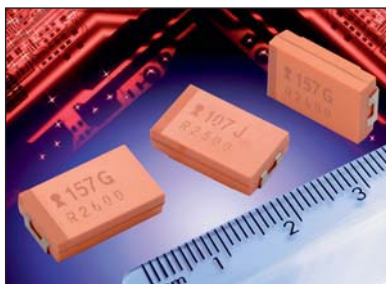


# OxiCap® NOJ Series



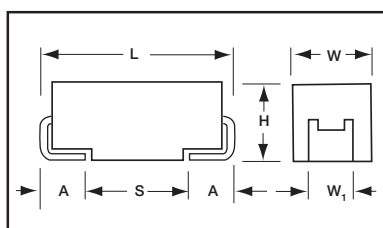
## Low Profile



- Non-burn safe technology
- Reliability level: 0.5%/1000 hrs.
- CV range: 2.2-470µF / 1.8-10V
- 7 case sizes in low profile available
- IBM global approval received in 2004
- Elektra Award received in 2005



Elektra Award  
2005



For part marking see page 157

### CASE DIMENSIONS: millimeters (inches)

| Code | EIA Code | EIA Metric | L±0.20 (0.008) | W+0.20 (0.008) -0.10 (0.004) | H Max        | W <sub>1</sub> ±0.20 (0.008) | A+0.30 (0.012) -0.20 (0.008) | S Min.       |
|------|----------|------------|----------------|------------------------------|--------------|------------------------------|------------------------------|--------------|
| F    | 2312     | 6032-20    | 6.00 (0.236)   | 3.20 (0.126)                 | 2.00 (0.079) | 2.20 (0.087)                 | 1.30 (0.051)                 | 2.90 (0.114) |
| P    | 0805     | 2012-15    | 2.05 (0.081)   | 1.35 (0.053)                 | 1.50 (0.059) | 1.00±0.10 (0.039±0.004)      | 0.50 (0.020)                 | 0.85 (0.033) |
| S    | 1206     | 3216-12    | 3.20 (0.126)   | 1.60 (0.063)                 | 1.20 (0.047) | 1.20 (0.047)                 | 0.80 (0.031)                 | 1.10 (0.043) |
| T    | 1210     | 3528-12    | 3.50 (0.138)   | 2.80 (0.110)                 | 1.20 (0.047) | 2.20 (0.087)                 | 0.80 (0.031)                 | 1.40 (0.055) |
| W    | 2312     | 6032-15    | 6.00 (0.236)   | 3.20 (0.126)                 | 1.50 (0.059) | 2.20 (0.087)                 | 1.30 (0.051)                 | 2.90 (0.114) |
| X    | 2917     | 7343-15    | 7.30 (0.287)   | 4.30 (0.169)                 | 1.50 (0.059) | 2.40 (0.094)                 | 1.30 (0.051)                 | 4.40 (0.173) |
| Y    | 2917     | 7343-20    | 7.30 (0.287)   | 4.30 (0.169)                 | 2.00 (0.079) | 2.40 (0.094)                 | 1.30 (0.051)                 | 4.40 (0.173) |

W<sub>1</sub> dimension applies to the termination width for A dimensional area only.  
Pad Stand-off is 0.1±0.1.

### HOW TO ORDER

**NOJ**



Type

**Y**



Case Size  
See table above

**107**



Capacitance Code  
1st two digits represent significant figures, 3rd digit represents multiplier in pF

**M**



Tolerance  
M=±20%

**006**



Rated DC Voltage  
001 = 1.8Vdc  
002 = 2.5Vdc  
004 = 4Vdc  
006 = 6.3Vdc  
010 = 10Vdc

**R**



Packaging  
R = Pure Tin 7" Reel  
S = Pure Tin 13" Reel

**WJ**



Specification Suffix  
WJ = Standard Suffix

**—**



Additional characters may be added for special requirements  
V = Dry pack Option (selected codes only) with exception of X, Y cases

### TECHNICAL SPECIFICATIONS

Technical Data:

