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Issued: August 5<sup>th</sup> 2016

SUB: EOL Notice

Product Type: Radial Leaded Aluminum Electrolytic Capacitors; -55°C ~ +105°C, Low Impedance

NIC Series: **NRSX** series

Product Specification: <http://www.niccomp.com/catalog/nrsx.pdf>

Notification: End of Life (See table below for EOL part numbers)

The following is notice of end of life for the part numbers referenced in table below:

Last Order Date: March 31<sup>st</sup> 2017 for existing business from established customers

Last Ship Date: August 5<sup>th</sup> 2017 for existing business from established customers

Reason for Discontinuation: Due to low demand, production allocated to alternate products series

Use **Quickbuilder** to compare and select **alternate** aluminum electrolytic capacitor part numbers and specifications:  
**Quickbuilder** Search Tool [ link: [http://www.niccomp.com/QuickBUILDER2/gb\\_capacitor.php?pType=aluminum](http://www.niccomp.com/QuickBUILDER2/gb_capacitor.php?pType=aluminum) ]

| EOL Part Number      | Cap.   | Voltage | Size    |
|----------------------|--------|---------|---------|
| NRSX270M6.3V4X7F     | 27uF   | 6.3V    | 4X7     |
| NRSX560M6.3V5X7F     | 56uF   | 6.3V    | 5X7     |
| NRSX101M6.3V5X11F    | 100uF  | 6.3V    | 5X11    |
| NRSX121M6.3V6.3X7F   | 120uF  | 6.3V    | 6.3X7   |
| NRSX221M6.3V6.3X11F  | 220uF  | 6.3V    | 6.3X11  |
| NRSX271M6.3V6.3X11F  | 270uF  | 6.3V    | 6.3X11  |
| NRSX331M6.3V6.3X11F  | 330uF  | 6.3V    | 6.3X11  |
| NRSX391M6.3V8X11.5F  | 390uF  | 6.3V    | 8X11.5  |
| NRSX471M6.3V8X11.5F  | 470uF  | 6.3V    | 8X11.5  |
| NRSX561M6.3V8X12.5F  | 560uF  | 6.3V    | 8X12.5  |
| NRSX821M6.3V8X15F    | 820uF  | 6.3V    | 8X15    |
| NRSX821M6.3V10X12.5F | 820uF  | 6.3V    | 10X12.5 |
| NRSX122M6.3V10X16F   | 1200uF | 6.3V    | 10X16   |
| NRSX152M6.3V10X20F   | 1500uF | 6.3V    | 10X20   |
| NRSX152M6.3V12.5X16F | 1500uF | 6.3V    | 12.5X16 |
| NRSX182M6.3V10X22F   | 1800uF | 6.3V    | 10X22   |
| NRSX222M6.3V10X22F   | 2200uF | 6.3V    | 10X22   |
| NRSX272M6.3V12.5X20F | 2700uF | 6.3V    | 12.5X20 |
| NRSX332M6.3V12.5X20F | 3300uF | 6.3V    | 12.5X20 |
| NRSX392M6.3V12.5X25F | 3900uF | 6.3V    | 12.5X25 |
| NRSX562M6.3V12.5X25F | 5600uF | 6.3V    | 12.5X25 |
| NRSX682M6.3V16X25F   | 6800uF | 6.3V    | 16X25   |

