 0.268 | 0.121 | ECOS2DP681BA |
| | 25 x 35 | 2.68 | 3.75 | 0.268 | 0.121 | ECOS2DP681CA |
| | 30 x 30 | 2.68 | 3.75 | 0.268 | 0.121 | ECOS2DP681DA |
| 820 | 25 x 45 | 2.93 | 4.10 | 0.222 | 0.100 | ECOS2DP821BA |
| | 30 x 30 | 2.93 | 4.10 | 0.222 | 0.100 | ECOS2DP821DX |
| | 30 x 35 | 2.93 | 4.10 | 0.222 | 0.100 | ECOS2DP821EA |
| | 35 x 25 | 2.93 | 4.10 | 0.222 | 0.100 | ECOS2DP821EX |
| 1000 | 25 x 45 | 3.25 | 4.55 | 0.199 | 0.090 | ECOS2DP102CX |
| | 25 x 50 | 3.25 | 4.55 | 0.199 | 0.090 | ECOS2DP102CA |
| | 30 x 35 | 3.25 | 4.55 | 0.199 | 0.090 | ECOS2DP102DX |
| | 30 x 40 | 3.25 | 4.55 | 0.199 | 0.090 | ECOS2DP102DA |
| | 35 x 30 | 3.25 | 4.55 | 0.199 | 0.090 | ECOS2DP102EA |
| 1200 | 30 x 40 | 3.50 | 4.90 | 0.166 | 0.075 | ECOS2DP122DX |
| | 30 x 45 | 3.50 | 4.90 | 0.166 | 0.075 | ECOS2DP122DA |
| | 35 x 30 | 3.50 | 4.90 | 0.166 | 0.075 | ECOS2DP122EX |
| | 35 x 35 | 3.50 | 4.90 | 0.166 | 0.075 | ECOS2DP122EA |
| 250 VDC Working, 300 VDC Surge | | | | | | |
| 120 | 22 x 20 | 0.45 | 0.63 | 1.658 | 0.663 | ECOS2EP121BL |
| | 22 x 25 | 0.71 | 0.99 | 1.520 | 0.608 | ECOS2EP121BA |
| 150 | 22 x 25 | 0.89 | 1.25 | 1.216 | 0.486 | ECOS2EP151BA |
| | 25 x 20 | 0.65 | 0.91 | 1.326 | 0.531 | ECOS2EP151CL |
| 180 | 22 x 25 | 1.07 | 1.50 | 0.921 | 0.368 | ECOS2EP181BA |
| 220 | 22 x 25 | 1.17 | 1.64 | 0.754 | 0.301 | ECOS2EP221BX |
| | 30 x 20 | 0.87 | 1.22 | 0.829 | 0.332 | ECOS2EP221DL |
| 270 | 22 x 30 | 1.31 | 1.83 | 0.614 | 0.246 | ECOS2EP271BA |
| | 25 x 25 | 1.31 | 1.83 | 0.614 | 0.246 | ECOS2EP271CA |
| 330 | 22 x 35 | 1.75 | 2.45 | 0.553 | 0.221 | ECOS2EP331BA |
| | 25 x 30 | 1.75 | 2.45 | 0.502 | 0.201 | ECOS2EP331CA |
| | 35 x 20 | 1.10 | 1.54 | 0.553 | 0.221 | ECOS2EP331EL |
| 390 | 22 x 40 | 1.91 | 2.67 | 0.468 | 0.187 | ECOS2EP391BA |
| | 25 x 30 | 1.91 | 2.67 | 0.468 | 0.187 | ECOS2EP391CX |
| | 25 x 35 | 1.91 | 2.67 | 0.468 | 0.187 | ECOS2EP391CA |
| 470 | 30 x 25 | 1.91 | 2.67 | 0.425 | 0.170 | ECOS2EP391DA |
| | 22 x 45 | 2.11 | 2.95 | 0.388 | 0.155 | ECOS2EP471BA |
| | 25 x 35 | 2.11 | 2.95 | 0.388 | 0.155 | ECOS2EP471CX |
| | 25 x 40 | 2.11 | 2.95 | 0.388 | 0.155 | ECOS2EP471CA |
| 560 | 30 x 25 | 2.11 | 2.95 | 0.353 | 0.141 | ECOS2EP471DX |
| | 30 x 30 | 2.11 | 2.95 | 0.388 | 0.155 | ECOS2EP471DA |
| | 25 x 40 | 2.25 | 3.15 | 0.326 | 0.130 | ECOS2EP561CX |
| | 25 x 45 | 2.25 | 3.15 | 0.326 | 0.130 | ECOS2EP561CA |
| 680 | 30 x 30 | 2.25 | 3.15 | 0.326 | 0.130 | ECOS2EP561DX |
| | 30 x 35 | 2.25 | 3.15 | 0.326 | 0.130 | ECOS2EP561DA |
| | 35 x 25 | 2.25 | 3.15 | 0.326 | 0.130 | ECOS2EP561EA |
