



## TPE series characteristics list

| Size code | Part number    | Rated voltage (V) | Rated temperature (°C) | Rated capacitance (μF) | Category voltage (V) | Category temperature (°C) | DF (% max) | LC (μA) max/5min. | ESR (mΩ max) 100kHz/20°C | Maximum allowable ripple current (mA rms) 100kHz※1 | MSL<br>Reflow temp. ≤ 260°C    Reflow temp. ≤ 250°C |   |
|-----------|----------------|-------------------|------------------------|------------------------|----------------------|---------------------------|------------|-------------------|--------------------------|----------------------------------------------------|-----------------------------------------------------|---|
| B2        | 10TPE47MAZB    | 10                | 85                     | 47                     | 8.0                  | 105                       | 8.0        | 47.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 8TPE100MAZB    | 8.0               | 85                     | 100                    | 6.3                  | 105                       | 8.0        | 80.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 6TPE220MAZB    | 6.3               | 85                     | 220                    | 5.0                  | 105                       | 10         | 138.6             | 35                       | 1400                                               | 3                                                   | 3 |
|           | 6TPE220MAPB※2  | 6.3               | 85                     | 220                    | 5.0                  | 105                       | 10         | 138.6             | 25                       | 1400                                               | 3                                                   | 3 |
|           | 6TPE150MAZB    | 6.3               | 85                     | 150                    | 5.0                  | 105                       | 8.0        | 94.5              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 6TPE150MAPB    | 6.3               | 85                     | 150                    | 5.0                  | 105                       | 8.0        | 94.5              | 25                       | 1600                                               | 3                                                   | 3 |
|           | 6TPE120MAZB    | 6.3               | 85                     | 120                    | 5.0                  | 105                       | 8.0        | 75.6              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 6TPE100MPB     | 6.3               | 105                    | 100                    | 6.3                  | 105                       | 8.0        | 63.0              | 25                       | 1600                                               | 3                                                   | 3 |
|           | 6TPE100MAZB    | 6.3               | 85                     | 100                    | 5.0                  | 105                       | 8.0        | 63.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 4TPE220MAZB    | 4.0               | 85                     | 220                    | 3.2                  | 105                       | 8.0        | 88.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 4TPE150MAZB    | 4.0               | 85                     | 150                    | 3.2                  | 105                       | 8.0        | 60.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 4TPE100MZB     | 4.0               | 105                    | 100                    | 4.0                  | 105                       | 8.0        | 40.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 2R5TPE330MAZB  | 2.5               | 85                     | 330                    | 2.0                  | 105                       | 8.0        | 82.5              | 35                       | 1400                                               | 3                                                   | 3 |
|           | ETPE330MAFB※2  | 2.5               | 85                     | 330                    | 2.0                  | 105                       | 8.0        | 165.0             | 15                       | 2700                                               | 3                                                   | 3 |
|           | ETPE330MA9GB※2 | 2.5               | 85                     | 330                    | 2.0                  | 105                       | 8.0        | 165.0             | 9/300kHz                 | 3200                                               | 3                                                   | 3 |
|           | 2R5TPE220MZB   | 2.5               | 105                    | 220                    | 2.5                  | 105                       | 8.0        | 55.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 2R5TPE220MLB   | 2.5               | 105                    | 220                    | 2.5                  | 105                       | 8.0        | 55.0              | 21                       | 1700                                               | 3                                                   | 3 |
|           | 2R5TPE220MFGB  | 2.5               | 105                    | 220                    | 2.5                  | 105                       | 8.0        | 110.0             | 15/300kHz                | 1800                                               | 3                                                   | 3 |
|           | 2R5TPE220MAZB  | 2.5               | 85                     | 220                    | 2.0                  | 105                       | 8.0        | 55.0              | 35                       | 1400                                               | 3                                                   | 3 |
|           | 2R5TPE220MAPB  | 2.5               | 85                     | 220                    | 2.0                  | 105                       | 8.0        | 55.0              | 25                       | 1600                                               | 3                                                   | 3 |
|           | 2R5TPE220MAFB  | 2.5               | 85                     | 220                    | 2.0                  | 105                       | 8.0        | 110.0             | 15                       | 2000                                               | 3                                                   | 3 |
|           | 2TPE470MAJGB   | 2.0               | 85                     | 470                    | 1.8                  | 105                       | 10         | 188.0             | 11/300kHz                | 2300                                               | 3                                                   | 3 |
|           | 2TPE330MFB     | 2.0               | 105                    | 330                    | 2.0                  | 105                       | 8.0        | 132.0             | 15                       | 2000                                               | 3                                                   | 3 |
|           | 2TPE330MAFB    | 2.0               | 85                     | 330                    | 1.8                  | 105                       | 8.0        | 132.0             | 15                       | 2000                                               | 3                                                   | 3 |
|           | 2TPE330MADGB   | 2.0               | 85                     | 330                    | 1.8                  | 105                       | 8.0        | 132.0             | 13/300kHz                | 2000                                               | 3                                                   | 3 |