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| EOL Part Number      | Cap.    | Voltage | Size    |
|----------------------|---------|---------|---------|
| NRSX822M6.3V16X31.5F | 8200uF  | 6.3V    | 16X31.5 |
| NRSX103M6.3V16X35F   | 10000uF | 6.3V    | 16X35   |
| NRSX123M6.3V18X35.5F | 12000uF | 6.3V    | 18X35.5 |
| NRSX153M6.3V18X35.5F | 15000uF | 6.3V    | 18X35.5 |
|                      |         |         |         |
| NRSX220M10V4X7F      | 22uF    | 10V     | 4X7     |
| NRSX390M10V5X7F      | 39uF    | 10V     | 5X7     |
| NRSX820M10V5X11F     | 82uF    | 10V     | 5X11    |
| NRSX820M10V6.3X7F    | 82uF    | 10V     | 6.3X7   |
| NRSX101M10V5X11F     | 100uF   | 10V     | 5X11    |
| NRSX151M10V6.3X11F   | 150uF   | 10V     | 6.3X11  |
| NRSX181M10V6.3X11F   | 180uF   | 10V     | 6.3X11  |
| NRSX221M10V6.3X11F   | 220uF   | 10V     | 6.3X11  |
| NRSX331M10V8X11.5F   | 330uF   | 10V     | 8X11.5  |
| NRSX391M10V8X12.5F   | 390uF   | 10V     | 8X12.5  |
| NRSX471M10V8X12.5F   | 470uF   | 10V     | 8X12.5  |
| NRSX561M10V10X12.5F  | 560uF   | 10V     | 10X12.5 |
| NRSX681M10V8X15F     | 680uF   | 10V     | 8X15    |
| NRSX681M10V10X12.5F  | 680uF   | 10V     | 10X12.5 |
| NRSX821M10V10X16F    | 820uF   | 10V     | 10X16   |
| NRSX102M10V10X16F    | 1000uF  | 10V     | 10X16   |
| NRSX122M10V10X20F    | 1200uF  | 10V     | 10X20   |
| NRSX122M10V12.5X16F  | 1200uF  | 10V     | 12.5X16 |
| NRSX152M10V10X22F    | 1500uF  | 10V     | 10X22   |
| NRSX182M10V12.5X20F  | 1800uF  | 10V     | 12.5X20 |
| NRSX222M10V12.5X20F  | 2200uF  | 10V     | 12.5X20 |
| NRSX272M10V12.5X25F  | 2700uF  | 10V     | 12.5X25 |
| NRSX332M10V12.5X25F  | 3300uF  | 10V     | 12.5X25 |
| NRSX392M10V16X25F    | 3900uF  | 10V     | 16X25   |
| NRSX472M10V16X25F    | 4700uF  | 10V     | 16X25   |
| NRSX562M10V16X25F    | 5600uF  | 10V     | 16X25   |
| NRSX682M10V16X31.5F  | 6800uF  | 10V     | 16X31.5 |
| NRSX822M10V16X35F    | 8200uF  | 10V     | 16X35   |
| NRSX103M10V18X35.5F  | 10000uF | 10V     | 18X35.5 |
|                      |         |         |         |
| NRSX150M16V4X7F      | 15uF    | 16V     | 4X7     |
| NRSX270M16V5X7F      | 27uF    | 16V     | 5X7     |
| NRSX470M16V5X11F     | 47uF    | 16V     | 5X11    |
| NRSX560M16V5X11F     | 56uF    | 16V     | 5X11    |
| NRSX560M16V6.3X7F    | 56uF    | 16V     | 6.3X7   |
| NRSX680M16V5X11F     | 68uF    | 16V     | 5X11    |

