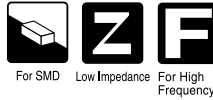


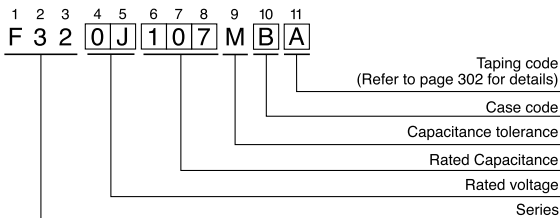
## F32 Conductive Polymer Resin-molded Chip



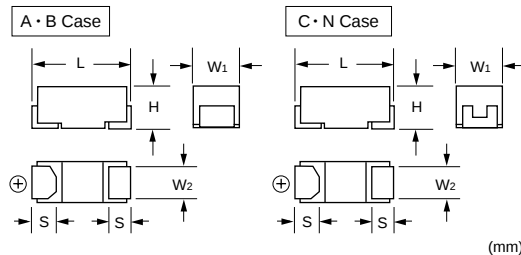
● Adapted to the RoHS directive (2002/95/EC).



### ■ Type numbering system (Example : 6.3V 100μF)

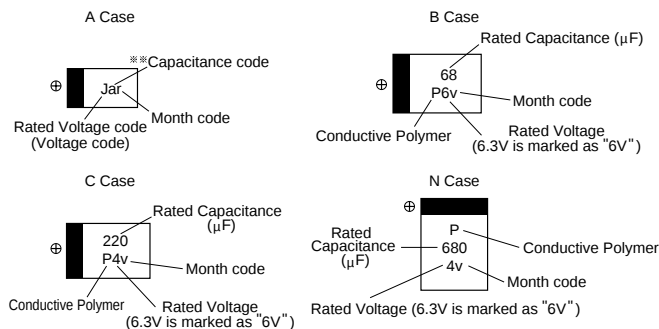


### ■ Dimensions



| Case code | L       | W1      | W2      | H       | S       |
|-----------|---------|---------|---------|---------|---------|
| A         | 3.2±0.2 | 1.6±0.2 | 1.2±0.1 | 1.6±0.2 | 0.8±0.2 |
| B         | 3.5±0.2 | 2.8±0.2 | 2.2±0.1 | 1.9±0.2 | 0.8±0.2 |
| C         | 6.0±0.2 | 3.2±0.2 | 2.2±0.1 | 2.5±0.2 | 1.3±0.2 |
| N         | 7.3±0.2 | 4.3±0.2 | 2.4±0.1 | 2.8±0.2 | 1.3±0.2 |

### ■ Marking



### ■ Standard ratings

| V         | 2.5 | 4       | 6.3     | 10 | Capacitance code |
|-----------|-----|---------|---------|----|------------------|
| Cap. (μF) | 0E  | 0G      | 0J      | 1A |                  |
| 10        | 226 |         |         | A  | a                |
| 22        | 226 |         |         | A  | J                |
| 33        | 336 |         | A       | A  | n                |
| 47        | 476 | A       | A       | B  | s                |
| 68        | 686 | A       | B       |    | w                |
| 100       | 107 | B       | B       | C  |                  |
| 150       | 157 | B       | (B) · C | C  |                  |
| 220       | 227 | B       | (B) · C | N  |                  |
| 330       | 337 | (B) · C | C       | N  |                  |
| 680       | 687 | N       |         |    |                  |
| 1000      | 108 | N       |         |    |                  |

