



POSCAP is a solid electrolytic Tantalum type chip capacitor.

**POSCAP**, A NEW, BETTER TECHNOLOGY FOR A TANTALUM CAPACITOR.

**POSCAP**, A BETTER SURFACE MOUNT ALTERNATIVE TO STANDARD TANTALUM TECHNOLOGY.

The Anode is sintered Tantalum and the Cathode is a highly conductive Polymerized Organic Semiconductor formed using a new technology developed by Sanyo. **POSCAP** is a solid electrolytic chip capacitor. A new generation of Tantalum technology.

A proven technology now in production. Production capacity is available.

Features:

Safer than a standard Tantalum capacitor, especially in the short circuit mode.

Low impedance and low ESR at high frequency.

Lower ESR than most Tantalums. (40 milliohm in the D4 case size)

High ripple current capacity. (up to 3000 milliamps)

Temperature rating: -55C to + 105C

Voltage rating up to 16 volts. (**OK to operate at 90% of rated voltage if rated voltage is 10 volts or less, 80% if rated voltage is above 10 volts.**)

Low profile chip capacitor. (1.9 MM in the TPC series)

Reflow soldering method available.

**APA/APB** series, the anode is aluminum foil

**TPA** series, the anode is sintered tantalum.

**TPB** series, the anode is sintered tantalum.

**TPC** series, the anode is sintered tantalum, 1.9 mm height.

The cathode in all series is a highly conductive **Polymerized Organic Semiconductor** formed using a new technology developed by Sanyo.

# SOLID ELECTROLYTIC CHIP TANTALUM SMD CAPACITOR, POSCAP SERIES

The **POSCAP** is an ideal chip capacitor especially for digital, high frequency devices.

## CHARACTERISTICS List

### APA/APB Series

\*1 Capacitance tolerance: M= +/-20%

\*2 100~500 KHz, +45 degrees C

\*3 After 5 minutes

| Size | Part Number | Rated   | Nominal     | Tangent of   | Leakage      | E.S.R         | MAXIMUM        |
|------|-------------|---------|-------------|--------------|--------------|---------------|----------------|
| Code | *1          | Voltage | Capacitance | loss angle   | current (uA) | 100 KHZ       | allowable      |
|      |             | (V)     | (uF)        | (DF)(% max.) | *3           | (mohm) (max.) | ripple current |
|      |             |         |             |              |              |               | (mArms) *2     |
| D1   | 6APB10M     | 6.3     | 10          | 8.0          | 6.3          | 70            | 1900           |
| D1   | 10APB4R7M   | 10      | 4.7         | 8.0          | 4.7          | 70            | 1900           |
| D1   | 16APB2R2M   | 16      | 2.2         | 8.0          | 3.5          | 70            | 1900           |
| D2A  | 4APA33M     | 4.0     | 33          | 8.0          | 13.2         | 40            | 1900           |
| D2A  | 6APA10M     | 6.3     | 10          | 8.0          | 6.3          | 70            | 1900           |
| D2A  | 6APA22M     | 6.3     | 22          | 8.0          | 13.9         | 40            | 1900           |
| D2A  | 10APA4R7M   | 10      | 4.7         | 8.0          | 4.7          | 70            | 1900           |
| D2A  | 16APA2R2M   | 16      | 2.2         | 8.0          | 3.5          | 70            | 1900           |

The APA/APB Series are under development.

### TPA Series

\*1 Capacitance tolerance: M= +/-20%

\*2 100~500 KHz, +45 degrees C

\*3 After 5 minutes

| Size | Part Number | Rated   | Nominal     | Tangent of   | Leakage      | E.S.R         | MAXIMUM        |
|------|-------------|---------|-------------|--------------|--------------|---------------|----------------|
| Code | *1          | Voltage | Capacitance | loss angle   | current (uA) | 100 KHZ       | allowable      |
|      |             | (V)     | (uF)        | (DF)(% max.) | *3           | (mohm) (max.) | ripple current |
|      |             |         |             |              |              |               | (mArms) *2     |
| D3   | 4TPA220M    | 4.0     | 220         | 8.0          | 88.0         | 80            | 1200           |
| C    | 6TPA47M     | 6.3     | 47          | 8.0          | 29.6         | 100           | 1000           |
| D3   | 6TPA150M    | 6.3     | 150         | 8.0          | 94.5         | 80            | 1200           |
| C    | 10TPA33M    | 10      | 33          | 8.0          | 33.0         | 100           | 1000           |
| D3   | 10TPA100M   | 10      | 100         | 8.0          | 100.0        | 80            | 1200           |

### TPB Series

\*1 Capacitance tolerance: M= +/-20%

\*2 100~500 KHz, +45 degrees C

\*3 After 5 minutes

| Size | Part Number | Rated | Nominal | Tangent of | Leakage | E.S.R | MAXIMUM |
|------|-------------|-------|---------|------------|---------|-------|---------|
|      |             |       |         |            |         |       |         |