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| EOL Part Number     | Cap.   | Voltage | Size    |
|---------------------|--------|---------|---------|
| NRSX101M16V6.3X11F  | 100uF  | 16V     | 6.3X11  |
| NRSX121M16V6.3X11F  | 120uF  | 16V     | 6.3X11  |
| NRSX221M16V8X11.5F  | 220uF  | 16V     | 8X11.5  |
| NRSX271M16V8X12.5F  | 270uF  | 16V     | 8X12.5  |
| NRSX331M16V8X12.5F  | 330uF  | 16V     | 8X12.5  |
| NRSX391M16V10X12.5F | 390uF  | 16V     | 10X12.5 |
| NRSX471M16V8X15F    | 470uF  | 16V     | 8X15    |
| NRSX471M16V10X12.5F | 470uF  | 16V     | 10X12.5 |
| NRSX561M16V10X16F   | 560uF  | 16V     | 10X16   |
| NRSX681M16V10X16F   | 680uF  | 16V     | 10X16   |
| NRSX821M16V10X20F   | 820uF  | 16V     | 10X20   |
| NRSX821M16V12.5X16F | 820uF  | 16V     | 12.5X16 |
| NRSX102M16V10X22F   | 1000uF | 16V     | 10X22   |
| NRSX122M16V10X22F   | 1200uF | 16V     | 10X22   |
| NRSX152M16V12.5X20F | 1500uF | 16V     | 12.5X20 |
| NRSX182M16V12.5X25F | 1800uF | 16V     | 12.5X25 |
| NRSX222M16V12.5X25F | 2200uF | 16V     | 12.5X25 |
| NRSX222M16V16X25F   | 2200uF | 16V     | 16X25   |
| NRSX272M16V16X25F   | 2700uF | 16V     | 16X25   |
| NRSX392M16V16X25F   | 3900uF | 16V     | 16X25   |
| NRSX472M16V16X31.5F | 4700uF | 16V     | 16X31.5 |
| NRSX562M16V16X35F   | 5600uF | 16V     | 16X35   |
| NRSX682M16V16X35F   | 6800uF | 16V     | 16X35   |
| NRSX822M16V18X35.5F | 8200uF | 16V     | 18X35.5 |
| NRSX100M25V4X7F     | 10uF   | 25V     | 4X7     |
| NRSX220M25V5X7F     | 22uF   | 25V     | 5X7     |
| NRSX390M25V5X11F    | 39uF   | 25V     | 5X11    |
| NRSX390M25V6.3X7F   | 39uF   | 25V     | 6.3X7   |
| NRSX470M25V5X11F    | 47uF   | 25V     | 5X11    |
| NRSX820M25V6.3X11F  | 82uF   | 25V     | 6.3X11  |
| NRSX101M25V6.3X11F  | 100uF  | 25V     | 6.3X11  |
| NRSX181M25V8X12.5F  | 180uF  | 25V     | 8X12.5  |
| NRSX221M25V8X12.5F  | 220uF  | 25V     | 8X12.5  |
| NRSX271M25V10X12.5F | 270uF  | 25V     | 10X12.5 |
| NRSX331M25V8X15F    | 330uF  | 25V     | 8X15    |
| NRSX331M25V10X12.5F | 330uF  | 25V     | 10X12.5 |
| NRSX391M25V10X16F   | 390uF  | 25V     | 10X16   |
| NRSX471M25V10X16F   | 470uF  | 25V     | 10X16   |
| NRSX561M25V10X20F   | 560uF  | 25V     | 10X20   |
| NRSX561M25V12.5X16F | 560uF  | 25V     | 12.5X16 |