※1 100k to 500kHz,45°C ※2 Under development



## TPE series characteristics list

| Size<br>code | Part number   | Rated<br>voltage<br>(V) | Rated<br>temperature<br>(°C) | Rated<br>capacitance<br>(μF) | Category<br>voltage<br>(V) | Category<br>temperature<br>(°C) | DF<br>(% max) | LC<br>(μA)<br>max/5min. | ESR<br>(mΩmax)<br>100kHz/20°C | Maximum allowable<br>ripple current<br>(mA rms)<br>100kHz※1 | MSL                        |                            |
|--------------|---------------|-------------------------|------------------------------|------------------------------|----------------------------|---------------------------------|---------------|-------------------------|-------------------------------|-------------------------------------------------------------|----------------------------|----------------------------|
|              |               |                         |                              |                              |                            |                                 |               |                         |                               |                                                             | Reflow<br>temp.<br>≤ 260°C | Reflow<br>temp.<br>≤ 250°C |
| D15E         | 6TPE470MAZU   | 6.3                     | 85                           | 470                          | 5.0                        | 105                             | 10            | 296.1                   | 35                            | 1700                                                        | 3                          | 2a                         |
| D2E          | 10TPE68M      | 10                      | 105                          | 68                           | 10                         | 105                             | 10            | 68.0                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE330MAP    | 6.3                     | 85                           | 330                          | 5.0                        | 105                             | 10            | 207.9                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE220MAP    | 6.3                     | 85                           | 220                          | 5.0                        | 105                             | 10            | 138.6                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE220M      | 6.3                     | 105                          | 220                          | 6.3                        | 105                             | 10            | 138.6                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE220MI     | 6.3                     | 105                          | 220                          | 6.3                        | 105                             | 10            | 138.6                   | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 6TPE150M      | 6.3                     | 105                          | 150                          | 6.3                        | 105                             | 10            | 94.5                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE150MI     | 6.3                     | 105                          | 150                          | 6.3                        | 105                             | 10            | 94.5                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 6TPE150MF     | 6.3                     | 105                          | 150                          | 6.3                        | 105                             | 10            | 94.5                    | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 6TPE100M      | 6.3                     | 105                          | 100                          | 6.3                        | 105                             | 10            | 63.0                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE100MI     | 6.3                     | 105                          | 100                          | 6.3                        | 105                             | 10            | 63.0                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 4TPE330M      | 4.0                     | 105                          | 330                          | 4.0                        | 105                             | 10            | 132.0                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 4TPE330MI     | 4.0                     | 105                          | 330                          | 4.0                        | 105                             | 10            | 132.0                   | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 4TPE220M      | 4.0                     | 105                          | 220                          | 4.0                        | 105                             | 10            | 88.0                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 4TPE220MI     | 4.0                     | 105                          | 220                          | 4.0                        | 105                             | 10            | 88.0                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 4TPE220MF     | 4.0                     | 105                          | 220                          | 4.0                        | 105                             | 10            | 88.0                    | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 4TPE150MI     | 4.0                     | 105                          | 150                          | 4.0                        | 105                             | 10            | 60.0                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 2R5TPE470MI   | 2.5                     | 105                          | 470                          | 2.5                        | 105                             | 10            | 117.5                   | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 2R5TPE470MF   | 2.5                     | 105                          | 470                          | 2.5                        | 105                             | 10            | 117.5                   | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 2R5TPE470MC   | 2.5                     | 105                          | 470                          | 2.5                        | 105                             | 10            | 117.5                   | 12                            | 3500                                                        | 3                          | 2a                         |
|              | 2R5TPE470M9   | 2.5                     | 105                          | 470                          | 2.5                        | 105                             | 10            | 117.5                   | 9                             | 3900                                                        | 3                          | 2a                         |
|              | 2R5TPE470M7   | 2.5                     | 105                          | 470                          | 2.5                        | 105                             | 10            | 117.5                   | 7                             | 4400                                                        | 3                          | 2a                         |
|              | 2R5TPE330M    | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 2R5TPE330MI   | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 2R5TPE330MF   | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 2R5TPE330MC   | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 12                            | 3500                                                        | 3                          | 2a                         |
|              | 2R5TPE330M9   | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 9                             | 3900                                                        | 3                          | 2a                         |
|              | 2R5TPE330M7   | 2.5                     | 105                          | 330                          | 2.5                        | 105                             | 10            | 82.5                    | 7                             | 4400                                                        | 3                          | 2a                         |