All technical data relate to an ambient temperature of +25°C is not stated

Capacitance Range: 2.2 µF to 470 µF

Capacitance Tolerance: ±20%

Leakage Current DCL: 0.02CV

| Rated Voltage DC (V <sub>R</sub> ) | ≤ +85°C:  | 1.8 | 2.5 | 4   | 6.3 | 10 |  |
|------------------------------------|-----------|-----|-----|-----|-----|----|--|
| Category Voltage (V <sub>C</sub> ) | ≤ +105°C: | 1.2 | 1.7 | 2.7 | 4   | 7  |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +85°C:  | 2.3 | 3.3 | 5.2 | 8   | 13 |  |
| Surge Voltage (V <sub>S</sub> )    | ≤ +105°C: | 1.6 | 2.2 | 3.4 | 5   | 8  |  |

Temperature Range: -55°C to +105°C

Reliability: 0.5% per 1000 hours at 85°C, V<sub>R</sub>, 0.1Ω/V series impedance, 60% confidence level

Meets requirements of AEC-Q200



# OxiCap® NOJ Series



## Low Profile

### CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC ( $V_R$ ) to 85°C / 0.66 DC to 105°C |          |        |          |         |
|-------------|------|-------------------------------------------------------|----------|--------|----------|---------|
| µF          | Code | 1.8V (x)                                              | 2.5V (e) | 4V (G) | 6.3V (J) | 10V (A) |
| 1.0         | 105  |                                                       |          |        |          |         |
| 1.5         | 155  |                                                       |          |        |          |         |
| 2.2         | 225  |                                                       |          |        |          | P       |
| 3.3         | 335  |                                                       |          |        |          | P       |
| 4.7         | 475  |                                                       |          |        | P/S      | T       |
| 6.8         | 685  |                                                       |          | P/S    | P/S/T    | T       |
| 10          | 106  |                                                       | P/S      | P/S/T  | P/T      | T       |
| 15          | 156  | P/S                                                   | P/S/T    | P/T    |          |         |
| 22          | 226  | P/S/T                                                 | P/T      | T      | T        |         |
| 33          | 336  | T                                                     | T        | T      | W        |         |
| 47          | 476  | T                                                     | T        | W      | W        |         |
| 68          | 686  |                                                       | W        | W      | X/Y      |         |
| 100         | 107  | W                                                     | W        | W/X    | F/Y      |         |
| 150         | 157  |                                                       | X        | Y      | F/Y      |         |
| 220         | 227  | X                                                     | Y        | F/Y    | Y        |         |
| 330         | 337  | Y                                                     | Y        | Y      |          |         |
| 470         | 477  | Y                                                     |          |        |          |         |

Released codes

Engineering samples - please contact manufacturer

\*Codes under development - subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.



