

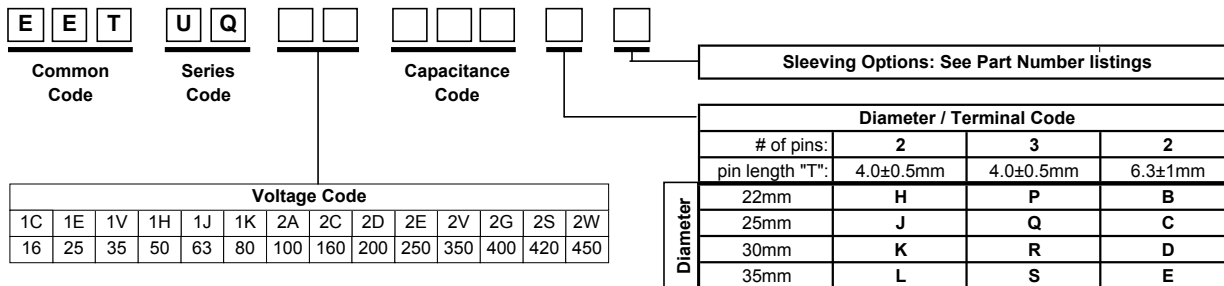
**TS-UQ Series 85°C, 2000 hours**

- **Highest capacitance version (30% smaller than UP series)**
- **2 and 3 pin versions available**
- **RoHS compliant PVC and RoHS compliant PET sleeve options**

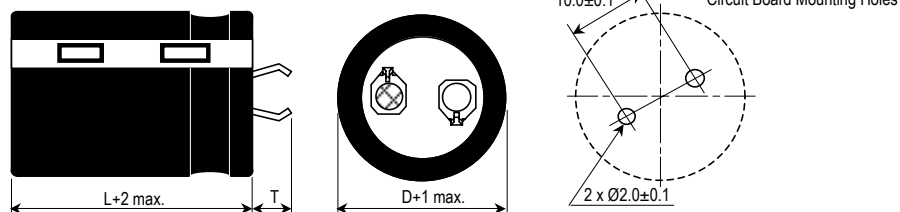


|                                                                                                               |                                                                        |      |      |         |      |      |               |                                             |           |      |      |       |
|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------|------|---------|------|------|---------------|---------------------------------------------|-----------|------|------|-------|
| Rated Working Voltage:                                                                                        | 16 ~ 250 VDC                                                           |      |      |         |      |      | 350 ~ 450 VDC |                                             |           |      |      |       |
| Operating Temperature:                                                                                        | -40 ~ +85°C                                                            |      |      |         |      |      | -25 ~ +85°C   |                                             |           |      |      |       |
| Nominal Capacitance:                                                                                          | 270 ~ 100000μF                                                         |      |      |         |      |      | 82 ~ 1000μF   |                                             |           |      |      |       |
| Capacitance Tolerance:                                                                                        | ± 20%                                                                  |      |      |         |      |      |               |                                             |           |      |      |       |
| Dissipation Factor:<br>(120 Hz, +20°C)                                                                        | Working Voltage [V]:                                                   | 16   | 25   | 35      | 50   | 63   | 80            | 100                                         | 160 ~ 450 |      |      |       |
|                                                                                                               | 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√CV (μA) max. after 5 minutes; C = Capacitance in μF, V = WV          |      |      |         |      |      |               |                                             |           |      |      |       |
| Ripple Current Multipliers:                                                                                   | Frequency(Hz):                                                         | 50   | 60   | 100~120 | 500  | 1k   | 10k           | Ripple Current Ambient Temperature Factors* |           |      |      |       |
|                                                                                                               | 16~100WV:                                                              | 0.93 | 0.95 | 1.0     | 1.05 | 1.08 | 1.15          | Temperature (°C):                           | 85°C      | 70°C | 60°C | ≤45°C |
|                                                                                                               | 160~450WV:                                                             | 0.75 | 0.8  | 1.0     | 1.2  | 1.25 | 1.4           | Multiplier:                                 | 1.0       | 1.3  | 1.4  | 1.5   |
| Endurance:                                                                                                    | 2000 hours at +85°C with maximum specified ripple current (see page 4) |      |      |         |      |      |               |                                             |           |      |      |       |

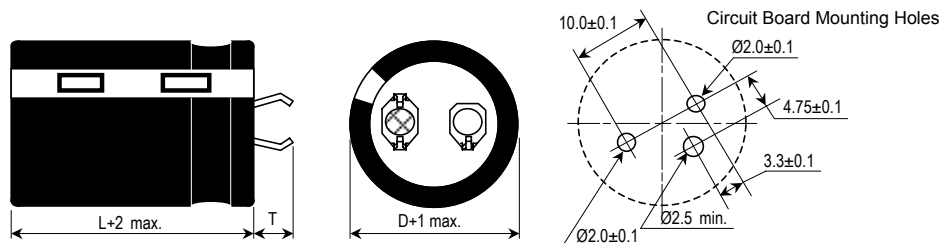
\*Use of temperature ripple current multipliers may limit life to the hours specified for the maximum operating temperature.

**Part Number System****Dimensions in millimeters**

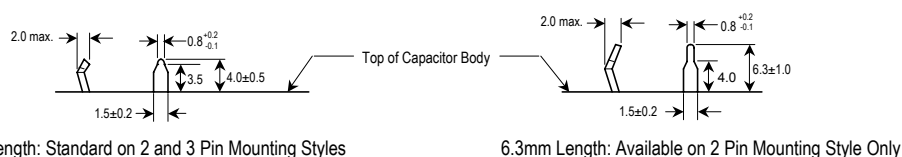
2 Pin Mounting Style



3 Pin Mounting Style



Pin Dimensions



Design and specifications are subject to change without notice.

Contact the factory or your sales representative for technical specifications before purchase and/or use.  
When safety concerns arise, please contact Panasonic immediately for technical consultation.