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| EOL Part Number     | Cap.   | Voltage | Size    |
|---------------------|--------|---------|---------|
| NRSX681M25V10X22F   | 680uF  | 25V     | 10X22   |
| NRSX821M25V10X22F   | 820uF  | 25V     | 10X22   |
| NRSX821M25V12.5X20F | 820uF  | 25V     | 12.5X20 |
| NRSX102M25V12.5X20F | 1000uF | 25V     | 12.5X20 |
| NRSX122M25V12.5X25F | 1200uF | 25V     | 12.5X25 |
| NRSX152M25V12.5X25F | 1500uF | 25V     | 12.5X25 |
| NRSX182M25V16X25F   | 1800uF | 25V     | 16X25   |
| NRSX222M25V16X25F   | 2200uF | 25V     | 16X25   |
| NRSX272M25V16X25F   | 2700uF | 25V     | 16X25   |
| NRSX332M25V16X31.5F | 3300uF | 25V     | 16X31.5 |
| NRSX392M25V16X35F   | 3900uF | 25V     | 16X35   |
| NRSX472M25V18X35.5F | 4700uF | 25V     | 18X35.5 |
|                     |        |         |         |
| NRSX6R8M35V4X7F     | 6.8uF  | 35V     | 4X7     |
| NRSX120M35V5X7F     | 12uF   | 35V     | 5X7     |
| NRSX220M35V5X11F    | 22uF   | 35V     | 5X11    |
| NRSX270M35V5X11F    | 27uF   | 35V     | 5X11    |
| NRSX270M35V6.3X7F   | 27uF   | 35V     | 6.3X7   |
| NRSX330M35V5X11F    | 33uF   | 35V     | 5X11    |
| NRSX470M35V6.3X11F  | 47uF   | 35V     | 6.3X11  |
| NRSX560M35V6.3X11F  | 56uF   | 35V     | 6.3X11  |
| NRSX680M35V6.3X11F  | 68uF   | 35V     | 6.3X11  |
| NRSX101M35V8X11.5F  | 100uF  | 35V     | 8X11.5  |
| NRSX121M35V8X12.5F  | 120uF  | 35V     | 8X12.5  |
| NRSX151M35V8X12.5F  | 150uF  | 35V     | 8X12.5  |
| NRSX181M35V10X12.5F | 180uF  | 35V     | 10X12.5 |
| NRSX221M35V8X15F    | 220uF  | 35V     | 8X15    |
| NRSX221M35V10X12.5F | 220uF  | 35V     | 10X12.5 |
| NRSX271M35V10 X16F  | 270uF  | 35V     | 10 X16  |
| NRSX391M35V10X20F   | 390uF  | 35V     | 10X20   |
| NRSX471M35V10X22F   | 470uF  | 35V     | 10X22   |
| NRSX561M35V10X22F   | 560uF  | 35V     | 10X22   |
| NRSX561M35V12.5X20F | 560uF  | 35V     | 12.5X20 |
| NRSX681M35V12.5X20F | 680uF  | 35V     | 12.5X20 |
| NRSX821M35V12.5X25F | 820uF  | 35V     | 12.5X25 |
| NRSX102M35V12.5X25F | 1000uF | 35V     | 12.5X25 |
| NRSX122M35V12.5X25F | 1200uF | 35V     | 12.5X25 |
| NRSX152M35V16X25F   | 1500uF | 35V     | 16X25   |
| NRSX182M35V16X25F   | 1800uF | 35V     | 16X25   |
| NRSX222M35V16X31.5F | 2200uF | 35V     | 16X31.5 |
| NRSX272M35V16X35F   | 2700uF | 35V     | 16X35   |

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| EOL Part Number     | Cap.   | Voltage | Size    |
|---------------------|--------|---------|---------|
| NRSX332M35V18X35.5F | 3300uF | 35V     | 18X35.5 |
| NRSX1R0M50V5X11F    | 1uF    | 50V     | 5X11    |
| NRSX2R2M50V5X11F    | 2.2uF  | 50V     | 5X11    |
| NRSX3R3M50V5X11F    | 3.3uF  | 50V     | 5X11    |
| NRSX4R7M50V5X11F    | 4.7uF  | 50V     | 5X11    |
| NRSX100M50V5X11F    | 10uF   | 50V     | 5X11    |
| NRSX150M50V5X11F    | 15uF   | 50V     | 5X11    |
| NRSX220M50V5X11F    | 22uF   | 50V     | 5X11    |
| NRSX330M50V6.3X11F  | 33uF   | 50V     | 6.3X11  |
| NRSX470M50V6.3X11F  | 47uF   | 50V     | 6.3X11  |
| NRSX680M50V8X11.5F  | 68uF   | 50V     | 8X11.5  |
| NRSX101M50V10X12.5F | 100uF  | 50V     | 10X12.5 |
| NRSX151M50V10X16F   | 150uF  | 50V     | 10X16   |
| NRSX221M50V10X20F   | 220uF  | 50V     | 10X20   |
| NRSX221M50V12.5X16F | 220uF  | 50V     | 12.5X16 |
| NRSX331M50V10X22F   | 330uF  | 50V     | 10X22   |
| NRSX331M50V12.5X20F | 330uF  | 50V     | 12.5X20 |
| NRSX471M50V12.5X20F | 470uF  | 50V     | 12.5X20 |
| NRSX681M50V12.5X25F | 680uF  | 50V     | 12.5X25 |
| NRSX102M50V16X25F   | 1000uF | 50V     | 16X25   |
| NRSX152M50V16X35F   | 1500uF | 50V     | 16X35   |
| NRSX222M50V18X35.5F | 2200uF | 50V     | 18X35.5 |

