

# FPCAP Functional Polymer Aluminum Solid Electrolytic Capacitors

## L8 series

### Features

By using Functional Polymer cathode, Frequency & Temp. characteristics are greatly improved.

- Low ESR at a high frequency range.
- High ripple current capability.
- Long life and high reliability.

### Applications

- Switching Power Supply and DC/DC Converter.
- Back up Power Supplies of CPU(VRM etc.)
- Miniature high Power Supply.

### Environmental Correspondence

- Corresponding to Lead-free, RoHS compliance and Halogen-free.
- The Lead-free of terminal plating (Sn)

### Specifications

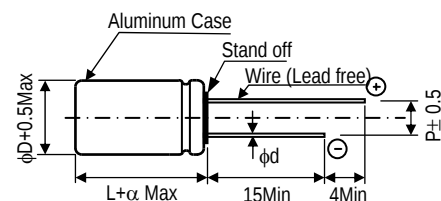
| Items                 |                 | Characteristics                           |
|-----------------------|-----------------|-------------------------------------------|
|                       |                 | L8                                        |
| Operating Temp. Range |                 | - 55 to + 105°C                           |
| Rated Voltage Range   |                 | 2.5 to 35V <sub>DC</sub>                  |
| Capacitance Range     |                 | 100 to 1500μF                             |
| Capacitance Tolerance |                 | ± 20% (M)                                 |
| Endurance             | Condition       | 105°C 2000/5000Hrs at rated voltage       |
|                       | Capacitance     | Within ± 20% of the value before test     |
|                       | Leakage Current | Not to exceed the value specified         |
|                       | tan δ           | Not to exceed 150% of the value specified |
| Failure Rate          |                 | 0.1% / 1000Hrs. Max (60%CL)               |

### Size List

[φD×L]

| R.V.(S.V.)<br>Cap. [μF] | 2.5<br>(2.8) | 4.0<br>(4.6) | 6.3<br>(7.2) | 16<br>(18.4) | 35<br>(40.2) |
|-------------------------|--------------|--------------|--------------|--------------|--------------|
| 100                     |              |              |              | 8×8          | 8×8          |
| 180                     |              |              |              | 8×8          |              |
| 220                     |              |              |              | 8×8          |              |
| 270                     |              |              |              | 8×8          |              |
| 330                     |              |              |              | 8×8          |              |
| 470                     |              |              | 8×8          |              |              |
| 560                     | 8×8          | 8×8          | 8×8          |              |              |
| 680                     |              |              | 8×8          |              |              |
| 820                     | 8×8          | 8×8          | 8×8          |              |              |
| 1000                    | 8×8          |              | 8×8          |              |              |
| 1200                    | 8×8          |              |              |              |              |
| 1500                    | 8×8          |              |              |              |              |

### Dimensions



[Unit : mm]