## TS-UQ Standard Ratings

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)           | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                       |
|------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|-----------------------|
|                              |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC with Top Plate                      | PET without Top Plate |
| 16 VDC Working, 20 VDC Surge |                    |                             |        |                             |       |                                         |                       |
| 12000                        | 22 x 25            | 4.52                        | 5.20   | 0.069                       | 0.059 | EETUQ1C123HA                            | EETUQ1C123HJ          |
| 15000                        | 22 x 30            | 5.26                        | 6.05   | 0.055                       | 0.047 | EETUQ1C153HA                            | EETUQ1C153HJ          |
| 18000                        | 22 x 35            | 5.57                        | 6.41   | 0.046                       | 0.039 | EETUQ1C183HA                            | EETUQ1C183HJ          |
|                              | 25 x 25            | 5.57                        | 6.41   | 0.046                       | 0.039 | EETUQ1C183JA                            | EETUQ1C183JJ          |
| 22000                        | 22 x 40            | 6.10                        | 7.02   | 0.038                       | 0.032 | EETUQ1C223HA                            | EETUQ1C223HJ          |
|                              | 25 x 30            | 6.10                        | 7.02   | 0.038                       | 0.032 | EETUQ1C223JA                            | EETUQ1C223JJ          |
| 27000                        | 22 x 45            | 6.31                        | 7.26   | 0.031                       | 0.026 | EETUQ1C273HA                            | EETUQ1C273HJ          |
|                              | 25 x 35            | 6.31                        | 7.26   | 0.031                       | 0.026 | EETUQ1C273JA                            | EETUQ1C273JJ          |
|                              | 30 x 25            | 6.31                        | 7.26   | 0.031                       | 0.026 | EETUQ1C273KA                            | EETUQ1C273KJ          |
| 33000                        | 22 x 50            | 6.84                        | 7.87   | 0.025                       | 0.021 | EETUQ1C333HA                            | EETUQ1C333HJ          |
|                              | 25 x 40            | 6.84                        | 7.87   | 0.025                       | 0.021 | EETUQ1C333JA                            | EETUQ1C333JJ          |
|                              | 30 x 30            | 6.84                        | 7.87   | 0.025                       | 0.021 | EETUQ1C333KA                            | EETUQ1C333KJ          |
|                              | 35 x 25            | 6.84                        | 7.87   | 0.025                       | 0.021 | EETUQ1C333LA                            | EETUQ1C333LJ          |
| 39000                        | 25 x 45            | 6.94                        | 7.98   | 0.024                       | 0.020 | EETUQ1C393JA                            | EETUQ1C393JJ          |
|                              | 30 x 35            | 6.94                        | 7.98   | 0.024                       | 0.020 | EETUQ1C393KA                            | EETUQ1C393KJ          |
| 47000                        | 25 x 50            | 7.47                        | 8.59   | 0.023                       | 0.019 | EETUQ1C473JA                            | EETUQ1C473JJ          |
|                              | 30 x 40            | 7.47                        | 8.59   | 0.023                       | 0.019 | EETUQ1C473KA                            | EETUQ1C473KJ          |
|                              | 35 x 30            | 7.47                        | 8.59   | 0.023                       | 0.019 | EETUQ1C473LA                            | EETUQ1C473LJ          |
| 56000                        | 30 x 45            | 8.73                        | 10.04  | 0.022                       | 0.019 | EETUQ1C563KA                            | EETUQ1C563KJ          |
|                              | 35 x 35            | 8.73                        | 10.04  | 0.022                       | 0.019 | EETUQ1C563LA                            | EETUQ1C563LJ          |
| 68000                        | 30 x 50            | 9.05                        | 10.41  | 0.021                       | 0.018 | EETUQ1C683KA                            | EETUQ1C683KJ          |
|                              | 35 x 40            | 9.05                        | 10.41  | 0.021                       | 0.018 | EETUQ1C683LA                            | EETUQ1C683LJ          |
| 82000                        | 35 x 45            | 9.49                        | 10.91  | 0.020                       | 0.018 | EETUQ1C823LA                            | EETUQ1C823LJ          |
| 100000                       | 35 x 50            | 10.18                       | 11.71  | 0.019                       | 0.018 | EETUQ1C104LA                            | EETUQ1C104LJ          |
| 25 VDC Working, 32 VDC Surge |                    |                             |        |                             |       |                                         |                       |
| 8200                         | 22 x 25            | 3.57                        | 4.11   | 0.081                       | 0.065 | EETUQ1E822HA                            | EETUQ1E822HJ          |
| 12000                        | 22 x 30            | 4.10                        | 4.72   | 0.055                       | 0.044 | EETUQ1E123HA                            | EETUQ1E123HJ          |
|                              | 25 x 25            | 4.10                        | 4.72   | 0.055                       | 0.044 | EETUQ1E123JA                            | EETUQ1E123JJ          |
| 15000                        | 22 x 35            | 4.63                        | 5.32   | 0.044                       | 0.035 | EETUQ1E153HA                            | EETUQ1E153HJ          |
|                              | 25 x 30            | 4.63                        | 5.32   | 0.044                       | 0.035 | EETUQ1E153JA                            | EETUQ1E153JJ          |
| 18000                        | 22 x 40            | 5.47                        | 6.29   | 0.037                       | 0.029 | EETUQ1E183HA                            | EETUQ1E183HJ          |
|                              | 25 x 35            | 5.47                        | 6.29   | 0.037                       | 0.029 | EETUQ1E183JA                            | EETUQ1E183JJ          |
|                              | 30 x 25            | 5.47                        | 6.29   | 0.037                       | 0.029 | EETUQ1E183KA                            | EETUQ1E183KJ          |
| 22000                        | 22 x 45            | 6.10                        | 7.02   | 0.030                       | 0.024 | EETUQ1E223HA                            | EETUQ1E223HJ          |
|                              | 25 x 40            | 6.10                        | 7.02   | 0.030                       | 0.024 | EETUQ1E223JA                            | EETUQ1E223JJ          |
|                              | 30 x 30            | 6.10                        | 7.02   | 0.030                       | 0.024 | EETUQ1E223KA                            | EETUQ1E223KJ          |
|                              | 35 x 25            | 6.10                        | 7.02   | 0.030                       | 0.024 | EETUQ1E223LA                            | EETUQ1E223LJ          |
| 27000                        | 25 x 45            | 6.21                        | 7.14   | 0.025                       | 0.020 | EETUQ1E273JA                            | EETUQ1E273JJ          |
|                              | 30 x 35            | 6.21                        | 7.14   | 0.025                       | 0.020 | EETUQ1E273KA                            | EETUQ1E273KJ          |
| 33000                        | 25 x 50            | 6.84                        | 7.87   | 0.020                       | 0.016 | EETUQ1E333JA                            | EETUQ1E333JJ          |
|                              | 30 x 40            | 6.84                        | 7.87   | 0.020                       | 0.016 | EETUQ1E333KA                            | EETUQ1E333KJ          |
|                              | 35 x 30            | 6.84                        | 7.87   | 0.020                       | 0.016 | EETUQ1E333LA                            | EETUQ1E333LJ          |
| 39000                        | 30 x 45            | 7.36                        | 8.46   | 0.020                       | 0.016 | EETUQ1E393KA                            | EETUQ1E393KJ          |
|                              | 35 x 35            | 7.36                        | 8.46   | 0.020                       | 0.016 | EETUQ1E393LA                            | EETUQ1E393LJ          |
| 47000                        | 30 x 50            | 8.00                        | 9.20   | 0.019                       | 0.016 | EETUQ1E473KA                            | EETUQ1E473KJ          |
|                              | 35 x 40            | 8.00                        | 9.20   | 0.019                       | 0.016 | EETUQ1E473LA                            | EETUQ1E473LJ          |
| 56000                        | 35 x 45            | 8.91                        | 10.25  | 0.019                       | 0.016 | EETUQ1E563LA                            | EETUQ1E563LJ          |
| 68000                        | 35 x 50            | 9.79                        | 11.26  | 0.018                       | 0.016 | EETUQ1E683LA                            | EETUQ1E683LJ          |
| 35 VDC Working, 44 VDC Surge |                    |                             |        |                             |       |                                         |                       |
| 5600                         | 22 x 25            | 3.36                        | 3.86   | 0.104                       | 0.078 | EETUQ1V562HA                            | EETUQ1V562HJ          |
| 8200                         | 22 x 30            | 4.00                        | 4.60   | 0.071                       | 0.053 | EETUQ1V822HA                            | EETUQ1V822HJ          |
|                              | 25 x 25            | 4.00                        | 4.60   | 0.071                       | 0.053 | EETUQ1V822JA                            | EETUQ1V822JJ          |
| 10000                        | 22 x 35            | 4.42                        | 5.08   | 0.058                       | 0.044 | EETUQ1V103HA                            | EETUQ1V103HJ          |
|                              | 25 x 30            | 4.42                        | 5.08   | 0.058                       | 0.044 | EETUQ1V103JA                            | EETUQ1V103JJ          |
| 12000                        | 22 x 40            | 5.05                        | 5.81   | 0.048                       | 0.036 | EETUQ1V123HA                            | EETUQ1V123HJ          |
|                              | 25 x 35            | 5.05                        | 5.81   | 0.048                       | 0.036 | EETUQ1V123JA                            | EETUQ1V123JJ          |
|                              | 30 x 25            | 5.05                        | 5.81   | 0.048                       | 0.036 | EETUQ1V123KA                            | EETUQ1V123KJ          |
| 15000                        | 22 x 45            | 5.57                        | 6.41   | 0.039                       | 0.029 | EETUQ1V153HA                            | EETUQ1V153HJ          |
|                              | 25 x 40            | 5.57                        | 6.41   | 0.039                       | 0.029 | EETUQ1V153JA                            | EETUQ1V153JJ          |
| 18000                        | 25 x 45            | 5.68                        | 6.53   | 0.032                       | 0.024 | EETUQ1V183JA                            | EETUQ1V183JJ          |
|                              | 30 x 30            | 5.68                        | 6.53   | 0.032                       | 0.024 | EETUQ1V183KA                            | EETUQ1V183KJ          |
|                              | 35 x 25            | 5.68                        | 6.53   | 0.032                       | 0.024 | EETUQ1V183LA                            | EETUQ1V183LJ          |

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## TS-UQ Standard Ratings (continued)