Prepared by: Technical Product Marketing Group / [tpmg@niccomp.com](mailto:tpmg@niccomp.com)

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# Miniature Aluminum Electrolytic Capacitors

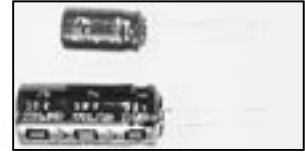
NRSX Series

VERY LOW IMPEDANCE AT HIGH FREQUENCY, RADIAL LEADS,  
POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

**RoHS  
Compliant**

includes all homogeneous materials

\*See Part Number System for Details



## FEATURES

- VERY LOW IMPEDANCE
- LONG LIFE AT 105°C (1000 ~ 7000 hrs.)
- HIGH STABILITY AT LOW TEMPERATURE
- IDEALLY SUITED FOR USE IN SWITCHING POWER SUPPLIES & CONVERTERS

## CHARACTERISTICS

|  |   |  |      |      |      |      |      |
|--|---|--|------|------|------|------|------|
| Rated Voltage Range  | 6.3 ~ 50 VDC                                      |  |      |      |      |      |      |
| Capacitance Range  | 1.0 ~ 15,000 $\mu$ F                              |  |      |      |      |      |      |
| Operating Temperature Range  | -55 ~ +105°C                                      |  |      |      |      |      |      |
| Capacitance Tolerance  | $\pm$ 20% (M)                                     |  |      |      |      |      |      |
| Max. Leakage Current @ (20°C)  | After 1 min.                                      | 0.03CV or 4 $\mu$ A, whichever if greater  |      |      |      |      |      |
|  | After 2 min.                                      | 0.01CV or 3 $\mu$ A, whichever if greater  |      |      |      |      |      |
| Max. Tan $\delta$ @ 120Hz/20°C   | W.V. (Vdc)  | 6.3  | 10   | 16   | 25   | 35   | 50   |
|  | S.V. (Vdc)  | 8  | 13   | 20   | 32   | 44   | 63   |
|  | C < 1,200 $\mu$ F                                 | 0.22                                       | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 |
|  | C = 1,500 $\mu$ F                                 | 0.23                                       | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 |
|  | C = 1,800 $\mu$ F                                 | 0.23                                       | 0.20 | 0.17 | 0.15 | 0.13 | 0.11 |
|  | C = 2,200 $\mu$ F                                 | 0.24                                       | 0.21 | 0.18 | 0.16 | 0.14 | 0.12 |
|  | C = 2,700 $\mu$ F                                 | 0.25                                       | 0.22 | 0.19 | 0.17 | 0.15 |      |
|  | C = 3,300 $\mu$ F                                 | 0.26                                       | 0.23 | 0.20 | 0.18 | 0.16 |      |
|  | C = 3,900 $\mu$ F                                 | 0.27                                       | 0.24 | 0.21 | 0.19 |      |      |
|  | C = 4,700 $\mu$ F                                 | 0.28                                       | 0.25 | 0.22 | 0.20 |      |      |
|  | C = 5,600 $\mu$ F                                 | 0.30                                       | 0.27 | 0.24 |      |      |      |
|  | C = 6,800 $\mu$ F                                 | 0.32                                       | 0.29 | 0.26 |      |      |      |
|  | C = 8,200 $\mu$ F                                 | 0.35                                       | 0.32 | 0.29 |      |      |      |
|  | C = 10,000 $\mu$ F                                | 0.38                                       | 0.35 |      |      |      |      |
|  | C = 12,000 $\mu$ F                                | 0.42                                       |      |      |      |      |      |
| C = 15,000 $\mu$ F   | 0.48  |  |      |      |      |      |      |
| Low Temperature Stability Impedance Ratio @ 120Hz  | Z-25°C/Z+20°C                                     | 3  | 2    | 2    | 2    | 2    | 2    |
|  | Z-40°C/Z+20°C                                     | 4  | 4    | 3    | 3    | 3    | 2    |
| Load Life Test at Rated W.V. & 105°C<br>7,000 Hours: 16 ~ 18 $\emptyset$<br>5,000 Hours: 12.5 $\emptyset$<br>4,000 Hours: 10 $\emptyset$<br>3,000 Hours: 6.3 ~ 8 $\emptyset$<br>2,500 Hours: 5 $\emptyset$<br>1,000 Hours: 4 $\emptyset$ | Capacitance Change                                | Within $\pm$ 20% of initial measured value |      |      |      |      |      |
|  | Tan $\delta$                                      | Less than 200% of specified maximum value  |      |      |      |      |      |
|  | Leakage Current                                   | Less than specified maximum value          |      |      |      |      |      |
| Shelf Life Test<br>105°C 1,000 Hours<br>No Load  | Capacitance Change                                | Within $\pm$ 20% of initial measured value |      |      |      |      |      |
|  | Tan $\delta$                                      | Less than 200% of specified maximum value  |      |      |      |      |      |
|  | Leakage Current                                   | Less than specified maximum value          |      |      |      |      |      |
| Max. Impedance at 100Khz & -20°C   | Less than 2 times the impedance at 100Khz & +20°C |  |      |      |      |      |      |
| Applicable Standards   | JIS C5141, C5102 and IEC 384-4                    |  |      |      |      |      |      |