| | 25 x 45 | 2.50 | 3.50 | 0.268 | 0.107 | ECOS2EP681CX |
| 820 | 25 x 50 | 2.50 | 3.50 | 0.268 | 0.107 | ECOS2EP681CA |
| | 30 x 35 | 2.50 | 3.50 | 0.268 | 0.107 | ECOS2EP681DX |
| | 30 x 40 | 2.50 | 3.50 | 0.268 | 0.107 | ECOS2EP681DA |
| | 35 x 30 | 2.50 | 3.50 | 0.268 | 0.107 | ECOS2EP681EA |
| 1000 | 30 x 40 | 2.50 | 3.50 | 0.222 | 0.089 | ECOS2EP821DX |
| | 30 x 45 | 2.77 | 3.88 | 0.222 | 0.089 | ECOS2EP821DA |
| | 35 x 30 | 2.77 | 3.88 | 0.222 | 0.089 | ECOS2EP821EX |
| | 35 x 35 | 2.77 | 3.88 | 0.243 | 0.109 | ECOS2EP821EA |
| 1500 | 30 x 45 | 3.32 | 4.65 | 0.182 | 0.073 | ECOS2EP102DX |
| | 30 x 50 | 3.32 | 4.65 | 0.199 | 0.090 | ECOS2EP102DA |
| | 35 x 35 | 3.32 | 4.65 | 0.199 | 0.090 | ECOS2EP102EX |
| | 35 x 40 | 3.32 | 4.65 | 0.199 | 0.099 | ECOS2EP102EA |
| 1200 | 35 x 40 | 3.53 | 4.94 | 0.166 | 0.083 | ECOS2EP122EX |
| | 35 x 45 | 3.53 | 4.94 | 0.166 | 0.083 | ECOS2EP122EA |
| 1500 | 35 x 50 | 4.04 | 5.66 | 0.133 | 0.066 | ECOS2EP152EA |
| 350 VDC Working, 400 VDC Surge | | | | | | |
| 82 | 22 x 25 | 0.83 | 1.16 | 2.022 | 0.708 | ECOS2VP820BA |
| 100 | 22 x 30 | 0.91 | 1.27 | 1.658 | 0.580 | ECOS2VP101BA |
| 120 | 22 x 30 | 1.00 | 1.40 | 1.382 | 0.484 | ECOS2VP121BA |
| | 25 x 25 | 1.00 | 1.40 | 1.382 | 0.484 | ECOS2VP121CA |
| 150 | 22 x 35 | 1.12 | 1.57 | 1.105 | 0.387 | ECOS2VP151BA |
| | 25 x 25 | 1.12 | 1.57 | 1.105 | 0.387 | ECOS2VP151CX |
| | 25 x 30 | 1.12 | 1.57 | 1.105 | 0.387 | ECOS2VP151CA |
| 180 | 30 x 25 | 1.12 | 1.57 | 1.105 | 0.387 | ECOS2VP151DA |
| | 22 x 40 | 1.22 | 1.71 | 0.921 | 0.322 | ECOS2VP181BA |
| | 25 x 30 | 1.22 | 1.71 | 0.921 | 0.322 | ECOS2VP181CX |
| 220 | 25 x 35 | 1.22 | 1.71 | 0.921 | 0.322 | ECOS2VP181CA |
| | 30 x 25 | 1.22 | 1.71 | 0.921 | 0.322 | ECOS2VP181DA |
| | 22 x 45 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221BA |
| | 25 x 35 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221CX |
| 270 | 25 x 40 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221CA |
| | 30 x 25 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221DX |
| | 30 x 30 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221DA |
| | 35 x 25 | 1.44 | 2.02 | 0.754 | 0.264 | ECOS2VP221EA |
| 330 | 25 x 40 | 1.66 | 2.32 | 0.614 | 0.215 | ECOS2VP271CX |
| | 30 x 30 | 1.66 | 2.32 | 0.614 | 0.215 | ECOS2VP271DX |
| | 30 x 35 | 1.66 | 2.32 | 0.614 | 0.215 | ECOS2VP271DA |
| | 35 x 25 | 1.66 | 2.32 | 0.614 | 0.215 | ECOS2VP271EX |

Design and specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact us immediately for technical consultation.

