

# FPCAP Functional Polymer Aluminum Solid Electrolytic Capacitors

## HT series

Low ESR

Guarantee  
125°C

Large  
Capacitance

Lead-free

RoHS  
Compliance

UPGRADE



### Features

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

- Low ESR at a high frequency range.
- High ripple current capability.
- Guaranteed at 125 degrees 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

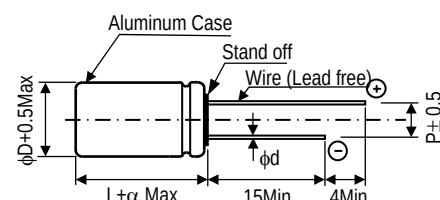
| Items                 |                 | Characteristics                           |
|-----------------------|-----------------|-------------------------------------------|
|                       |                 | HT                                        |
| Operating Temp. Range |                 | - 55 to + 125°C                           |
| Rated Voltage Range   |                 | 6.3 to 20V·dc                             |
| Capacitance Range     |                 | 150 to 820μF                              |
| Capacitance Tolerance |                 | ± 20% (M)                                 |
| Endurance             | Condition       | 125°C 1000Hrs 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          |                 | 0.5% / 1000Hrs. Max (60%CL)               |

### Size List

[φD×L]

| R.V (S.V.)<br>Cap. [μF] | 6.3<br>(7.2) | 10<br>(11.5) | 16<br>(18.4) | 20<br>(23) |
|-------------------------|--------------|--------------|--------------|------------|
| 150                     |              |              |              | 10×12.5    |
| 220                     |              | 8×11.5       |              |            |
| 270                     |              |              | 10×12.5      |            |
| 330                     |              | 8×11.5       | 10×12.5      |            |
| 390                     |              | 8×11.5       |              |            |
| 560                     |              | 10×12.5      |              |            |
| 680                     | 10×12.5      |              |              |            |
| 820                     | 10×12.5      |              |              |            |

### Dimensions



[Unit : mm]

| φD×L    | φd  | P   | α   |
|---------|-----|-----|-----|
| 8×11.5  | 0.6 | 3.5 | 1.5 |
| 10×12.5 | 0.6 | 5.0 | 1.5 |

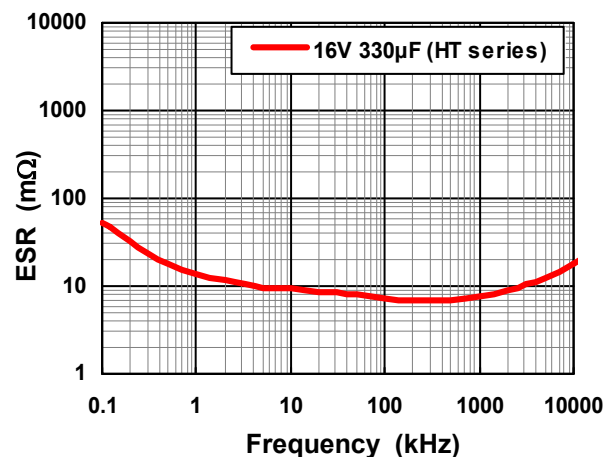
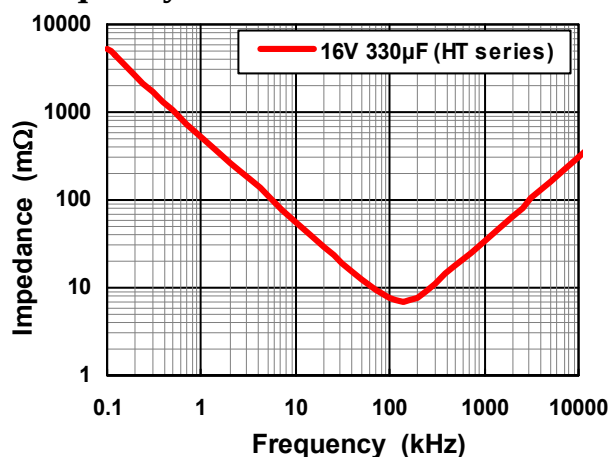
## Part number & Specifications