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)                       | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                       |
|------------------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|-----------------------|
|                                          |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC with Top Plate                      | PET without Top Plate |
| 35 VDC Working, 44 VDC Surge (continued) |                    |                             |        |                             |       |                                         |                       |
| 22000                                    | 25 x 50            | 6.10                        | 7.02   | 0.026                       | 0.020 | EETUQ1V223JA                            | EETUQ1V223JJ          |
|                                          | 30 x 35            | 6.10                        | 7.02   | 0.026                       | 0.020 | EETUQ1V223KA                            | EETUQ1V223KJ          |
|                                          | 35 x 30            | 6.10                        | 7.02   | 0.026                       | 0.020 | EETUQ1V223LA                            | EETUQ1V223LJ          |
| 27000                                    | 30 x 45            | 6.84                        | 7.87   | 0.021                       | 0.016 | EETUQ1V273KA                            | EETUQ1V273KJ          |
|                                          | 35 x 35            | 6.84                        | 7.87   | 0.021                       | 0.016 | EETUQ1V273LA                            | EETUQ1V273LJ          |
| 33000                                    | 30 x 50            | 7.15                        | 8.22   | 0.018                       | 0.013 | EETUQ1V333KA                            | EETUQ1V333KJ          |
|                                          | 35 x 40            | 7.15                        | 8.22   | 0.018                       | 0.014 | EETUQ1V333LA                            | EETUQ1V333LJ          |
| 39000                                    | 35 x 45            | 7.91                        | 9.10   | 0.017                       | 0.014 | EETUQ1V393LA                            | EETUQ1V393LJ          |
| 47000                                    | 35 x 50            | 8.56                        | 9.84   | 0.017                       | 0.014 | EETUQ1V473LA                            | EETUQ1V473LJ          |
| 50 VDC Working, 63 VDC Surge             |                    |                             |        |                             |       |                                         |                       |
| 3300                                     | 22 x 25            | 2.73                        | 3.14   | 0.151                       | 0.113 | EETUQ1H332HA                            | EETUQ1H332HJ          |
| 4700                                     | 22 x 30            | 3.03                        | 3.48   | 0.106                       | 0.079 | EETUQ1H472HA                            | EETUQ1H472HJ          |
|                                          | 25 x 25            | 3.03                        | 3.48   | 0.106                       | 0.079 | EETUQ1H472JA                            | EETUQ1H472JJ          |
| 5600                                     | 22 x 35            | 3.42                        | 3.93   | 0.089                       | 0.067 | EETUQ1H562HA                            | EETUQ1H562HJ          |
| 6800                                     | 22 x 40            | 3.85                        | 4.43   | 0.073                       | 0.055 | EETUQ1H682HA                            | EETUQ1H682HJ          |
|                                          | 25 x 30            | 3.85                        | 4.43   | 0.073                       | 0.055 | EETUQ1H682JA                            | EETUQ1H682JJ          |
|                                          | 30 x 25            | 3.85                        | 4.43   | 0.073                       | 0.055 | EETUQ1H682KA                            | EETUQ1H682KJ          |
| 8200                                     | 22 x 45            | 4.41                        | 5.07   | 0.061                       | 0.045 | EETUQ1H822HA                            | EETUQ1H822HJ          |
|                                          | 25 x 35            | 4.41                        | 5.07   | 0.061                       | 0.045 | EETUQ1H822JA                            | EETUQ1H822JJ          |
| 10000                                    | 22 x 50            | 4.97                        | 5.72   | 0.050                       | 0.037 | EETUQ1H103HA                            | EETUQ1H103HJ          |
|                                          | 25 x 40            | 4.97                        | 5.72   | 0.050                       | 0.037 | EETUQ1H103JA                            | EETUQ1H103JJ          |
|                                          | 30 x 30            | 4.97                        | 5.72   | 0.050                       | 0.037 | EETUQ1H103KA                            | EETUQ1H103KJ          |
|                                          | 35 x 25            | 4.97                        | 5.72   | 0.050                       | 0.037 | EETUQ1H103LA                            | EETUQ1H103LJ          |
| 12000                                    | 25 x 45            | 5.58                        | 6.42   | 0.041                       | 0.031 | EETUQ1H123JA                            | EETUQ1H123JJ          |
|                                          | 30 x 35            | 5.58                        | 6.42   | 0.041                       | 0.031 | EETUQ1H123KA                            | EETUQ1H123KJ          |
|                                          | 35 x 30            | 5.58                        | 6.42   | 0.041                       | 0.031 | EETUQ1H123LA                            | EETUQ1H123LJ          |
| 15000                                    | 30 x 40            | 6.44                        | 7.41   | 0.033                       | 0.025 | EETUQ1H153KA                            | EETUQ1H153KJ          |
|                                          | 35 x 35            | 6.44                        | 7.41   | 0.033                       | 0.025 | EETUQ1H153LA                            | EETUQ1H153LJ          |
| 18000                                    | 30 x 45            | 6.94                        | 7.98   | 0.028                       | 0.021 | EETUQ1H183KA                            | EETUQ1H183KJ          |
|                                          | 35 x 40            | 6.94                        | 7.98   | 0.028                       | 0.021 | EETUQ1H183LA                            | EETUQ1H183LJ          |
| 22000                                    | 35 x 45            | 7.57                        | 8.71   | 0.023                       | 0.018 | EETUQ1H223LA                            | EETUQ1H223LJ          |
| 27000                                    | 35 x 50            | 8.96                        | 10.30  | 0.018                       | 0.015 | EETUQ1H273LA                            | EETUQ1H273LJ          |
| 63 VDC Working, 79 VDC Surge             |                    |                             |        |                             |       |                                         |                       |
| 2200                                     | 22 x 25            | 2.52                        | 2.90   | 0.188                       | 0.141 | EETUQ1J222HA                            | EETUQ1J222HJ          |
| 3300                                     | 22 x 30            | 4.10                        | 4.72   | 0.126                       | 0.094 | EETUQ1J332HA                            | EETUQ1J332HJ          |
|                                          | 25 x 25            | 4.10                        | 4.72   | 0.126                       | 0.094 | EETUQ1J332JA                            | EETUQ1J332JJ          |
| 3900                                     | 22 x 35            | 4.44                        | 5.11   | 0.106                       | 0.080 | EETUQ1J392HA                            | EETUQ1J392HJ          |
|                                          | 25 x 30            | 4.44                        | 5.11   | 0.106                       | 0.080 | EETUQ1J392JA                            | EETUQ1J392JJ          |
| 4700                                     | 22 x 40            | 4.86                        | 5.59   | 0.088                       | 0.066 | EETUQ1J472HA                            | EETUQ1J472HJ          |
|                                          | 25 x 35            | 4.86                        | 5.59   | 0.088                       | 0.066 | EETUQ1J472JA                            | EETUQ1J472JJ          |
|                                          | 30 x 25            | 4.86                        | 5.59   | 0.088                       | 0.066 | EETUQ1J472KA                            | EETUQ1J472KJ          |
| 5600                                     | 22 x 45            | 5.36                        | 6.16   | 0.074                       | 0.056 | EETUQ1J562HA                            | EETUQ1J562HJ          |
|                                          | 25 x 40            | 5.36                        | 6.16   | 0.074                       | 0.056 | EETUQ1J562JA                            | EETUQ1J562JJ          |
| 6800                                     | 25 x 45            | 5.84                        | 6.72   | 0.061                       | 0.046 | EETUQ1J682JA                            | EETUQ1J682JJ          |
|                                          | 30 x 30            | 5.84                        | 6.72   | 0.061                       | 0.046 | EETUQ1J682KA                            | EETUQ1J682KJ          |
|                                          | 35 x 25            | 5.84                        | 6.72   | 0.061                       | 0.046 | EETUQ1J682LA                            | EETUQ1J682LJ          |
| 8200                                     | 25 x 50            | 6.00                        | 6.90   | 0.051                       | 0.038 | EETUQ1J822JA                            | EETUQ1J822JJ          |
|                                          | 30 x 35            | 6.00                        | 6.90   | 0.051                       | 0.038 | EETUQ1J822KA                            | EETUQ1J822KJ          |
|                                          | 35 x 30            | 6.00                        | 6.90   | 0.051                       | 0.038 | EETUQ1J822LA                            | EETUQ1J822LJ          |
| 10000                                    | 30 x 40            | 6.52                        | 7.50   | 0.041                       | 0.031 | EETUQ1J103KA                            | EETUQ1J103KJ          |
|                                          | 35 x 35            | 6.52                        | 7.50   | 0.041                       | 0.031 | EETUQ1J103LA                            | EETUQ1J103LJ          |
| 12000                                    | 30 x 45            | 7.15                        | 8.22   | 0.035                       | 0.026 | EETUQ1J123KA                            | EETUQ1J123KJ          |
|                                          | 35 x 40            | 7.15                        | 8.22   | 0.035                       | 0.026 | EETUQ1J123LA                            | EETUQ1J123LJ          |
| 15000                                    | 35 x 45            | 7.91                        | 9.10   | 0.028                       | 0.021 | EETUQ1J153LA                            | EETUQ1J153LJ          |
| 18000                                    | 35 x 50            | 8.55                        | 9.83   | 0.023                       | 0.018 | EETUQ1J183LA                            | EETUQ1J183LJ          |
| 80 VDC Working, 100 VDC Surge            |                    |                             |        |                             |       |                                         |                       |
| 1500                                     | 22 x 25            | 2.26                        | 2.60   | 0.221                       | 0.166 | EETUQ1K152HA                            | EETUQ1K152HJ          |
| 1800                                     | 22 x 30            | 2.52                        | 2.90   | 0.184                       | 0.138 | EETUQ1K182HA                            | EETUQ1K182HJ          |
| 2200                                     | 22 x 35            | 2.73                        | 3.14   | 0.151                       | 0.113 | EETUQ1K222HA                            | EETUQ1K222HJ          |
|                                          | 25 x 25            | 2.73                        | 3.14   | 0.151                       | 0.113 | EETUQ1K222JA                            | EETUQ1K222JJ          |
| 2700                                     | 22 x 40            | 2.78                        | 3.20   | 0.123                       | 0.092 | EETUQ1K272HA                            | EETUQ1K272HJ          |
|                                          | 25 x 30            | 2.78                        | 3.20   | 0.123                       | 0.092 | EETUQ1K272JA                            | EETUQ1K272JJ          |