TS-UP Standard Ratings (continued)

| Cap. (μ F) | Size (mm) D x L | Max. 85°C R.C. (A_{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number | Cap. (μ F) | Size (mm) D x L | Max. 85°C R.C. (A_{rms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number |
|---|--------------------|------------------------------|--------|----------------------------|--------------|--------------------------|---|--------------------|------------------------------|--------|----------------------------|--------------|--------------------------|
| | | 120Hz | 10kHz- | 120Hz | 20kHz | | | | 120Hz | 10kHz- | 120Hz | 20kHz | |
| 350 VDC Working, 400 VDC Surge (continued) | | | | | | | 400 VDC Working, 450 VDC Surge (continued) | | | | | | |
| 330 | 35 x 30 | 1.66 | 2.32 | 0.614 | 0.215 | ECOS2VP271EA | 150 | 30 x 25 | 1.16 | 1.62 | 1.105 | 0.387 | ECOS2GP151DA |
| | 25 x 50 | 1.88 | 2.63 | 0.502 | 0.176 | ECOS2VP331CA | | 35 x 20 | 0.60 | 0.84 | 1.326 | 0.464 | ECOS2GP151EL |
| | 30 x 35 | 1.88 | 2.63 | 0.502 | 0.176 | ECOS2VP331DX | 180 | 22 x 45 | 1.44 | 2.02 | 0.921 | 0.322 | ECOS2GP181BA |
| | 30 x 40 | 1.88 | 2.63 | 0.502 | 0.176 | ECOS2VP331DA | | 25 x 30 | 1.44 | 2.02 | 0.921 | 0.322 | ECOS2GP181CX |
| 390 | 35 x 30 | 1.88 | 2.63 | 0.502 | 0.176 | ECOS2VP331EA | 25 x 35 | 1.44 | 2.02 | 0.921 | 0.322 | ECOS2GP181CA | |
| | 25 x 50 | 2.06 | 2.88 | 0.425 | 0.149 | ECOS2VP391CX | 220 | 22 x 50 | 1.49 | 2.09 | 0.754 | 0.264 | ECOS2GP221BA |
| | 30 x 40 | 2.06 | 2.88 | 0.425 | 0.149 | ECOS2VP391DX | | 25 x 40 | 1.49 | 2.09 | 0.754 | 0.264 | ECOS2GP221CA |
| | 30 x 45 | 2.06 | 2.88 | 0.468 | 0.164 | ECOS2VP391DA | 30 x 30 | 1.49 | 2.09 | 0.754 | 0.264 | ECOS2GP221DA | |
| 470 | 35 x 30 | 2.06 | 2.88 | 0.425 | 0.149 | ECOS2VP391EX | 270 | 25 x 45 | 1.67 | 2.34 | 0.675 | 0.236 | ECOS2GP271CA |
| | 35 x 35 | 2.06 | 2.88 | 0.425 | 0.149 | ECOS2VP391EA | | 30 x 35 | 1.67 | 2.34 | 0.675 | 0.236 | ECOS2GP271DA |
| | 30 x 50 | 2.40 | 3.36 | 0.388 | 0.136 | ECOS2VP471DA | 35 x 30 | 1.67 | 2.34 | 0.675 | 0.236 | ECOS2GP271EA | |
| | 35 x 35 | 2.40 | 3.36 | 0.353 | 0.123 | ECOS2VP471EX | 330 | 30 x 40 | 1.90 | 2.66 | 0.553 | 0.193 | ECOS2GP331DA |
| 35 x 40 | 2.40 | 3.36 | 0.353 | 0.123 | ECOS2VP471EA | 35 x 30 | | 1.90 | 2.66 | 0.553 | 0.193 | ECOS2GP331EX | |
| 560 | 30 x 50 | 2.60 | 3.64 | 0.326 | 0.114 | ECOS2VP561DX | 35 x 35 | 1.90 | 2.66 | 0.553 | 0.193 | ECOS2GP331EA | |