### PART NUMBER SYSTEM

NRSX 101 M 25V 6.3X11 TB E

RoHS Compliant  
TB = Tape & Box (optional)  
Case Size (mm)  
Working Voltage  
Tolerance Code M=20%, K=10%  
Capacitance Code in  $\mu$ F  
Series

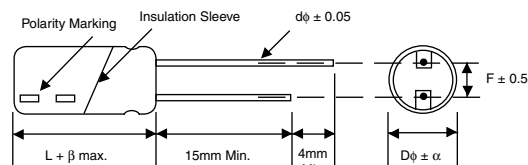
### RIPPLE CURRENT CORRECTION FACTOR

| Cap. ( $\mu$ F) | Frequency (Hz) |      |      |      |
|-----------------|----------------|------|------|------|
|                 | 120            | 1K   | 10K  | 100K |
| 1.0 ~ 330       | 0.40           | 0.68 | 0.78 | 1.00 |
| 390 ~ 1000      | 0.50           | 0.76 | 0.87 | 1.00 |
| 1200 ~ 2200     | 0.70           | 0.85 | 0.90 | 1.00 |
| 2700 ~ 15000    | 0.90           | 0.95 | 1.00 | 1.00 |



### LEADSPACING AND DIAMETER (mm)

| Case Dia.      | 4x7  | 5x7 | 6.3x7 | 5x11 | 6.3x11 | 8φ  | 10 ~ 12.5φ | 16 ~ 18φ |
|----------------|------|-----|-------|------|--------|-----|------------|----------|
| Lead Space(F)  | 1.5  | 2.0 | 2.5   | 2.0  | 2.5    | 3.5 | 5.0        | 7.5      |
| Lead Dia. (dφ) | 0.45 |     | 0.5   |      | 0.6    |     | 0.8        |          |