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## TS-UQ Standard Ratings (continued)

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)                        | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                       |
|-------------------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|-----------------------|
|                                           |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC with Top Plate                      | PET without Top Plate |
| 80 VDC Working, 105 VDC Surge (continued) |                    |                             |        |                             |       |                                         |                       |
| 3300                                      | 22 x 45            | 3.21                        | 3.69   | 0.100                       | 0.075 | EETUQ1K332HA                            | EETUQ1K332HJ          |
|                                           | 25 x 35            | 3.21                        | 3.69   | 0.100                       | 0.075 | EETUQ1K332JA                            | EETUQ1K332JJ          |
|                                           | 30 x 25            | 3.21                        | 3.69   | 0.100                       | 0.075 | EETUQ1K332KA                            | EETUQ1K332KJ          |
| 3900                                      | 22 x 50            | 3.59                        | 4.13   | 0.085                       | 0.064 | EETUQ1K392HA                            | EETUQ1K392HJ          |
|                                           | 25 x 40            | 3.59                        | 4.13   | 0.085                       | 0.064 | EETUQ1K392JA                            | EETUQ1K392JJ          |
|                                           | 35 x 25            | 3.59                        | 4.13   | 0.085                       | 0.064 | EETUQ1K392LA                            | EETUQ1K392LJ          |
| 4700                                      | 25 x 45            | 4.09                        | 4.70   | 0.071                       | 0.053 | EETUQ1K472JA                            | EETUQ1K472JJ          |
|                                           | 30 x 30            | 4.09                        | 4.70   | 0.071                       | 0.053 | EETUQ1K472KA                            | EETUQ1K472KJ          |
| 5600                                      | 25 x 50            | 4.55                        | 5.23   | 0.059                       | 0.044 | EETUQ1K562JA                            | EETUQ1K562JJ          |
|                                           | 30 x 35            | 4.55                        | 5.23   | 0.059                       | 0.044 | EETUQ1K562KA                            | EETUQ1K562KJ          |
|                                           | 35 x 30            | 4.55                        | 5.23   | 0.059                       | 0.044 | EETUQ1K562LA                            | EETUQ1K562LJ          |
| 6800                                      | 30 x 45            | 5.16                        | 5.93   | 0.049                       | 0.037 | EETUQ1K682KA                            | EETUQ1K682KJ          |
|                                           | 35 x 35            | 5.16                        | 5.93   | 0.049                       | 0.037 | EETUQ1K682LA                            | EETUQ1K682LJ          |
| 8200                                      | 30 x 50            | 5.83                        | 6.70   | 0.040                       | 0.030 | EETUQ1K822KA                            | EETUQ1K822KJ          |
|                                           | 35 x 40            | 5.83                        | 6.70   | 0.040                       | 0.030 | EETUQ1K822LA                            | EETUQ1K822LJ          |
| 10000                                     | 35 x 45            | 6.51                        | 7.49   | 0.033                       | 0.025 | EETUQ1K103LA                            | EETUQ1K103LJ          |
| 12000                                     | 35 x 50            | 7.28                        | 8.37   | 0.028                       | 0.021 | EETUQ1K123LA                            | EETUQ1K123LJ          |
| 100 VDC Working, 125 VDC Surge            |                    |                             |        |                             |       |                                         |                       |
| 1000                                      | 22 x 25            | 1.96                        | 2.25   | 0.332                       | 0.216 | EETUQ2A102HA                            | EETUQ2A102HJ          |
| 1200                                      | 25 x 25            | 2.31                        | 2.66   | 0.276                       | 0.180 | EETUQ2A122JA                            | EETUQ2A122JJ          |
| 1500                                      | 22 x 30            | 2.57                        | 2.96   | 0.221                       | 0.144 | EETUQ2A152HA                            | EETUQ2A152HJ          |
| 1800                                      | 22 x 35            | 2.84                        | 3.27   | 0.184                       | 0.120 | EETUQ2A182HA                            | EETUQ2A182HJ          |
|                                           | 25 x 30            | 2.84                        | 3.27   | 0.184                       | 0.120 | EETUQ2A182JA                            | EETUQ2A182JJ          |
| 2200                                      | 22 x 45            | 3.14                        | 3.61   | 0.151                       | 0.098 | EETUQ2A222HA                            | EETUQ2A222HJ          |
|                                           | 25 x 35            | 3.14                        | 3.61   | 0.151                       | 0.098 | EETUQ2A222JA                            | EETUQ2A222JJ          |
|                                           | 30 x 25            | 3.14                        | 3.61   | 0.151                       | 0.098 | EETUQ2A222KA                            | EETUQ2A222KJ          |
| 2700                                      | 22 x 50            | 3.71                        | 4.27   | 0.123                       | 0.080 | EETUQ2A272HA                            | EETUQ2A272HJ          |
|                                           | 25 x 40            | 3.71                        | 4.27   | 0.123                       | 0.080 | EETUQ2A272JA                            | EETUQ2A272JJ          |
|                                           | 30 x 30            | 3.71                        | 4.27   | 0.123                       | 0.080 | EETUQ2A272KA                            | EETUQ2A272KJ          |
|                                           | 35 x 25            | 3.71                        | 4.27   | 0.123                       | 0.080 | EETUQ2A272LA                            | EETUQ2A272LJ          |