| | 35 x 40 | 2.60 | 3.64 | 0.296 | 0.104 | ECOS2VP561EX | 390 | 30 x 45 | 2.13 | 2.98 | 0.468 | 0.164 | ECOS2GP391DA |
| | 35 x 45 | 2.60 | 3.64 | 0.296 | 0.104 | ECOS2VP561EA | | 35 x 35 | 2.13 | 2.98 | 0.468 | 0.164 | ECOS2GP391EX |
| 680 | 35 x 45 | 2.96 | 4.14 | 0.293 | 0.117 | ECOS2VP681EX | 35 x 40 | 2.13 | 2.98 | 0.468 | 0.164 | ECOS2GP391EA | |
| | 35 x 50 | 2.96 | 4.14 | 0.293 | 0.117 | ECOS2VP681EA | 470 | 35 x 40 | 2.39 | 3.35 | 0.388 | 0.136 | ECOS2GP471EX |
| 820 | 35 x 50 | 3.55 | 4.97 | 0.243 | 0.097 | ECOS2VP821EX | | 35 x 45 | 2.39 | 3.35 | 0.388 | 0.136 | ECOS2GP471EA |
| 385 VDC Working, 435 VDC Surge | | | | | | | 420 VDC Working, 470 VDC Surge | | | | | | |
| 47 | 22 x 20 | 0.25 | 0.35 | 4.233 | 1.481 | ECOS2TP470BL | 82 | 22 x 30 | 0.83 | 1.16 | 2.426 | 0.849 | ECOS2SP820BA |
| 68 | 22 x 25 | 0.76 | 1.06 | 2.438 | 0.853 | ECOS2TP680BA | | 22 x 30 | 0.92 | 1.29 | 1.989 | 0.696 | ECOS2SP101BA |
| | 25 x 20 | 0.35 | 0.49 | 2.926 | 1.024 | ECOS2TP680CL | 25 x 25 | 0.92 | 1.29 | 1.989 | 0.696 | ECOS2SP101CA | |
| 82 | 22 x 25 | 0.83 | 1.16 | 2.022 | 0.708 | ECOS2TP820BA | 120 | 22 x 35 | 1.02 | 1.43 | 1.658 | 0.580 | ECOS2SP121BA |
| 100 | 22 x 30 | 0.92 | 1.29 | 1.658 | 0.580 | ECOS2TP101BA | | 25 x 30 | 1.02 | 1.43 | 1.658 | 0.580 | ECOS2SP121CA |
| | 25 x 25 | 0.92 | 1.29 | 1.658 | 0.580 | ECOS2TP101CA | 150 | 22 x 40 | 1.16 | 1.62 | 1.326 | 0.464 | ECOS2SP151BA |
| 30 x 20 | 0.47 | 0.66 | 1.989 | 0.696 | ECOS2TP101DL | 25 x 30 | | 1.16 | 1.62 | 1.326 | 0.464 | ECOS2SP151CA | |
| 120 | 22 x 35 | 1.02 | 1.43 | 1.382 | 0.553 | ECOS2TP121BA | 30 x 25 | 1.16 | 1.62 | 1.326 | 0.464 | ECOS2SP151DA | |
| | 25 x 25 | 1.02 | 1.43 | 1.382 | 0.553 | ECOS2TP121CX | 180 | 22 x 45 | 1.44 | 2.02 | 1.105 | 0.387 | ECOS2SP181BA |
| | 25 x 30 | 1.02 | 1.43 | 1.382 | 0.553 | ECOS2TP121CA | | 25 x 35 | 1.44 | 2.02 | 1.105 | 0.387 | ECOS2SP181CA |
| | 22 x 40 | 1.16 | 1.62 | 1.105 | 0.442 | ECOS2TP151BX | 30 x 30 | 1.44 | 2.02 | 1.105 | 0.387 | ECOS2SP181DA | |
| 150 | 22 x 40 | 1.16 | 1.62 | 1.105 | 0.442 | ECOS2TP151BA | 220 | 25 x 45 | 1.49 | 2.09 | 0.904 | 0.316 | ECOS2SP221CA |
| | 25 x 30 | 1.16 | 1.62 | 1.105 | 0.442 | ECOS2TP151CA | | 30 x 30 | 1.49 | 2.09 | 0.904 | 0.316 | ECOS2SP221DA |
| | 30 x 25 | 1.16 | 1.62 | 1.105 | 0.442 | ECOS2TP151DA | 35 x 25 | 1.49 | 2.09 | 0.904 | 0.316 | ECOS2SP221EA | |