LEAD-FREE

LEAD-FREE COMPATIBLE  
COMPONENT



RoHS  
COMPLIANT



NON-BURN  
NON-SMOKE

### RATINGS & PART NUMBER REFERENCE

| AVX<br>Part No.                    | Case<br>Size | Capacitance<br>(μF) | Rated<br>Voltage<br>(V) | DCL<br>(μA)<br>Max. | DF<br>%<br>Max. | ESR<br>Max. (Ω)<br>@100kHz | MSL | 100kHz RMS Current (A) |       |       | 100kHz RMS Voltage (V) |       |       |
|------------------------------------|--------------|---------------------|-------------------------|---------------------|-----------------|----------------------------|-----|------------------------|-------|-------|------------------------|-------|-------|
|                                    |              |                     |                         |                     |                 |                            |     | 25°C                   | 85°C  | 125°C | 25°C                   | 85°C  | 125°C |
| 1.8 Volt @ 85°C (1.2 Volt @ 105°C) |              |                     |                         |                     |                 |                            |     |                        |       |       |                        |       |       |
| NOJP156M001#WJ                     | P            | 15                  | 1.8                     | 1.0                 | 10              | 4.1                        | 1   | 0.133                  | 0.119 | 0.053 | 0.543                  | 0.489 | 0.217 |
| NOJS156M001#WJ                     | S            | 15                  | 1.8                     | 1.0                 | 6               | 2                          | 1   | 0.197                  | 0.178 | 0.079 | 0.395                  | 0.335 | 0.158 |
| NOJP226M001#WJ                     | P            | 22                  | 1.8                     | 1.0                 | 10              | 3.8                        | 1   | 0.138                  | 0.124 | 0.055 | 0.523                  | 0.471 | 0.209 |
| NOJS226M001#WJ                     | S            | 22                  | 1.8                     | 1.0                 | 8               | 1.9                        | 1   | 0.203                  | 0.182 | 0.081 | 0.385                  | 0.346 | 0.154 |
| NOJT226M001#WJ                     | T            | 22                  | 1.8                     | 1.0                 | 6               | 1.8                        | 1   | 0.231                  | 0.208 | 0.092 | 0.416                  | 0.374 | 0.166 |
| NOJT336M001#WJ                     | T            | 33                  | 1.8                     | 1.2                 | 6               | 1.7                        | 1   | 0.238                  | 0.214 | 0.095 | 0.404                  | 0.364 | 0.162 |
| NOJT476M001#WJ                     | T            | 47                  | 1.8                     | 1.7                 | 10              | 1.6                        | 1   | 0.245                  | 0.220 | 0.098 | 0.392                  | 0.353 | 0.157 |
| NOJW107M001#WJ                     | W            | 100                 | 1.8                     | 3.6                 | 6               | 0.4                        | 1   | 0.520                  | 0.468 | 0.208 | 0.208                  | 0.187 | 0.083 |
| NOJX227M001#WJ                     | X            | 220                 | 1.8                     | 8.0                 | 8               | 0.4                        | 3   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY337M001#WJ                     | Y            | 330                 | 1.8                     | 11.9                | 8               | 0.3                        | 3   | 0.707                  | 0.636 | 0.283 | 0.212                  | 0.191 | 0.085 |
| NOJY477M001#WJ                     | Y            | 470                 | 1.8                     | 17.0                | 8               | 0.3                        | 3   | 0.707                  | 0.636 | 0.283 | 0.212                  | 0.191 | 0.085 |
| 2.5 Volt @ 85°C (1.7 Volt @ 105°C) |              |                     |                         |                     |                 |                            |     |                        |       |       |                        |       |       |
| NOJP106M002#WJ                     | P            | 10                  | 2.5                     | 1.0                 | 6               | 4.5                        | 1   | 0.126                  | 0.114 | 0.051 | 0.569                  | 0.512 | 0.228 |
| NOJS106M002#WJ                     | S            | 10                  | 2.5                     | 1.0                 | 6               | 2.2                        | 1   | 0.188                  | 0.169 | 0.075 | 0.414                  | 0.373 | 0.166 |
| NOJP156M002#WJ                     | P            | 15                  | 2.5                     | 1.0                 | 6               | 4                          | 1   | 0.134                  | 0.121 | 0.054 | 0.537                  | 0.483 | 0.215 |
| NOJS156M002#WJ                     | S            | 15                  | 2.5                     | 1.0                 | 8               | 2                          | 1   | 0.197                  | 0.178 | 0.079 | 0.395                  | 0.355 | 0.158 |
| NOJT156M002#WJ                     | T            | 15                  | 2.5                     | 1.0                 | 6               | 2                          | 1   | 0.219                  | 0.197 | 0.088 | 0.438                  | 0.394 | 0.175 |
| NOJP226M002#WJ                     | P            | 22                  | 2.5                     | 1.1                 | 10              | 3.8                        | 1   | 0.138                  | 0.124 | 0.055 | 0.523                  | 0.471 | 0.209 |
| NOJT226M002#WJ                     | T            | 22                  | 2.5                     | 1.1                 | 6               | 1.9                        | 1   | 0.225                  | 0.202 | 0.090 | 0.427                  | 0.384 | 0.171 |