| 3300                                      | 25 x 45            | 4.06                        | 4.67   | 0.100                       | 0.065 | EETUQ2A332JA                            | EETUQ2A332JJ          |
|                                           | 30 x 35            | 4.06                        | 4.67   | 0.100                       | 0.065 | EETUQ2A332KA                            | EETUQ2A332KJ          |
| 3900                                      | 25 x 50            | 4.54                        | 5.22   | 0.085                       | 0.055 | EETUQ2A392JA                            | EETUQ2A392JJ          |
|                                           | 30 x 40            | 4.54                        | 5.22   | 0.085                       | 0.055 | EETUQ2A392KA                            | EETUQ2A392KJ          |
|                                           | 35 x 30            | 4.54                        | 5.22   | 0.085                       | 0.055 | EETUQ2A392LA                            | EETUQ2A392LJ          |
| 4700                                      | 30 x 45            | 5.13                        | 5.90   | 0.071                       | 0.046 | EETUQ2A472KA                            | EETUQ2A472KJ          |
|                                           | 35 x 35            | 5.13                        | 5.90   | 0.071                       | 0.046 | EETUQ2A472LA                            | EETUQ2A472LJ          |
| 5600                                      | 30 x 50            | 5.75                        | 6.61   | 0.059                       | 0.041 | EETUQ2A562KA                            | EETUQ2A562KJ          |
|                                           | 35 x 40            | 5.75                        | 6.61   | 0.059                       | 0.038 | EETUQ2A562LA                            | EETUQ2A562LJ          |
| 6800                                      | 35 x 45            | 6.60                        | 7.59   | 0.049                       | 0.034 | EETUQ2A682LA                            | EETUQ2A682LJ          |
| 8200                                      | 35 x 50            | 7.29                        | 8.38   | 0.040                       | 0.030 | EETUQ2A822LA                            | EETUQ2A822LJ          |
| 160 VDC Working, 200 VDC Surge            |                    |                             |        |                             |       |                                         |                       |
| 560                                       | 22 x 25            | 2.25                        | 3.15   | 0.355                       | 0.160 | EETUQ2C561HA                            | EETUQ2C561HJ          |
| 680                                       | 22 x 30            | 2.50                        | 3.50   | 0.293                       | 0.132 | EETUQ2C681HA                            | EETUQ2C681HJ          |
| 820                                       | 22 x 35            | 2.75                        | 3.85   | 0.243                       | 0.109 | EETUQ2C821HA                            | EETUQ2C821HJ          |
| 1000                                      | 22 x 40            | 3.00                        | 4.20   | 0.199                       | 0.090 | EETUQ2C102HA                            | EETUQ2C102HJ          |
|                                           | 25 x 30            | 3.00                        | 4.20   | 0.199                       | 0.090 | EETUQ2C102JA                            | EETUQ2C102JJ          |
| 1200                                      | 22 x 45            | 3.25                        | 4.55   | 0.166                       | 0.075 | EETUQ2C122HA                            | EETUQ2C122HJ          |
|                                           | 25 x 35            | 3.25                        | 4.55   | 0.166                       | 0.075 | EETUQ2C122JA                            | EETUQ2C122JJ          |
|                                           | 30 x 25            | 3.25                        | 4.55   | 0.166                       | 0.075 | EETUQ2C122KA                            | EETUQ2C122KJ          |
| 1500                                      | 22 x 50            | 3.73                        | 5.22   | 0.133                       | 0.060 | EETUQ2C152HA                            | EETUQ2C152HJ          |
|                                           | 25 x 40            | 3.73                        | 5.22   | 0.133                       | 0.060 | EETUQ2C152JA                            | EETUQ2C152JJ          |
|                                           | 30 x 30            | 3.73                        | 5.22   | 0.133                       | 0.060 | EETUQ2C152KA                            | EETUQ2C152KJ          |
|                                           | 35 x 25            | 3.73                        | 5.22   | 0.133                       | 0.060 | EETUQ2C152LA                            | EETUQ2C152LJ          |
| 1800                                      | 25 x 45            | 4.20                        | 5.88   | 0.111                       | 0.050 | EETUQ2C182JA                            | EETUQ2C182JJ          |
|                                           | 30 x 35            | 4.20                        | 5.88   | 0.120                       | 0.060 | EETUQ2C182KA                            | EETUQ2C182KJ          |
|                                           | 35 x 30            | 4.20                        | 5.88   | 0.111                       | 0.050 | EETUQ2C182LA                            | EETUQ2C182LJ          |
| 2200                                      | 30 x 40            | 4.78                        | 6.69   | 0.090                       | 0.041 | EETUQ2C222KA                            | EETUQ2C222KJ          |
|                                           | 35 x 35            | 4.78                        | 6.69   | 0.098                       | 0.049 | EETUQ2C222LA                            | EETUQ2C222LJ          |
| 2700                                      | 30 x 45            | 5.45                        | 7.63   | 0.074                       | 0.033 | EETUQ2C272KA                            | EETUQ2C272KJ          |
|                                           | 35 x 40            | 5.45                        | 7.63   | 0.080                       | 0.040 | EETUQ2C272LA                            | EETUQ2C272LJ          |
| 3300                                      | 35 x 45            | 5.75                        | 8.05   | 0.070                       | 0.035 | EETUQ2C332LA                            | EETUQ2C332LJ          |
| 3900                                      | 35 x 50            | 6.00                        | 8.40   | 0.055                       | 0.028 | EETUQ2C392LA                            | EETUQ2C392LJ          |