| | 35 x 20 | 0.60 | 0.84 | 1.326 | 0.531 | ECOS2TP151EL | 270 | 25 x 50 | 1.67 | 2.34 | 0.737 | 0.258 | ECOS2SP271CA |
| 180 | 22 x 40 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181BX | | 30 x 35 | 1.67 | 2.34 | 0.737 | 0.258 | ECOS2SP271DA |
| | 22 x 45 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181BA | 35 x 30 | 1.67 | 2.34 | 0.737 | 0.258 | ECOS2SP271EA | |
| | 25 x 30 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181CX | 330 | 30 x 45 | 1.90 | 2.66 | 0.603 | 0.211 | ECOS2SP331DA |
| | 25 x 35 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181CA | | 35 x 35 | 1.90 | 2.66 | 0.603 | 0.211 | ECOS2SP331EA |
| 30 x 25 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181DX | 390 | 30 x 50 | 2.13 | 2.98 | 0.510 | 0.179 | ECOS2SP391DA | |
| 30 x 30 | 1.44 | 2.02 | 0.921 | 0.368 | ECOS2TP181DA | | 35 x 40 | 2.13 | 2.98 | 0.510 | 0.179 | ECOS2SP391EA | |
| 220 | 22 x 45 | 1.49 | 2.09 | 0.829 | 0.373 | ECOS2TP221BX | 470 | 35 x 45 | 2.39 | 3.35 | 0.423 | 0.148 | ECOS2SP471EA |
| | 22 x 50 | 1.49 | 2.09 | 0.829 | 0.373 | ECOS2TP221BA | | 560 | 35 x 50 | 2.69 | 3.77 | 0.355 | 0.124 |
| | 25 x 40 | 1.49 | 2.09 | 0.829 | 0.373 | ECOS2TP221CA | 450 VDC Working, 500 VDC Surge | | | | | | |
| | 30 x 30 | 1.49 | 2.09 | 0.829 | 0.373 | ECOS2TP221DA | 33 | 22 x 20 | 0.20 | 0.28 | 6.028 | 2.411 | ECOS2WP330BL |
| 270 | 25 x 45 | 1.67 | 2.34 | 0.675 | 0.304 | ECOS2TP271CA | | 22 x 25 | 0.41 | 0.57 | 6.028 | 2.411 | ECOS2WP330BA |
| | 30 x 35 | 1.67 | 2.34 | 0.675 | 0.304 | ECOS2TP271DA | 47 | 22 x 25 | 0.59 | 0.83 | 4.233 | 1.693 | ECOS2WP470BA |
| | 35 x 25 | 1.67 | 2.34 | 0.675 | 0.304 | ECOS2TP271EX | | 25 x 20 | 0.29 | 0.41 | 4.233 | 1.693 | ECOS2WP470CL |
| | 35 x 30 | 1.67 | 2.34 | 0.675 | 0.304 | ECOS2TP271EA | 56 | 22 x 25 | 0.70 | 0.98 | 2.960 | 1.184 | ECOS2WP560BA |
| 330 | 25 x 50 | 1.90 | 2.66 | 0.553 | 0.249 | ECOS2TP331CX | 68 | 30 x 20 | 0.38 | 0.53 | 2.926 | 1.170 | ECOS2WP680DL |
| | 30 x 40 | 1.90 | 2.66 | 0.553 | 0.249 | ECOS2TP331DA | 82 | 22 x 30 | 0.83 | 1.16 | 2.022 | 0.809 | ECOS2WP820BA |
| | 35 x 30 | 1.90 | 2.66 | 0.553 | 0.249 | ECOS2TP331EX | | 25 x 25 | 0.83 | 1.16 | 2.022 | 0.809 | ECOS2WP820CA |
| | 35 x 35 | 1.90 | 2.66 | 0.553 | 0.249 | ECOS2TP331EA | 100 | 22 x 35 | 0.93 | 1.30 | 1.658 | 0.663 | ECOS2WP101BA |
| 390 | 30 x 45 | 2.13 | 2.98 | 0.468 | 0.210 | ECOS2TP391DA | 120 | 35 x 20 | 0.52 | 0.73 | 1.989 | 0.796 | ECOS2WP101EL |