| Rated Voltage<br>(V) | Rated Capacitance<br>( $\mu$ F, 120Hz) | Part Number    |                   | Leakage Current *1<br>( $\mu$ A, 2 min) | $\tan\delta$<br>(120Hz) | ESR<br>(m $\Omega$ , 100kHz) | Rated Ripple Current |                   | Case Size<br>$\phi$ D $\times$ L(mm) |
|----------------------|----------------------------------------|----------------|-------------------|-----------------------------------------|-------------------------|------------------------------|----------------------|-------------------|--------------------------------------|
|                      |                                        | NICHICON       | FPCAP             |                                         |                         |                              | *2 105°C or less     | *2 105°C to 125°C |                                      |
| 6.3                  | 680                                    | RHT0J681MDN1□□ | FP-6R3RE681M-HT□□ | 857                                     | 0.12                    | 12                           | 5450                 | 1740              | 10 $\times$ 12.5                     |
|                      | 820                                    | RHT0J821MDN1□□ | FP-6R3RE821M-HT□□ | 1033                                    | 0.12                    | 12                           | 5450                 | 1740              | 10 $\times$ 12.5                     |
| 10                   | 220                                    | RHT1A221MDN1□□ | FP-010RE221M-HT□□ | 440                                     | 0.12                    | 17                           | 3950                 | 1260              | 8 $\times$ 11.5                      |
|                      | 330                                    | RHT1A331MDN1□□ | FP-010RE331M-HT□□ | 660                                     | 0.12                    | 17                           | 3950                 | 1260              | 8 $\times$ 11.5                      |
|                      | 390                                    | RHT1A391MDN1□□ | FP-010RE391M-HT□□ | 780                                     | 0.12                    | 16                           | 3950                 | 1260              | 8 $\times$ 11.5                      |
|                      | 560                                    | RHT1A561MDN1□□ | FP-010RE561M-HT□□ | 1120                                    | 0.12                    | 13                           | 5250                 | 1680              | 10 $\times$ 12.5                     |
| 16                   | 270                                    | RHT1C271MDN1□□ | FP-016RE271M-HT□□ | 864                                     | 0.12                    | 16                           | 4750                 | 1520              | 10 $\times$ 12.5                     |
|                      | 330                                    | RHT1C331MDN1□□ | FP-016RE331M-HT□□ | 1056                                    | 0.12                    | 16                           | 4750                 | 1520              | 10 $\times$ 12.5                     |
| 20                   | 150                                    | RHT1D151MDN1□□ | FP-020RE151M-HT□□ | 600                                     | 0.12                    | 20                           | 4350                 | 1390              | 10 $\times$ 12.5                     |

\*1: In case of some doubt about measured values, measure after applying rated voltage for 120 minutes at 105°C.

\*2: At ambient temperature

## Frequency Characteristics



## Part Number (EX) 16V, 330 $\mu$ F

Nichicon P/N

|          |             |               |                   |                       |               |              |              |
|----------|-------------|---------------|-------------------|-----------------------|---------------|--------------|--------------|
| <b>R</b> | <b>HT</b>   | <b>1C</b>     | <b>331</b>        | <b>M</b>              | <b>DN</b>     | <b>1</b>     |              |
| Type     | Series Name | Rated Voltage | Rated Capacitance | Capacitance Tolerance | Configuration | Control Code | Lead Forming |

CG: Cut lead (Bulk)  
KX:  $\phi$ 8, 3.5mm pitch taping  
PX:  $\phi$ 8, 5.0mm pitch taping  
PH:  $\phi$ 10, 5.0mm pitch taping

FPCAP P/N

|                |               |                |                   |                       |             |              |              |
|----------------|---------------|----------------|-------------------|-----------------------|-------------|--------------|--------------|
| <b>FP</b>      | <b>016</b>    | <b>RE</b>      | <b>331</b>        | <b>M</b>              | <b>HT</b>   | <b>R</b>     |              |
| Commodity Mark | Rated Voltage | Classification | Rated Capacitance | Capacitance Tolerance | Series Name | Lead Forming | Control Code |

R: Long lead (Bulk)  
CG: Cut lead (Bulk)  
K :  $\phi$ 8, 3.5mm pitch taping  
P :  $\phi$ 8, 5.0mm pitch taping  
PH:  $\phi$ 10, 5.0mm pitch taping