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## TS-UQ Standard Ratings (continued)

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)             | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                              |
|--------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|------------------------------|
|                                |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC sleeve with Top Plate               | PET sleeve without Top Plate |
| 200 VDC Working, 250 VDC Surge |                    |                             |        |                             |       |                                         |                              |
| 390                            | 22 x 25            | 1.68                        | 2.35   | 0.510                       | 0.230 | EETUQ2D391HA                            | EETUQ2D391HJ                 |
| 470                            | 22 x 30            | 1.85                        | 2.59   | 0.423                       | 0.190 | EETUQ2D471HA                            | EETUQ2D471HJ                 |
| 560                            | 22 x 30            | 2.43                        | 3.40   | 0.355                       | 0.160 | EETUQ2D561HA                            | EETUQ2D561HJ                 |
|                                | 25 x 25            | 2.43                        | 3.40   | 0.355                       | 0.160 | EETUQ2D561JA                            | EETUQ2D561JJ                 |
| 680                            | 22 x 35            | 2.68                        | 3.75   | 0.293                       | 0.132 | EETUQ2D681HA                            | EETUQ2D681HJ                 |
|                                | 25 x 30            | 2.68                        | 3.75   | 0.293                       | 0.132 | EETUQ2D681JA                            | EETUQ2D681JJ                 |
| 820                            | 22 x 40            | 2.93                        | 4.10   | 0.243                       | 0.109 | EETUQ2D821HA                            | EETUQ2D821HJ                 |
|                                | 25 x 30            | 2.93                        | 4.10   | 0.243                       | 0.109 | EETUQ2D821JA                            | EETUQ2D821JJ                 |
|                                | 30 x 25            | 2.93                        | 4.10   | 0.243                       | 0.109 | EETUQ2D821KA                            | EETUQ2D821KJ                 |
| 1000                           | 22 x 45            | 3.25                        | 4.55   | 0.199                       | 0.090 | EETUQ2D102HA                            | EETUQ2D102HJ                 |
|                                | 25 x 35            | 3.25                        | 4.55   | 0.199                       | 0.090 | EETUQ2D102JA                            | EETUQ2D102JJ                 |
|                                | 30 x 30            | 3.25                        | 4.55   | 0.199                       | 0.090 | EETUQ2D102KA                            | EETUQ2D102KJ                 |
|                                | 35 x 25            | 3.25                        | 4.55   | 0.232                       | 0.116 | EETUQ2D102LA                            | EETUQ2D102LJ                 |
| 1200                           | 22 x 50            | 3.50                        | 4.90   | 0.166                       | 0.075 | EETUQ2D122HA                            | EETUQ2D122HJ                 |
|                                | 25 x 40            | 3.50                        | 4.90   | 0.166                       | 0.075 | EETUQ2D122JA                            | EETUQ2D122JJ                 |
|                                | 30 x 30            | 3.50                        | 4.90   | 0.166                       | 0.075 | EETUQ2D122KA                            | EETUQ2D122KJ                 |
| 1500                           | 25 x 50            | 3.87                        | 5.42   | 0.133                       | 0.060 | EETUQ2D152JA                            | EETUQ2D152JJ                 |
|                                | 30 x 35            | 3.87                        | 5.42   | 0.144                       | 0.065 | EETUQ2D152KA                            | EETUQ2D152KJ                 |
|                                | 35 x 30            | 3.87                        | 5.42   | 0.144                       | 0.065 | EETUQ2D152LA                            | EETUQ2D152LJ                 |
| 1800                           | 30 x 45            | 4.32                        | 6.05   | 0.120                       | 0.060 | EETUQ2D182KA                            | EETUQ2D182KJ                 |
|                                | 35 x 35            | 4.32                        | 6.05   | 0.120                       | 0.060 | EETUQ2D182LA                            | EETUQ2D182LJ                 |
| 2200                           | 30 x 50            | 4.92                        | 6.89   | 0.098                       | 0.049 | EETUQ2D222KA                            | EETUQ2D222KJ                 |
|                                | 35 x 40            | 4.92                        | 6.89   | 0.105                       | 0.053 | EETUQ2D222LA                            | EETUQ2D222LJ                 |
| 2700                           | 35 x 50            | 5.45                        | 7.63   | 0.086                       | 0.043 | EETUQ2D272LA                            | EETUQ2D272LJ                 |
| 250 VDC Working, 300 VDC Surge |                    |                             |        |                             |       |                                         |                              |
| 270                            | 22 x 25            | 1.31                        | 1.83   | 0.737                       | 0.332 | EETUQ2E271HA                            | EETUQ2E271HJ                 |
| 330                            | 22 x 30            | 1.75                        | 2.45   | 0.603                       | 0.271 | EETUQ2E331HA                            | EETUQ2E331HJ                 |
| 390                            | 22 x 30            | 1.91                        | 2.67   | 0.510                       | 0.230 | EETUQ2E391HA                            | EETUQ2E391HJ                 |
|                                | 25 x 25            | 1.91                        | 2.67   | 0.510                       | 0.230 | EETUQ2E391JA                            | EETUQ2E391JJ                 |
| 470                            | 22 x 35            | 2.11                        | 2.95   | 0.423                       | 0.190 | EETUQ2E471HA                            | EETUQ2E471HJ                 |
|                                | 25 x 30            | 2.11                        | 2.95   | 0.423                       | 0.190 | EETUQ2E471JA                            | EETUQ2E471JJ                 |
| 560                            | 22 x 40            | 2.25                        | 3.15   | 0.355                       | 0.160 | EETUQ2E561HA                            | EETUQ2E561HJ                 |
|                                | 25 x 30            | 2.25                        | 3.15   | 0.355                       | 0.160 | EETUQ2E561JA                            | EETUQ2E561JJ                 |
|                                | 30 x 25            | 2.25                        | 3.15   | 0.355                       | 0.160 | EETUQ2E561KA                            | EETUQ2E561KJ                 |
| 680                            | 22 x 45            | 2.50                        | 3.50   | 0.293                       | 0.132 | EETUQ2E681HA                            | EETUQ2E681HJ                 |
|                                | 25 x 35            | 2.50                        | 3.50   | 0.293                       | 0.132 | EETUQ2E681JA                            | EETUQ2E681JJ                 |
|                                | 30 x 25            | 2.30                        | 3.22   | 0.293                       | 0.132 | EETUQ2E681KF                            | EETUQ2E681KC                 |
|                                | 30 x 30            | 2.50                        | 3.50   | 0.293                       | 0.132 | EETUQ2E681KA                            | EETUQ2E681KJ                 |
| 820                            | 22 x 50            | 2.77                        | 3.88   | 0.243                       | 0.109 | EETUQ2E821HA                            | EETUQ2E821HJ                 |
|                                | 25 x 40            | 2.77                        | 3.88   | 0.243                       | 0.109 | EETUQ2E821JA                            | EETUQ2E821JJ                 |
|                                | 30 x 30            | 2.77                        | 3.88   | 0.243                       | 0.109 | EETUQ2E821KA                            | EETUQ2E821KJ                 |
|                                | 35 x 25            | 2.77                        | 3.88   | 0.243                       | 0.121 | EETUQ2E821LA                            | EETUQ2E821LJ                 |
| 1000                           | 25 x 45            | 3.32                        | 4.65   | 0.199                       | 0.090 | EETUQ2E102JA                            | EETUQ2E102JJ                 |
|                                | 30 x 35            | 3.32                        | 4.65   | 0.199                       | 0.090 | EETUQ2E102KA                            | EETUQ2E102KJ                 |
|                                | 35 x 30            | 3.32                        | 4.65   | 0.199                       | 0.090 | EETUQ2E102LA                            | EETUQ2E102LJ                 |
| 1200                           | 30 x 40            | 3.53                        | 4.94   | 0.166                       | 0.075 | EETUQ2E122KA                            | EETUQ2E122KJ                 |
|                                | 35 x 35            | 3.53                        | 4.94   | 0.166                       | 0.083 | EETUQ2E122LA                            | EETUQ2E122LJ                 |
| 1500                           | 30 x 50            | 4.04                        | 5.66   | 0.133                       | 0.066 | EETUQ2E152KA                            | EETUQ2E152KJ                 |
|                                | 35 x 40            | 4.04                        | 5.66   | 0.133                       | 0.066 | EETUQ2E152LA                            | EETUQ2E152LJ                 |
| 1800                           | 35 x 45            | 4.55                        | 6.37   | 0.111                       | 0.055 | EETUQ2E182LA                            | EETUQ2E182LJ                 |
| 2200                           | 35 x 50            | 4.75                        | 6.65   | 0.098                       | 0.049 | EETUQ2E222LA                            | EETUQ2E222LJ                 |
| 350 VDC Working, 400 VDC Surge |                    |                             |        |                             |       |                                         |                              |
| 150                            | 22 x 25            | 1.12                        | 1.57   | 1.326                       | 0.663 | EETUQ2V151HA                            | EETUQ2V151HJ                 |
| 180                            | 22 x 30            | 1.22                        | 1.71   | 1.105                       | 0.553 | EETUQ2V181HA                            | EETUQ2V181HJ                 |
| 220                            | 22 x 35            | 1.44                        | 2.02   | 0.904                       | 0.452 | EETUQ2V221HA                            | EETUQ2V221HJ                 |
| 270                            | 22 x 40            | 1.66                        | 2.32   | 0.737                       | 0.368 | EETUQ2V271HA                            | EETUQ2V271HJ                 |
|                                | 25 x 30            | 1.66                        | 2.32   | 0.737                       | 0.368 | EETUQ2V271JA                            | EETUQ2V271JJ                 |
| 330                            | 22 x 45            | 1.88                        | 2.63   | 0.603                       | 0.301 | EETUQ2V331HA                            | EETUQ2V331HJ                 |
|                                | 25 x 35            | 1.88                        | 2.63   | 0.603                       | 0.301 | EETUQ2V331JA                            | EETUQ2V331JJ                 |
| 390                            | 22 x 50            | 2.06                        | 2.88   | 0.510                       | 0.255 | EETUQ2V391HA                            | EETUQ2V391HJ                 |
|                                | 25 x 40            | 2.06                        | 2.88   | 0.510                       | 0.255 | EETUQ2V391JA                            | EETUQ2V391JJ                 |
|                                | 30 x 30            | 2.06                        | 2.88   | 0.510                       | 0.255 | EETUQ2V391KA                            | EETUQ2V391KJ                 |
|                                | 35 x 25            | 2.06                        | 2.88   | 0.510                       | 0.255 | EETUQ2V391LA                            | EETUQ2V391LJ                 |

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## TS-UQ Standard Ratings (continued)