| NOJT336M002#WJ                     | T            | 33                  | 2.5                     | 1.7                 | 6               | 1.7                        | 1   | 0.238                  | 0.214 | 0.095 | 0.404                  | 0.364 | 0.162 |
| NOJT476M002#WJ                     | T            | 47                  | 2.5                     | 2.4                 | 10              | 1.6                        | 1   | 0.245                  | 0.220 | 0.098 | 0.392                  | 0.353 | 0.157 |
| NOJW686M002#WJ                     | W            | 68                  | 2.5                     | 3.4                 | 6               | 0.4                        | 1   | 0.520                  | 0.468 | 0.208 | 0.208                  | 0.187 | 0.083 |
| NOJW107M002#WJ                     | W            | 100                 | 2.5                     | 5.0                 | 6               | 0.4                        | 1   | 0.520                  | 0.468 | 0.208 | 0.208                  | 0.187 | 0.083 |
| NOJX157M002#WJ                     | X            | 150                 | 2.5                     | 7.5                 | 6               | 0.4                        | 3   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY227M002#WJ                     | Y            | 220                 | 2.5                     | 11.0                | 8               | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| NOJY337M002#WJ                     | Y            | 330                 | 2.5                     | 16.5                | 10              | 0.3                        | 3   | 0.707                  | 0.636 | 0.283 | 0.212                  | 0.191 | 0.085 |
| 4 Volt @ 85°C (2.7 Volt @ 105°C)   |              |                     |                         |                     |                 |                            |     |                        |       |       |                        |       |       |
| NOJP685M004#WJ                     | P            | 6.8                 | 4                       | 1.0                 | 6               | 5.3                        | 1   | 0.117                  | 0.105 | 0.047 | 0.618                  | 0.556 | 0.247 |
| NOJS685M004#WJ                     | S            | 6.8                 | 4                       | 1.0                 | 6               | 2.6                        | 1   | 0.173                  | 0.156 | 0.069 | 0.450                  | 0.405 | 0.180 |
| NOJP106M004#WJ                     | P            | 10                  | 4                       | 1.0                 | 20              | 4.5                        | 1   | 0.126                  | 0.114 | 0.051 | 0.569                  | 0.512 | 0.228 |
| NOJS106M004#WJ                     | S            | 10                  | 4                       | 1.0                 | 8               | 2.2                        | 1   | 0.188                  | 0.169 | 0.075 | 0.414                  | 0.373 | 0.166 |
| NOJT106M004#WJ                     | T            | 10                  | 4                       | 1.0                 | 6               | 2.2                        | 1   | 0.209                  | 0.188 | 0.084 | 0.460                  | 0.414 | 0.184 |
| NOJP156M004#WJ                     | P            | 15                  | 4                       | 1.2                 | 10              | 4.1                        | 1   | 0.133                  | 0.119 | 0.053 | 0.543                  | 0.489 | 0.217 |
| NOJT156M004#WJ                     | T            | 15                  | 4                       | 1.2                 | 6               | 2                          | 1   | 0.219                  | 0.197 | 0.088 | 0.438                  | 0.394 | 0.175 |
| NOJT226M004#WJ                     | T            | 22                  | 4                       | 1.8                 | 6               | 1.8                        | 1   | 0.231                  | 0.208 | 0.092 | 0.416                  | 0.374 | 0.166 |
| NOJT336M004#WJ                     | T            | 33                  | 4                       | 2.6                 | 14              | 2                          | 1   | 0.219                  | 0.197 | 0.088 | 0.438                  | 0.394 | 0.175 |
| NOJW476M004#WJ                     | W            | 47                  | 4                       | 3.8                 | 6               | 0.5                        | 1   | 0.465                  | 0.418 | 0.186 | 0.232                  | 0.209 | 0.093 |
| NOJW686M004#WJ                     | W            | 68                  | 4                       | 5.4                 | 6               | 0.4                        | 1   | 0.520                  | 0.468 | 0.208 | 0.208                  | 0.187 | 0.083 |
| NOJW107M004#WJ                     | W            | 100                 | 4                       | 8.0                 | 8               | 0.4                        | 1   | 0.520                  | 0.468 | 0.208 | 0.208                  | 0.187 | 0.083 |
| NOJX107M004#WJ                     | X            | 100                 | 4                       | 8.0                 | 6               | 0.4                        | 3   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY157M004#WJ                     | Y            | 150                 | 4                       | 12.0                | 6               | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| NOJF227M004#WJ                     | F            | 220                 | 4                       | 17.6                | 10              | 0.4                        | 1   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY227M004#WJ                     | Y            | 220                 | 4                       | 17.6                | 10              | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| NOJY337M004#WJ                     | Y            | 330                 | 4                       | 26.4                | 12              | 0.3                        | 3   | 0.707                  | 0.636 | 0.283 | 0.212                  | 0.191 | 0.085 |