|              | 2R5TPE220M    | 2.5                     | 105                          | 220                          | 2.5                        | 105                             | 10            | 55.0                    | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 2R5TPE220MI   | 2.5                     | 105                          | 220                          | 2.5                        | 105                             | 10            | 55.0                    | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 2R5TPE220MF   | 2.5                     | 105                          | 220                          | 2.5                        | 105                             | 10            | 55.0                    | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 2R5TPE220M9   | 2.5                     | 105                          | 220                          | 2.5                        | 105                             | 10            | 55.0                    | 9                             | 3900                                                        | 3                          | 2a                         |
| D3L          | 10TPE220ML    | 10                      | 105                          | 220                          | 10                         | 105                             | 10            | 220.0                   | 25                            | 2400                                                        | —                          | 2a                         |
|              | 10TPE220MIL   | 10                      | 105                          | 220                          | 10                         | 105                             | 10            | 220.0                   | 18                            | 2800                                                        | —                          | 2a                         |
|              | 6TPE330MAL    | 6.3                     | 85                           | 330                          | 5.0                        | 105                             | 10            | 207.9                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE330MA9EL  | 6.3                     | 85                           | 330                          | 5.0                        | 105                             | 10            | 207.9                   | 9/500kHz                      | 3900                                                        | 3                          | 2a                         |
|              | 6TPE330ML     | 6.3                     | 105                          | 330                          | 6.3                        | 105                             | 10            | 207.9                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 6TPE330MIL    | 6.3                     | 105                          | 330                          | 6.3                        | 105                             | 10            | 207.9                   | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 6TPE330MFL    | 6.3                     | 105                          | 330                          | 6.3                        | 105                             | 10            | 207.9                   | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 4TPE470ML     | 4.0                     | 105                          | 470                          | 4.0                        | 105                             | 10            | 188.0                   | 25                            | 2400                                                        | 3                          | 2a                         |
|              | 4TPE470MIL    | 4.0                     | 105                          | 470                          | 4.0                        | 105                             | 10            | 188.0                   | 18                            | 2800                                                        | 3                          | 2a                         |
|              | 4TPE470MFL    | 4.0                     | 105                          | 470                          | 4.0                        | 105                             | 10            | 188.0                   | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 4TPE470MCL    | 4.0                     | 105                          | 470                          | 4.0                        | 105                             | 10            | 188.0                   | 12                            | 3500                                                        | 3                          | 2a                         |
|              | 4TPE470MAL ※2 | 4.0                     | 105                          | 470                          | 4.0                        | 105                             | 10            | 188.0                   | 10                            | 4400                                                        | 3                          | 2a                         |
| D4           | 2R5TPE680MFL  | 2.5                     | 105                          | 680                          | 2.5                        | 105                             | 10            | 170.0                   | 15                            | 3100                                                        | 3                          | 2a                         |
|              | 2R5TPE680MCL  | 2.5                     | 105                          | 680                          | 2.5                        | 105                             | 10            | 170.0                   | 12                            | 3500                                                        | 3                          | 2a                         |
|              | 10TPE330M     | 10                      | 105                          | 330                          | 10                         | 105                             | 10            | 330.0                   | 25                            | 3000                                                        | —                          | 2a                         |
|              | 6TPE680M      | 6.3                     | 105                          | 680                          | 6.3                        | 105                             | 15            | 428.4                   | 25                            | 3000                                                        | 3                          | 2a                         |
|              | 6TPE680MI     | 6.3                     | 105                          | 680                          | 6.3                        | 105                             | 15            | 428.4                   | 18                            | 3500                                                        | 3                          | 2a                         |
|              | 6TPE470M      | 6.3                     | 105                          | 470                          | 6.3                        | 105                             | 15            | 296.1                   | 25                            | 3000                                                        | 3                          | 2a                         |
|              | 6TPE470MI     | 6.3                     | 105                          | 470                          | 6.3                        | 105                             | 15            | 296.1                   | 18                            | 3500                                                        | 3                          | 2a                         |
|              | 6TPE330MAA    | 6.3                     | 85                           | 330                          | 5.0                        | 105                             | 15            | 207.9                   | 10                            | 4400                                                        | 3                          | 2a                         |
|              | 2R5TPE1000MF  | 2.5                     | 105                          | 1000                         | 2.5                        | 105                             | 15            | 250.0                   | 15                            | 3900                                                        | 3                          | 2a                         |
|              | 2R5TPE1500MF  | 2.5                     | 105                          | 1500                         | 2.5                        | 105                             | 15            | 375.0                   | 15                            | 3900                                                        | —                          | 2a                         |
|              | 2R5TPE1500MC  | 2.5                     | 105                          | 1500                         | 2.5                        | 105                             | 15            | 375.0                   | 12                            | 4400                                                        | —                          | 2a                         |

※1 100k to 500kHz, 45°C

※2 Under development