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)                         | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                       |
|--------------------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|-----------------------|
|                                            |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC with Top Plate                      | PET without Top Plate |
| 350 VDC Working, 400 VDC Surge (continued) |                    |                             |        |                             |       |                                         |                       |
| 470                                        | 25 x 45            | 2.40                        | 3.36   | 0.423                       | 0.212 | EETUQ2V471JA                            | EETUQ2V471JJ          |
|                                            | 30 x 35            | 2.40                        | 3.36   | 0.423                       | 0.212 | EETUQ2V471KA                            | EETUQ2V471KJ          |
|                                            | 35 x 30            | 2.40                        | 3.36   | 0.423                       | 0.233 | EETUQ2V471LA                            | EETUQ2V471LJ          |
| 560                                        | 25 x 50            | 2.60                        | 3.64   | 0.355                       | 0.178 | EETUQ2V561JA                            | EETUQ2V561JJ          |
|                                            | 30 x 40            | 2.60                        | 3.64   | 0.355                       | 0.178 | EETUQ2V561KA                            | EETUQ2V561KJ          |
|                                            | 35 x 30            | 2.60                        | 3.64   | 0.355                       | 0.195 | EETUQ2V561LA                            | EETUQ2V561LJ          |
| 680                                        | 30 x 45            | 2.96                        | 4.14   | 0.293                       | 0.146 | EETUQ2V681KA                            | EETUQ2V681KJ          |
|                                            | 35 x 35            | 2.96                        | 4.14   | 0.293                       | 0.146 | EETUQ2V681LA                            | EETUQ2V681LJ          |
| 820                                        | 30 x 50            | 3.25                        | 4.55   | 0.243                       | 0.121 | EETUQ2V821KA                            | EETUQ2V821KJ          |
|                                            | 35 x 45            | 3.25                        | 4.55   | 0.243                       | 0.121 | EETUQ2V821LA                            | EETUQ2V821LJ          |
| 1000                                       | 35 x 50            | 3.54                        | 4.96   | 0.199                       | 0.109 | EETUQ2V102LA                            | EETUQ2V102LJ          |
| 400 VDC Working, 450 VDC Surge             |                    |                             |        |                             |       |                                         |                       |
| 120                                        | 22 x 25            | 1.02                        | 1.43   | 1.658                       | 0.829 | EETUQ2G121HA                            | EETUQ2G121HJ          |
| 150                                        | 22 x 30            | 1.16                        | 1.62   | 1.326                       | 0.663 | EETUQ2G151HA                            | EETUQ2G151HJ          |
| 180                                        | 22 x 30            | 1.44                        | 2.02   | 1.105                       | 0.553 | EETUQ2G181HF                            | EETUQ2G181HC          |
|                                            | 22 x 35            | 1.44                        | 2.02   | 1.105                       | 0.553 | EETUQ2G181HA                            | EETUQ2G181HJ          |
| 220                                        | 22 x 35            | 1.49                        | 2.09   | 0.904                       | 0.452 | EETUQ2G221HF                            | EETUQ2G221HC          |
|                                            | 22 x 40            | 1.49                        | 2.09   | 0.904                       | 0.452 | EETUQ2G221HA                            | EETUQ2G221HJ          |
|                                            | 25 x 30            | 1.49                        | 2.09   | 0.904                       | 0.452 | EETUQ2G221JA                            | EETUQ2G221JJ          |
| 270                                        | 22 x 45            | 1.67                        | 2.34   | 0.737                       | 0.368 | EETUQ2G271HA                            | EETUQ2G271HJ          |
|                                            | 25 x 35            | 1.67                        | 2.34   | 0.737                       | 0.368 | EETUQ2G271JA                            | EETUQ2G271JJ          |
|                                            | 30 x 30            | 1.67                        | 2.34   | 0.737                       | 0.368 | EETUQ2G271KA                            | EETUQ2G271KJ          |
|                                            | 30 x 25            | 1.67                        | 2.34   | 0.737                       | 0.368 | EETUQ2G271KF                            | EETUQ2G271KC          |
| 330                                        | 22 x 50            | 1.90                        | 2.66   | 0.603                       | 0.301 | EETUQ2G331HA                            | EETUQ2G331HJ          |
|                                            | 25 x 40            | 1.90                        | 2.66   | 0.603                       | 0.301 | EETUQ2G331JA                            | EETUQ2G331JJ          |
|                                            | 30 x 30            | 1.90                        | 2.66   | 0.603                       | 0.301 | EETUQ2G331KA                            | EETUQ2G331KJ          |
|                                            | 35 x 25            | 1.90                        | 2.66   | 0.603                       | 0.301 | EETUQ2G331LA                            | EETUQ2G331LJ          |
| 390                                        | 25 x 45            | 2.13                        | 2.98   | 0.510                       | 0.255 | EETUQ2G391JA                            | EETUQ2G391JJ          |
|                                            | 30 x 35            | 2.13                        | 2.98   | 0.510                       | 0.255 | EETUQ2G391KA                            | EETUQ2G391KJ          |
|                                            | 35 x 30            | 2.13                        | 2.98   | 0.510                       | 0.255 | EETUQ2G391LA                            | EETUQ2G391LJ          |
| 470                                        | 25 x 50            | 2.39                        | 3.35   | 0.423                       | 0.212 | EETUQ2G471JA                            | EETUQ2G471JJ          |
|                                            | 30 x 40            | 2.39                        | 3.35   | 0.423                       | 0.212 | EETUQ2G471KA                            | EETUQ2G471KJ          |
|                                            | 35 x 30            | 2.39                        | 3.35   | 0.423                       | 0.212 | EETUQ2G471LA                            | EETUQ2G471LJ          |
| 560                                        | 30 x 45            | 2.69                        | 3.77   | 0.355                       | 0.178 | EETUQ2G561KA                            | EETUQ2G561KJ          |
|                                            | 35 x 35            | 2.69                        | 3.77   | 0.355                       | 0.178 | EETUQ2G561LA                            | EETUQ2G561LJ          |
| 680                                        | 30 x 50            | 2.96                        | 4.14   | 0.293                       | 0.146 | EETUQ2G681KA                            | EETUQ2G681KJ          |
|                                            | 35 x 40            | 2.96                        | 4.14   | 0.293                       | 0.146 | EETUQ2G681LF                            | EETUQ2G681LC          |
|                                            | 35 x 45            | 2.96                        | 4.14   | 0.293                       | 0.146 | EETUQ2G681LA                            | EETUQ2G681LJ          |
| 820                                        | 35 x 45            | 3.25                        | 4.55   | 0.243                       | 0.121 | EETUQ2G821LF                            | EETUQ2G821LC          |
|                                            | 35 x 50            | 3.25                        | 4.55   | 0.243                       | 0.121 | EETUQ2G821LA                            | EETUQ2G821LJ          |
| 420 VDC Working, 470 VDC Surge             |                    |                             |        |                             |       |                                         |                       |
| 120                                        | 22 x 25            | 1.08                        | 1.51   | 1.658                       | 0.829 | EETUQ2S121HA                            | EETUQ2S121HJ          |
| 150                                        | 22 x 30            | 1.30                        | 1.82   | 1.326                       | 0.663 | EETUQ2S151HA                            | EETUQ2S151HJ          |
|                                            | 25 x 25            | 1.30                        | 1.82   | 1.326                       | 0.663 | EETUQ2S151JA                            | EETUQ2S151JJ          |
| 180                                        | 22 x 35            | 1.48                        | 2.07   | 1.105                       | 0.553 | EETUQ2S181HA                            | EETUQ2S181HJ          |
|                                            | 25 x 30            | 1.48                        | 2.07   | 1.105                       | 0.553 | EETUQ2S181JA                            | EETUQ2S181JJ          |
| 220                                        | 22 x 40            | 1.65                        | 2.31   | 0.904                       | 0.452 | EETUQ2S221HF                            | EETUQ2S221HC          |
|                                            | 25 x 35            | 1.65                        | 2.31   | 0.904                       | 0.452 | EETUQ2S221JA                            | EETUQ2S221JJ          |
|                                            | 30 x 25            | 1.65                        | 2.31   | 0.904                       | 0.452 | EETUQ2S221KA                            | EETUQ2S221KJ          |
| 270                                        | 22 x 45            | 1.94                        | 2.72   | 0.737                       | 0.368 | EETUQ2S271HF                            | EETUQ2S271HC          |
|                                            | 25 x 40            | 1.94                        | 2.72   | 0.737                       | 0.368 | EETUQ2S271JA                            | EETUQ2S271JJ          |
|                                            | 30 x 30            | 1.94                        | 2.72   | 0.737                       | 0.368 | EETUQ2S271KA                            | EETUQ2S271KJ          |
| 330                                        | 25 x 45            | 2.17                        | 3.03   | 0.603                       | 0.301 | EETUQ2S331JA                            | EETUQ2S331JJ          |
|                                            | 30 x 30            | 2.17                        | 3.03   | 0.603                       | 0.301 | EETUQ2S331KF                            | EETUQ2S331KC          |
|                                            | 35 x 25            | 2.17                        | 3.03   | 0.603                       | 0.301 | EETUQ2S331LA                            | EETUQ2S331LJ          |
| 390                                        | 25 x 50            | 2.27                        | 3.18   | 0.510                       | 0.255 | EETUQ2S391JA                            | EETUQ2S391JJ          |
|                                            | 30 x 35            | 2.27                        | 3.18   | 0.510                       | 0.255 | EETUQ2S391KA                            | EETUQ2S391KJ          |
|                                            | 35 x 30            | 2.27                        | 3.18   | 0.510                       | 0.255 | EETUQ2S391LA                            | EETUQ2S391LJ          |
| 470                                        | 30 x 40            | 2.61                        | 3.65   | 0.423                       | 0.212 | EETUQ2S471KF                            | EETUQ2S471KC          |
|                                            | 35 x 35            | 2.61                        | 3.65   | 0.423                       | 0.212 | EETUQ2S471LA                            | EETUQ2S471LJ          |
| 560                                        | 30 x 45            | 2.82                        | 3.95   | 0.355                       | 0.178 | EETUQ2S561KF                            | EETUQ2S561KC          |
|                                            | 35 x 40            | 2.82                        | 3.95   | 0.355                       | 0.178 | EETUQ2S561LA                            | EETUQ2S561LJ          |
| 680                                        | 30 x 50            | 3.11                        | 4.35   | 0.293                       | 0.146 | EETUQ2S681KF                            | EETUQ2S681KC          |
|                                            | 35 x 45            | 3.11                        | 4.35   | 0.293                       | 0.146 | EETUQ2S681LA                            | EETUQ2S681LJ          |