| 6.3 Volt @ 85°C (4 Volt @ 105°C)   |              |                     |                         |                     |                 |                            |     |                        |       |       |                        |       |       |
| NOJP475M006#WJ                     | P            | 4.7                 | 6.3                     | 1.0                 | 6               | 6.1                        | 1   | 0.109                  | 0.098 | 0.043 | 0.663                  | 0.596 | 0.265 |
| NOJS475M006#WJ                     | S            | 4.7                 | 6.3                     | 1.0                 | 6               | 3.2                        | 1   | 0.156                  | 0.141 | 0.062 | 0.500                  | 0.450 | 0.200 |
| NOJP685M006#WJ                     | P            | 6.8                 | 6.3                     | 1.0                 | 10              | 5.2                        | 1   | 0.118                  | 0.106 | 0.047 | 0.612                  | 0.551 | 0.245 |
| NOJS685M006#WJ                     | S            | 6.8                 | 6.3                     | 1.0                 | 8               | 2.7                        | 1   | 0.170                  | 0.153 | 0.068 | 0.459                  | 0.413 | 0.184 |
| NOJT685M006#WJ                     | T            | 6.8                 | 6.3                     | 1.0                 | 6               | 2.6                        | 1   | 0.192                  | 0.173 | 0.077 | 0.500                  | 0.450 | 0.200 |
| NOJP106M006#WJ                     | P            | 10                  | 6.3                     | 1.2                 | 10              | 4.5                        | 1   | 0.126                  | 0.114 | 0.051 | 0.569                  | 0.512 | 0.228 |
| NOJT106M006#WJ                     | T            | 10                  | 6.3                     | 1.2                 | 6               | 2.2                        | 1   | 0.209                  | 0.188 | 0.084 | 0.460                  | 0.414 | 0.184 |
| NOJT226M006#WJ                     | T            | 22                  | 6.3                     | 2.6                 | 8               | 1.8                        | 1   | 0.231                  | 0.208 | 0.092 | 0.416                  | 0.374 | 0.166 |
| NOJW336M006#WJ                     | W            | 33                  | 6.3                     | 4.0                 | 6               | 0.5                        | 1   | 0.465                  | 0.418 | 0.186 | 0.232                  | 0.209 | 0.093 |
| NOJW476M006#WJ                     | W            | 47                  | 6.3                     | 5.7                 | 6               | 0.5                        | 1   | 0.465                  | 0.418 | 0.186 | 0.232                  | 0.209 | 0.093 |
| NOJX686M006#WJ                     | X            | 68                  | 6.3                     | 8.2                 | 6               | 0.5                        | 3   | 0.490                  | 0.441 | 0.196 | 0.245                  | 0.220 | 0.098 |
| NOJY686M006#WJ                     | Y            | 68                  | 6.3                     | 8.2                 | 6               | 0.5                        | 3   | 0.548                  | 0.493 | 0.219 | 0.274                  | 0.246 | 0.110 |
| NOJF107M006#WJ                     | F            | 100                 | 6.3                     | 12                  | 8               | 0.4                        | 1   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY107M006#WJ                     | Y            | 100                 | 6.3                     | 12.0                | 6               | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| NOJF157M006#WJ                     | F            | 150                 | 6.3                     | 18.0                | 8               | 0.4                        | 1   | 0.548                  | 0.493 | 0.219 | 0.219                  | 0.197 | 0.088 |
| NOJY157M006#WJ                     | Y            | 150                 | 6.3                     | 18.0                | 6               | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| NOJY227M006#WJ                     | Y            | 220                 | 6.3                     | 26.4                | 10              | 0.4                        | 3   | 0.612                  | 0.551 | 0.245 | 0.245                  | 0.220 | 0.098 |
| 10 Volt @ 85°C (7 Volt @ 105°C)    |              |                     |                         |                     |                 |                            |     |                        |       |       |                        |       |       |
| NOJP225M010#WJ                     | P            | 2.2                 | 10                      | 1.0                 | 8               | 8.3                        | 1   | 0.093                  | 0.084 | 0.037 | 0.773                  | 0.696 | 0.309 |
| NOJP335M010#WJ                     | P            | 3.3                 | 10                      | 1.0                 | 8               | 7                          | 1   | 0.101                  | 0.091 | 0.041 | 0.710                  | 0.639 | 0.284 |
| NOJT475M010#WJ                     | T            | 4.7                 | 10                      | 1.0                 | 6               | 3.1                        | 1   | 0.176                  | 0.158 | 0.070 | 0.546                  | 0.491 | 0.218 |
| NOJT685M010#WJ                     | T            | 6.8                 | 10                      | 1.4                 | 6               | 2.6                        | 1   | 0.192                  | 0.173 | 0.077 | 0.500                  | 0.450 | 0.200 |
| NOJT106M010#WJ                     | T            | 10                  | 10                      | 2.0                 | 6               | 2.2                        | 1   | 0.209                  | 0.188 | 0.084 | 0.460                  | 0.414 | 0.184 |

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts.

DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

For typical weight and composition see page 150.

**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**