**SOLID ELECTROLYTIC CHIP TANTALUM SMD CAPACITOR, POSCAP SERIES**

|            |                    | (V) | (uF) | (DF)(% max.) | *3    | (mohm) (max.) | ripple current |
|------------|--------------------|-----|------|--------------|-------|---------------|----------------|
|            |                    |     |      |              |       |               | (mArms) *2     |
| <b>D3</b>  | <b>2R5TPB330M</b>  | 2.5 | 330  | 8.0          | 82.5  | 65            | 1500           |
| <b>D3L</b> | <b>2R5TPB330ML</b> | 2.5 | 330  | 10.0         | 82.5  | 55            | 1900           |
| <b>D3L</b> | <b>2R5TPB470ML</b> | 2.5 | 470  | 10.0         | 117.5 | 40            | 2000           |
| <b>D4</b>  | <b>2R5TPB680M</b>  | 2.5 | 680  | 10.0         | 170.0 | 40            | 3000           |
| <b>D4</b>  | <b>2R5TPB1000M</b> | 2.5 | 1000 | 15.0         | 250.0 | 30            | 3000           |
| <b>D3</b>  | <b>4TPB220M</b>    | 4.0 | 220  | 8.0          | 88.0  | 65            | 1500           |
| <b>D3L</b> | <b>4TPB220ML</b>   | 4.0 | 220  | 10.0         | 88.0  | 55            | 1900           |
| <b>D3L</b> | <b>4TPB330ML</b>   | 4.0 | 330  | 10.0         | 132.0 | 40            | 2000           |
| <b>D4</b>  | <b>4TPB470M</b>    | 4.0 | 470  | 10.0         | 188.0 | 40            | 3000           |
| <b>D4</b>  | <b>4TPB680M</b>    | 4.0 | 680  | 15.0         | 272.0 | 35            | 3000           |
| <b>D3</b>  | <b>6TPB150M</b>    | 6.3 | 150  | 8.0          | 94.5  | 55            | 1900           |
| <b>D3L</b> | <b>6TPB150ML</b>   | 6.3 | 150  | 10.0         | 94.5  | 55            | 1900           |
| <b>D3L</b> | <b>6TPB220ML</b>   | 6.3 | 220  | 10.0         | 138.6 | 40            | 2000           |
| <b>D4</b>  | <b>6TPB330M</b>    | 6.3 | 330  | 10.0         | 207.9 | 40            | 3000           |
| <b>D4</b>  | <b>6TPB470M</b>    | 6.3 | 470  | 15.0         | 296.1 | 35            | 3000           |
| <b>D3</b>  | <b>10TPB100M</b>   | 10  | 100  | 8.0          | 100.0 | 55            | 1900           |
| <b>D3L</b> | <b>10TPB100ML</b>  | 10  | 100  | 10.0         | 100.0 | 55            | 1900           |
| <b>D4</b>  | <b>10TPB220M</b>   | 10  | 220  | 10.0         | 220.0 | 40            | 3000           |
| <b>D3</b>  | <b>16TPB47M</b>    | 16  | 47   | 10.0         | 75.2  | 70            | 1400           |

**The 16TPB47M is under development.**

**TPC Series**

\*1 Capacitance tolerance: M= +/-20%

\*2 100~500 KHZ, +45 degrees C

\*3 After 5 minutes

| Size      | Part Number       | Rated   | Nominal     | Tangent of   | Leakage      | E.S.R         | MAXIMUM        |
|-----------|-------------------|---------|-------------|--------------|--------------|---------------|----------------|
| Code      | *1                | Voltage | Capacitance | loss angle   | current (uA) | 100 KHZ       | allowable      |
|           |                   | (V)     | (uF)        | (DF)(% max.) | *3           | (mohm) (max.) | ripple current |
|           |                   |         |             |              |              |               | (mArms) *2     |
| <b>D2</b> | <b>2R5TPC220M</b> | 2.5     | 220         | 10.0         | 55.0         | 45            | 1700           |
| <b>D2</b> | <b>2R5TPC330M</b> | 2.5     | 330         | 10.0         | 82.5         | 40            | 1900           |
| <b>D2</b> | <b>4TPC150M</b>   | 4.0     | 150         | 10.0         | 60.0         | 45            | 1700           |
| <b>D2</b> | <b>4TPC220M</b>   | 4.0     | 220         | 10.0         | 88.0         | 40            | 1900           |
| <b>D2</b> | <b>6TPC100M</b>   | 6.3     | 100         | 10.0         | 63.0         | 45            | 1700           |
| <b>D2</b> | <b>6TPC150M</b>   | 6.3     | 150         | 10.0         | 94.5         | 40            | 1900           |
| <b>D2</b> | <b>10TPC68M</b>   | 10      | 68          | 10.0         | 68.0         | 45            | 1700           |
| <b>D2</b> | <b>16TPC33M</b>   | 16      | 33          | 10.0         | 52.8         | 70            | 1400           |

## SOLID ELECTROLYTIC CHIP TANTALUM SMD CAPACITOR, POSCAP SERIES

**The 16TPC33M is under development.**

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