| | 35 x 35 | 2.13 | 2.98 | 0.468 | 0.210 | ECOS2TP391EX | 150 | 22 x 40 | 1.04 | 1.46 | 1.382 | 0.553 | ECOS2WP121BA |
| | 35 x 40 | 2.13 | 2.98 | 0.468 | 0.210 | ECOS2TP391EA | | 25 x 30 | 1.04 | 1.46 | 1.382 | 0.553 | ECOS2WP121CA |
| 470 | 30 x 50 | 2.39 | 3.35 | 0.388 | 0.175 | ECOS2TP471DA | 30 x 25 | 1.04 | 1.46 | 1.382 | 0.553 | ECOS2WP121DA | |
| | 35 x 40 | 2.39 | 3.35 | 0.388 | 0.175 | ECOS2TP471EX | 180 | 22 x 50 | 1.19 | 1.67 | 1.105 | 0.442 | ECOS2WP151BA |
| | 35 x 45 | 2.39 | 3.35 | 0.388 | 0.175 | ECOS2TP471EA | | 25 x 40 | 1.19 | 1.67 | 1.105 | 0.442 | ECOS2WP151CA |
| 560 | 35 x 45 | 2.69 | 3.77 | 0.326 | 0.147 | ECOS2TP561EX | 30 x 30 | 1.19 | 1.67 | 1.105 | 0.442 | ECOS2WP151DA | |
| | 35 x 50 | 2.69 | 3.77 | 0.326 | 0.147 | ECOS2TP561EA | 220 | 25 x 40 | 1.35 | 1.89 | 0.921 | 0.368 | ECOS2WP181CX |
| 680 | 35 x 50 | 3.00 | 4.20 | 0.268 | 0.121 | ECOS2TP681EX | | 25 x 45 | 1.35 | 1.89 | 0.921 | 0.368 | ECOS2WP181CA |
| | 22 x 20 | 0.25 | 0.35 | 3.527 | 1.235 | ECOS2GP470BL | | 30 x 30 | 1.35 | 1.89 | 0.921 | 0.368 | ECOS2WP181DX |
| 47 | 22 x 25 | 0.47 | 0.66 | 3.527 | 1.235 | ECOS2GP470BA | | 30 x 35 | 1.35 | 1.89 | 0.921 | 0.368 | ECOS2WP181DA |
| 68 | 22 x 25 | 0.69 | 0.97 | 2.438 | 0.853 | ECOS2GP680BA | 35 x 25 | 1.35 | 1.89 | 0.921 | 0.368 | ECOS2WP181EA | |
| | 25 x 20 | 0.35 | 0.49 | 2.926 | 1.024 | ECOS2GP680CL | 270 | 25 x 45 | 1.55 | 2.17 | 0.754 | 0.301 | ECOS2WP221CX |
| 82 | 22 x 25 | 0.83 | 1.16 | 2.022 | 0.708 | ECOS2GP820BA | | 25 x 50 | 1.55 | 2.17 | 0.754 | 0.301 | ECOS2WP221CA |
| | 22 x 30 | 0.92 | 1.29 | 1.658 | 0.580 | ECOS2GP101BA | | 30 x 35 | 1.55 | 2.17 | 0.754 | 0.301 | ECOS2WP221DX |
| 100 | 25 x 25 | 0.92 | 1.29 | 1.658 | 0.580 | ECOS2GP101CA | | 30 x 40 | 1.55 | 2.17 | 0.754 | 0.301 | ECOS2WP221DA |
| 120 | 30 x 20 | 0.47 | 0.66 | 1.989 | 0.696 | ECOS2GP101DL | 35 x 30 | 1.55 | 2.17 | 0.754 | 0.301 | ECOS2WP221EA | |
| | 22 x 35 | 1.02 | 1.43 | 1.382 | 0.484 | ECOS2GP121BA | 150 | 30 x 45 | 1.78 | 2.49 | 0.675 | 0.270 | ECOS2WP271DA |
| 25 x 25 | 1.02 | 1.43 | 1.382 | 0.484 | ECOS2GP121CX | 35 x 30 | | 1.78 | 2.49 | 0.614 | 0.246 | ECOS2WP271EX | |
| 150 | 22 x 40 | 1.16 | 1.62 | 1.105 | 0.387 | ECOS2GP151BA | | | | | | | |
| | 25 x 30 | 1.16 | 1.62 | 1.105 | 0.387 | ECOS2GP151CA | | | | | | | |

Design and specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact us immediately for technical consultation.