| φD×L | φd  | P   | α   |
|------|-----|-----|-----|
| 8×8  | 0.6 | 3.5 | 1.0 |



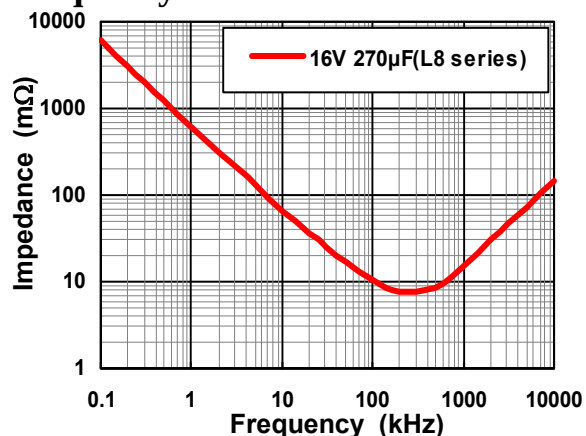
## Part number & Specifications

| Rated Voltage<br>(V) | Rated Capacitance<br>( $\mu$ F, 120Hz) | Part Number      |                      | Leakage Current *<br>( $\mu$ A, 2 min) | $\tan\delta$<br>(120Hz) | ESR<br>(m $\Omega$ , 100kHz) | Rated Ripple Current<br>(mA, r.m.s.) | Case Size<br>$\phi D \times L$ (mm) |
|----------------------|----------------------------------------|------------------|----------------------|----------------------------------------|-------------------------|------------------------------|--------------------------------------|-------------------------------------|
|                      |                                        | NICHICON         | FPCAP                |                                        |                         |                              |                                      |                                     |
| 2.5                  | 560                                    | RL80E561MDN1□□   | FP-2R5RE561M-L8□□    | 500                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | ** 560                                 | RL80E561MDNASQ□□ | FP-2R5RE561M-L8□□-5K | 500                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | 820                                    | RL80E821MDN1□□   | FP-2R5RE821M-L8□□    | 513                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | ** 820                                 | RL80E821MDNASQ□□ | FP-2R5RE821M-L8□□-5K | 513                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | 1000                                   | RL80E102MDN1□□   | FP-2R5RE102M-L8□□    | 625                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | 1200                                   | RL80E122MDN1□□   | FP-2R5RE122M-L8□□    | 750                                    | 0.12                    | 7                            | 6100                                 | 8 × 8                               |
| 4.0                  | 1500                                   | RL80E152MDN1□□   | FP-2R5RE152M-L8□□    | 938                                    | 0.12                    | 7                            | 6100                                 | 8 × 8                               |
|                      | 560                                    | RL80G561MDN1□□   | FP-4R0RE561M-L8□□    | 560                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | ** 560                                 | RL80G561MDNASQ□□ | FP-4R0RE561M-L8□□-5K | 560                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
| 6.3                  | 820                                    | RL80G821MDN1□□   | FP-4R0RE821M-L8□□    | 820                                    | 0.12                    | 6                            | 6100                                 | 8 × 8                               |
|                      | 470                                    | RL80J471MDN1□□   | FP-6R3RE471M-L8□□    | 592                                    | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
|                      | ** 470                                 | RL80J471MDNASQ□□ | FP-6R3RE471M-L8□□-5K | 592                                    | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
|                      | 560                                    | RL80J561MDN1□□   | FP-6R3RE561M-L8□□    | 706                                    | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
|                      | ** 560                                 | RL80J561MDNASQ□□ | FP-6R3RE561M-L8□□-5K | 706                                    | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
|                      | 680                                    | RL80J681MDN1□□   | FP-6R3RE681M-L8□□    | 857                                    | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
| 16                   | 820                                    | RL80J821MDN1□□   | FP-6R3RE821M-L8□□    | 1033                                   | 0.12                    | 8                            | 5700                                 | 8 × 8                               |
|                      | 1000                                   | RL80J102MDN1□□   | FP-6R3RE102M-L8□□    | 1260                                   | 0.12                    | 9                            | 5700                                 | 8 × 8                               |
|                      | 100                                    | RL81C101MDN1□□   | FP-016RE101M-L8□□    | 320                                    | 0.12                    | 12                           | 5000                                 | 8 × 8                               |
|                      | 180                                    | RL81C181MDN1□□   | FP-016RE181M-L8□□    | 576                                    | 0.12                    | 12                           | 5000                                 | 8 × 8                               |
| 35                   | 220                                    | RL81C221MDN1□□   | FP-016RE221M-L8□□    | 704                                    | 0.12                    | 12                           | 5000                                 | 8 × 8                               |
|                      | 270                                    | RL81C271MDN1□□   | FP-016RE271M-L8□□    | 864                                    | 0.12                    | 10                           | 5000                                 | 8 × 8                               |
|                      | 330                                    | RL81C331MDN1□□   | FP-016RE331M-L8□□    | 1056                                   | 0.12                    | 12                           | 5000                                 | 8 × 8                               |
| 35                   | 100                                    | RL81V101MDN1□□   | FP-035RE101M-L8□□    | 700                                    | 0.12                    | 25                           | 3000                                 | 8 × 8                               |

\* In case of some doubt about measured values, measure after applying rated voltage for 120 minutes at 105°C.

\*\* Endurance 5000hrs product.

## Frequency Characteristics



## Part Number (EX) 6.3V, 560 $\mu$ F, 5000hrs (Endurance)

Nichicon P/N

|                |               |                |                   |                       |                                                                                                        |              |              |
|----------------|---------------|----------------|-------------------|-----------------------|--------------------------------------------------------------------------------------------------------|--------------|--------------|
| <b>R</b>       | <b>L8</b>     | <b>0J</b>      | <b>561</b>        | <b>M</b>              | <b>DN</b>                                                                                              | <b>ASQ</b>   |              |
| Type           | Series Name   | Rated Voltage  | Rated Capacitance | Capacitance Tolerance | Configuration                                                                                          | Control Code | Lead Forming |
|                |               |                |                   |                       | ASQ : 5000hrs<br>1 : 2000hrs                                                                           |              |              |
|                |               |                |                   |                       | CG: Cut lead (Bulk)<br>KX: φ8, 3.5mm pitch taping<br>PX: φ8, 5.0mm pitch taping                        |              |              |
| FPCAP P/N      |               |                |                   |                       |                                                                                                        |              |              |
| <b>FP</b>      | <b>6R3</b>    | <b>RE</b>      | <b>561</b>        | <b>M</b>              | <b>L8</b>                                                                                              | <b>R</b>     | <b>-5K</b>   |
| Commodity Mark | Rated Voltage | Classification | Rated Capacitance | Capacitance Tolerance | Series Name                                                                                            | Lead Forming | Control Code |
|                |               |                |                   |                       | R: Long lead (Bulk)<br>CG: Cut lead (Bulk)<br>K : φ8, 3.5mm pitch taping<br>P : φ8, 5.0mm pitch taping |              |              |
|                |               |                |                   |                       | -5K : 5000hrs<br>Without -5K: 2000hrs                                                                  |              |              |