### ■ Specifications

| Item                         | Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category Temperature Range   | -55 to +105°C (Rated temperature + 85°C)                                                                                                                                                                                                                                                                                                                                                                   |
| Capacitance Tolerance        | ±20% (120Hz)                                                                                                                                                                                                                                                                                                                                                                                               |
| Dissipation Factor(at 120Hz) | Refer to the list below                                                                                                                                                                                                                                                                                                                                                                                    |
| ESR (100kHz)                 | Refer to the list below                                                                                                                                                                                                                                                                                                                                                                                    |
| Leakage Current              | After 5 minutes' application of rated voltage, leakage current at 20°C is not more than 0.1CV                                                                                                                                                                                                                                                                                                              |
| Ripple Current               | Refer to the list below                                                                                                                                                                                                                                                                                                                                                                                    |
| Damp Heat (Steady State)     | At 60°C, 90 to 95% R.H. 500hours (No voltage applied)<br>Capacitance Change-Within -20 to +30% of initial value<br>Dissipation Factor-1.5 times Initial specified value or less<br>Leakage Current-Initial specified value or less                                                                                                                                                                         |
| Temperature Cycles           | -55°C / +105°C 30 minutes each 5 cycle<br>Capacitance Change-Within ±20% of initial value<br>Dissipation Factor-Initial specified value or less<br>Leakage Current-Initial specified value or less                                                                                                                                                                                                         |
| Resistance to Soldering Heat | Test Condition:10 second reflow at 240°C<br>Capacitance Change-Within ±20% of initial value<br>Dissipation Factor-1.3 times Initial specified value or less<br>Leakage Current-Initial specified value or less                                                                                                                                                                                             |
| Surge                        | After application of surge voltage in series with a 1kΩ resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85°C, capacitors meet the characteristics requirements listed below.<br>Capacitance Change-Within ±20% of initial value<br>Dissipation Factor-Initial specified value or less<br>Leakage Current-Initial specified value or less                         |
| Endurance 1                  | After 1000 hours' application of rated voltage in series with a 3Ω resistor at 85°C.<br>Capacitance Change-Within ±20% of initial value<br>Dissipation Factor-1.5 times Initial specified value or less<br>Leakage Current-Initial specified value or less                                                                                                                                                 |
| Endurance 2                  | After 1000 hours' application of rated voltage in series with a 3Ω resistor at 105°C, capacitors meet the characteristic requirements listed below<br>Capacitance Change-Within ±20% of initial value<br>Dissipation Factor-3 times Initial specified value or less<br>Leakage Current-Initial specified value or less                                                                                     |
| Shear Test                   | After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on an aluminum substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.                                                                                                                               |
| Terminal Strength            | Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of the capacitor, the pressure strength is applied with a specified jig at the center of the substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. |

\* As for the surge voltage refer to page 301 for details.

### ■ Standard ratings

| Rated Volt (V) | Rated Capacitance (μF) | Case code | Part Number | Leakage Current (μA) | Dissipation Factor (%@ 120Hz) | ESR (mΩ@100kHz) | Rated Ripple (mA@100kHz) |
|----------------|------------------------|-----------|-------------|----------------------|-------------------------------|-----------------|--------------------------|
| 2.5            | 220                    | B         | F320E227MBA | 55.0                 | 8                             | 45 (35)*        | 1374                     |
|                | 330                    | C         | F320E337MCC | 82.5                 | 10                            | 55 (45)*        | 1414                     |
|                | 1000                   | N         | F320E108MNC | 250                  | 10                            | 25              | 2449                     |
| 4              | 47                     | A         | F320G476MAA | 18.8                 | 6                             | 180             | 645                      |
|                | 68                     | A         | F320G686MAA | 27.2                 | 6                             | 180             | 645                      |
|                | 100                    | B         | F320G107MBA | 40.0                 | 8                             | 70 (45,35)*     | 1102                     |
|                | 150                    | B         | F320G157MBA | 60.0                 | 8                             | 45 (35)*        | 1374                     |
|                | 220                    | C         | F320G227MCC | 88.0                 | 8                             | 55 (45)*        | 1414                     |
|                | 330                    | C         | F320G337MCC | 132                  | 10                            | 55              | 1414                     |
| 6.3            | 680                    | N         | F320G687MNC | 272                  | 10                            | 25              | 2449                     |
|                | 33                     | A         | F320J336MAA | 21                   | 6                             | 180             | 645                      |
|                | 47                     | A         | F320J476MAA | 29.6                 | 6                             | 180             | 645                      |
|                | 68                     | B         | F320J686MBA | 42.9                 | 8                             | 70              | 1102                     |
|                | 100                    | B         | F320J107MBA | 63.0                 | 8                             | 70 (45,35)*     | 1102                     |
|                | 150                    | C         | F320J157MCC | 94.5                 | 9                             | 100 (55,45)*    | 1049                     |
| 10             | 220                    | N         | F320J227MNC | 139                  | 10                            | 55 (40)*        | 1651                     |
|                | 330                    | N         | F320J337MNC | 208                  | 10                            | 40 (25)*        | 1936                     |
|                | 10                     | A         | F321A106MAA | 10                   | 6                             | 180             | 645                      |
|                | 22                     | A         | F321A226MAA | 22.0                 | 6                             | 180             | 645                      |
|                | 33                     | A         | F321A336MAA | 33.0                 | 6                             | 200             | 612                      |
|                | 47                     | B         | F321A476MBA | 47.0                 | 8                             | 70              | 1102                     |
| 10             | 100                    | C         | F321A107MCC | 100                  | 9                             | 55              | 1414                     |
|                | 150                    | C         | F321A157MCC | 150                  | 9                             | 55              | 1414                     |
|                | 220                    | N         | F321A227MNC | 220                  | 10                            | 55 (40,25)*     | 1651                     |

\* ( ) ESR specification types are also available upon request.

Please contact to your local Nichicon sales office when these series are being designed in your application.

CAT.8100X