TS-UP Standard Ratings (continued)

| Cap. (μ F) | Size (mm) D x L | Max. 85°C R.C. (A_{ms}) | | Max. 20°C ESR (Ω) | | Panasonic Part Number |
|---|--------------------|-----------------------------|--------|----------------------------|-------|--------------------------|
| | | 120Hz | 10kHz- | 120Hz | 20kHz | |
| 450 VDC Working, 500 VDC Surge (continued) | | | | | | |
| 270 | 35 x 35 | 1.78 | 2.49 | 0.675 | 0.270 | ECOS2WP271EA |
| 330 | 30 x 50 | 2.01 | 2.81 | 0.553 | 0.249 | ECOS2WP331DA |
| | 35 x 35 | 2.01 | 2.81 | 0.553 | 0.221 | ECOS2WP331EX |
| | 35 x 40 | 2.01 | 2.81 | 0.553 | 0.249 | ECOS2WP331EA |
| 390 | 35 x 45 | 2.24 | 3.14 | 0.510 | 0.255 | ECOS2WP391EA |
| 470 | 35 x 45 | 2.53 | 3.54 | 0.423 | 0.233 | ECOS2WP471EX |
| | 35 x 50 | 2.53 | 3.54 | 0.423 | 0.233 | ECOS2WP471EA |
| 500 VDC Working, 550 VDC Surge (continued) | | | | | | |
| 47 | 22 x 25 | 0.63 | 0.88 | 3.527 | 1.411 | ECOS2HP470BA |
| 56 | 22 x 30 | 0.70 | 0.98 | 2.960 | 1.184 | ECOS2HP560BA |
| 68 | 22 x 35 | 0.78 | 1.09 | 2.438 | 0.975 | ECOS2HP680BA |
| | 25 x 25 | 0.78 | 1.09 | 2.438 | 0.975 | ECOS2HP680CA |
| 82 | 22 x 40 | 0.88 | 1.23 | 2.022 | 0.809 | ECOS2HP820BA |
| | 25 x 30 | 0.88 | 1.23 | 2.022 | 0.809 | ECOS2HP820CA |
| 100 | 22 x 45 | 0.99 | 1.39 | 1.658 | 0.663 | ECOS2HP101BA |
| | 25 x 35 | 0.99 | 1.39 | 1.658 | 0.663 | ECOS2HP101CA |
| 120 | 22 x 50 | 1.13 | 1.58 | 1.382 | 0.553 | ECOS2HP121BA |
| | 25 x 40 | 1.13 | 1.58 | 1.382 | 0.553 | ECOS2HP121CA |
| | 30 x 30 | 1.13 | 1.58 | 1.382 | 0.553 | ECOS2HP121DA |
| 150 | 25 x 45 | 1.29 | 1.80 | 1.105 | 0.442 | ECOS2HP151CA |
| | 30 x 35 | 1.29 | 1.80 | 1.105 | 0.442 | ECOS2HP151DA |
| | 35 x 25 | 1.20 | 1.68 | 1.105 | 0.442 | ECOS2HP151EA |
| 180 | 25 x 50 | 1.38 | 1.93 | 0.921 | 0.368 | ECOS2HP181CA |
| | 30 x 40 | 1.38 | 1.93 | 0.921 | 0.368 | ECOS2HP181DA |
| | 35 x 30 | 1.36 | 1.90 | 0.921 | 0.368 | ECOS2HP181EA |
| 220 | 30 x 45 | 1.50 | 2.10 | 0.754 | 0.339 | ECOS2HP221DA |
| | 35 x 35 | 1.54 | 2.16 | 0.754 | 0.301 | ECOS2HP221EA |
| 270 | 35 x 40 | 1.76 | 2.46 | 0.614 | 0.276 | ECOS2HP271EA |
| 330 | 35 x 45 | 1.99 | 2.79 | 0.502 | 0.251 | ECOS2HP331EA |
| 390 | 35 x 50 | 2.22 | 3.11 | 0.425 | 0.234 | ECOS2HP391EA |