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## TS-UQ Standard Ratings (continued)

Part numbers shown with 2 pins and 4.0mm length terminal

| Cap.<br>( $\mu$ F)                         | Size (mm)<br>D x L | Max 85°C R.C. ( $A_{rms}$ ) |        | 20°C ESR ( $\Omega$ , max.) |       | Panasonic Part Number (By Sleeve Style) |                       |
|--------------------------------------------|--------------------|-----------------------------|--------|-----------------------------|-------|-----------------------------------------|-----------------------|
|                                            |                    | 120Hz                       | 10kHz~ | 120Hz                       | 20kHz | PVC with Top Plate                      | PET without Top Plate |
| 420 VDC Working, 470 VDC Surge (continued) |                    |                             |        |                             |       |                                         |                       |
| 820                                        | 35 x 50            | 3.30                        | 4.62   | 0.243                       | 0.121 | EETUQ2S821LA                            | EETUQ2S821LJ          |
| 450 VDC Working, 500 VDC Surge             |                    |                             |        |                             |       |                                         |                       |
| 82                                         | 22 x 25            | 0.83                        | 1.16   | 2.426                       | 1.213 | EETUQ2W820HA                            | EETUQ2W820HJ          |
| 100                                        | 22 x 25            | 0.93                        | 1.30   | 1.989                       | 0.995 | EETUQ2W101HA                            | EETUQ2W101HJ          |
| 120                                        | 22 x 30            | 1.04                        | 1.46   | 1.658                       | 0.829 | EETUQ2W121HA                            | EETUQ2W121HJ          |
| 150                                        | 22 x 30            | 1.19                        | 1.67   | 1.326                       | 0.663 | EETUQ2W151HF                            | EETUQ2W151HC          |
|                                            | 22 x 35            | 1.19                        | 1.67   | 1.326                       | 0.663 | EETUQ2W151HA                            | EETUQ2W151HJ          |
|                                            | 25 x 25            | 1.19                        | 1.67   | 1.326                       | 0.663 | EETUQ2W151JF                            | EETUQ2W151JC          |
|                                            | 25 x 30            | 1.19                        | 1.67   | 1.326                       | 0.663 | EETUQ2W151JA                            | EETUQ2W151JJ          |
| 180                                        | 22 x 35            | 1.35                        | 1.89   | 1.105                       | 0.553 | EETUQ2W181HF                            | EETUQ2W181HC          |
|                                            | 22 x 40            | 1.35                        | 1.89   | 1.105                       | 0.553 | EETUQ2W181HA                            | EETUQ2W181HJ          |
|                                            | 25 x 30            | 1.35                        | 1.89   | 1.105                       | 0.553 | EETUQ2W181JA                            | EETUQ2W181JJ          |
| 220                                        | 22 x 45            | 1.55                        | 2.17   | 0.904                       | 0.452 | EETUQ2W221HA                            | EETUQ2W221HJ          |
|                                            | 25 x 35            | 1.45                        | 2.03   | 0.904                       | 0.452 | EETUQ2W221JF                            | EETUQ2W221JC          |
|                                            | 25 x 40            | 1.55                        | 2.17   | 0.904                       | 0.452 | EETUQ2W221JA                            | EETUQ2W221JJ          |
|                                            | 30 x 25            | 1.55                        | 2.17   | 0.904                       | 0.452 | EETUQ2W221KF                            | EETUQ2W221KC          |
|                                            | 30 x 30            | 1.55                        | 2.17   | 0.904                       | 0.452 | EETUQ2W221KA                            | EETUQ2W221KJ          |
|                                            | 35 x 25            | 1.55                        | 2.17   | 0.904                       | 0.452 | EETUQ2W221LA                            | EETUQ2W221LJ          |
| 270                                        | 22 x 50            | 1.78                        | 2.49   | 0.737                       | 0.368 | EETUQ2W271HA                            | EETUQ2W271HJ          |
|                                            | 25 x 40            | 1.78                        | 2.49   | 0.737                       | 0.368 | EETUQ2W271JA                            | EETUQ2W271JJ          |
|                                            | 30 x 30            | 1.78                        | 2.49   | 0.737                       | 0.368 | EETUQ2W271KA                            | EETUQ2W271KJ          |
|                                            | 35 x 25            | 1.78                        | 2.49   | 0.737                       | 0.368 | EETUQ2W271LF                            | EETUQ2W271LC          |
| 330                                        | 25 x 45            | 2.01                        | 2.81   | 0.603                       | 0.301 | EETUQ2W331JF                            | EETUQ2W331JC          |
|                                            | 30 x 35            | 2.01                        | 2.63   | 0.603                       | 0.301 | EETUQ2W331KF                            | EETUQ2W331KC          |
|                                            | 30 x 40            | 2.01                        | 2.81   | 0.603                       | 0.301 | EETUQ2W331KA                            | EETUQ2W331KJ          |
|                                            | 35 x 30            | 2.01                        | 2.81   | 0.603                       | 0.301 | EETUQ2W331LA                            | EETUQ2W331LJ          |
| 390                                        | 30 x 40            | 2.24                        | 3.14   | 0.510                       | 0.255 | EETUQ2W391KA                            | EETUQ2W391KJ          |
|                                            | 35 x 30            | 2.24                        | 3.14   | 0.510                       | 0.255 | EETUQ2W391LF                            | EETUQ2W391LC          |
|                                            | 35 x 35            | 2.24                        | 3.14   | 0.510                       | 0.255 | EETUQ2W391LA                            | EETUQ2W391LJ          |
| 470                                        | 30 x 45            | 2.53                        | 3.54   | 0.423                       | 0.212 | EETUQ2W471KA                            | EETUQ2W471KJ          |
|                                            | 35 x 35            | 2.53                        | 3.54   | 0.423                       | 0.212 | EETUQ2W471LF                            | EETUQ2W471LC          |
|                                            | 35 x 40            | 2.53                        | 3.54   | 0.423                       | 0.212 | EETUQ2W471LA                            | EETUQ2W471LJ          |
| 560                                        | 30 x 50            | 2.82                        | 3.95   | 0.355                       | 0.178 | EETUQ2W561KA                            | EETUQ2W561KJ          |
|                                            | 35 x 40            | 2.82                        | 3.95   | 0.355                       | 0.178 | EETUQ2W561LF                            | EETUQ2W561LC          |
|                                            | 35 x 45            | 2.82                        | 3.95   | 0.355                       | 0.178 | EETUQ2W561LA                            | EETUQ2W561LJ          |
| 680                                        | 35 x 45            | 3.02                        | 4.23   | 0.293                       | 0.146 | EETUQ2W681LF                            | EETUQ2W681LC          |

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