$$\beta = 1.5 L < 20 \text{ or } 2.0 L \geq 20$$

SLEEVE COLOR: DARK BROWN

### STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| W.V.<br>(Vdc) | Cap. |           | Case Size<br>Dφ x L(mm) | Lead Space<br>(mm) | Max. Tan δ<br>at 120Hz | Max. LC (μA)<br>2 minutes | Max. Z(Ω)<br>100KHz/20°C | Max. Ripple Current<br>100KHz/105°C (mA rms) |
|---------------|------|-----------|-------------------------|--------------------|------------------------|---------------------------|--------------------------|--|
|               | (μF) | Code      |                         |                    |                        |                           |                          |  |
| 6.3           | 27   | 270       | 4 x 7                   | 1.5                | 0.22                   | 3.0                       | 2.0                      | 65   |
|               | 56   | 560       | 5 x 7                   | 2.0                | 0.22                   | 3.5                       | 0.95                     | 120  |
|               | 100  | 101       | 5 x 11                  | 2.0                | 0.22                   | 6.3                       | 0.42                     | 190  |
|               | 120  | 121       | 6.3 x 7                 | 2.5                | 0.22                   | 7.5                       | 0.45                     | 200  |
|               | 220  | 221       | 6.3 x 11                | 2.5                | 0.22                   | 13.9                      | 0.22                     | 300  |
|               | 270  | 271       | 6.3 x 11                | 2.5                | 0.22                   | 17.0                      | 0.22                     | 300  |
|               | 330  | 331       | 6.3 x 11                | 2.5                | 0.22                   | 20.8                      | 0.30                     | 280  |
|               | 390  | 391       | 8 x 11.5                | 3.5                | 0.22                   | 24.6                      | 0.11                     | 560  |
|               | 470  | 471       | 8 x 11.5                | 3.5                | 0.22                   | 29.6                      | 0.11                     | 560  |
|               | 560  | 561       | 8 x 12.5                | 3.5                | 0.22                   | 35.3                      | 0.11                     | 570  |
|               | 820  | 821       | 8 x 15                  | 3.5                | 0.22                   | 51.7                      | .085                     | 730  |
|               |      |           | 10 x 12.5               | 5.0                |                        |                           |                          | 800  |
|               | 1200 | 122       | 8 x 20                  | 3.5                | 0.22                   | 75.6                      | .069                     | 800  |
|               |      |           | 10 x 16                 | 5.0                |                        |                           |                          | 1050   |
|               | 1500 | 152       | 10 x 20                 | 5.0                | 0.23                   | 94.5                      | .044                     | 1250   |
|               |      |           | 12.5 x 16               |                    |                        |                           |                          | .062   |
|               | 1800 | 182       | 10 x 22                 | 5.0                | 0.23                   | 113                       | .039                     | 1450   |
|               | 2200 | 222       | 10 x 22                 | 5.0                | 0.24                   | 139                       | .039                     | 1450   |
|               | 2700 | 272       | 12.5 x 20               | 5.0                | 0.25                   | 170                       | .038                     | 1600   |
|               | 3300 | 332       | 12.5 x 20               | 5.0                | 0.26                   | 208                       | .038                     | 1600   |
| 3900          | 392  | 12.5 x 25 | 5.0                     | 0.27               | 246                    | .029                      | 1800                     |  |
| 5600          | 562  | 12.5 x 25 | 5.0                     | 0.30               | 353                    | .031                      | 1780                     |  |
| 6800          | 682  | 16 x 25   | 7.5                     | 0.32               | 428                    | .022                      | 2100                     |  |
| 8200          | 822  | 16 x 31.5 | 7.5                     | 0.35               | 517                    | .018                      | 2350                     |  |
| 10000         | 103  | 16 x 35   | 7.5                     | 0.38               | 630                    | .018                      | 2550                     |  |
| 12000         | 123  | 18 x 35.5 | 7.5                     | 0.42               | 756                    | .015                      | 3200                     |  |
| 15000         | 153  | 18 x 35.5 | 7.5                     | 0.48               | 945                    | .015                      | 3200                     |  |
| 10            | 22   | 220       | 4 x 7                   | 1.5                | 0.19                   | 3.0                       | 1.15                     | 90   |
|               | 39   | 390       | 5 x 7                   | 2.0                | 0.19                   | 3.9                       | .49                      | 160  |
|               | 82   | 820       | 5 x 11                  | 2.0                | 0.19                   | 8.2                       | .42                      | 190  |
|               |      |           | 6.3 x 7                 | 2.5                |                        |                           |                          | .24  |
|               | 100  | 101       | 5 x 11                  | 2.0                | 0.19                   | 10                        | .42                      | 190  |
|               | 150  | 151       | 6.3 x 11                | 2.5                | 0.19                   | 15                        | .22                      | 300  |
|               | 180  | 181       | 6.3 x 11                | 2.5                | 0.19                   | 18                        | .22                      | 300  |
|               | 220  | 221       | 6.3 x 11                | 2.5                | 0.19                   | 22                        | .22                      | 300  |
| 330           | 331  | 8 x 11.5  | 3.5                     | 0.19               | 33                     | .11                       | 560                      |  |

## STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| W.V.<br>(Vdc) | Cap.       |           | Case Size<br>D $\phi$ x L(mm) | Lead Space<br>(mm) | Max. Tan $\delta$<br>at 120Hz | Max. LC ( $\mu$ A)<br>2 minutes | Max. Z ( $\Omega$ )<br>100Khz/20°C | Max. Ripple Current<br>100Khz/105°C (mA rms) |
|---------------|------------|-----------|-------------------------------|--------------------|-------------------------------|---------------------------------|------------------------------------|--|
|               | ( $\mu$ F) | Code      |                               |                    |                               |                                 |                                    |  |
| 10            | 390        | 391       | 8 x 12.5                      | 3.5                | 0.19                          | 39                              | .11                                | 570  |
|               | 470        | 471       | 8 x 12.5                      | 3.5                | 0.19                          | 47                              | .16                                | 410  |
|               | 560        | 561       | 10 x 12.5                     | 5.0                | 0.19                          | 56                              | .085                               | 800  |
|               | 680        | 681       | 8 x 15                        | 3.5                | 0.19                          | 68                              | .085                               | 730  |
|               |            |           | 10 x 12.5                     | 5.0                |                               |                                 |                                    |  |
|               | 820        | 821       | 10 x 16                       | 5.0                | 0.19                          | 82                              | .062                               | 1050   |
|               | 1000       | 102       | 8 x 20                        | 3.5                | 0.19                          | 100                             | .069                               | 800  |
|               |            |           | 10 x 16                       | 5.0                |                               |                                 |                                    |  |
|               | 1200       | 122       | 10 x 20                       | 5.0                | 0.19                          | 120                             | .044                               | 1250   |
|               |            |           | 12.5 x 16                     |                    |                               |                                 |                                    |  |
|               | 1500       | 152       | 10 x 22                       | 5.0                | 0.20                          | 150                             | .039                               | 1450   |
|               | 1800       | 182       | 12.5 x 20                     | 5.0                | 0.20                          | 180                             | .038                               | 1600   |
|               | 2200       | 222       | 12.5 x 20                     | 5.0                | 0.21                          | 220                             | .038                               | 1600   |
|               | 2700       | 272       | 12.5 x 25                     | 5.0                | 0.22                          | 270                             | .029                               | 1800   |
|               | 3300       | 332       | 12.5 x 25                     | 5.0                | 0.23                          | 330                             | .029                               | 1880   |
|               | 3900       | 392       | 16 x 25                       | 7.5                | 0.24                          | 390                             | .022                               | 2100   |
|               | 4700       | 472       | 16 x 25                       | 7.5                | 0.25                          | 470                             | .022                               | 2100   |
|               | 5600       | 562       | 16 x 25                       | 7.5                | 0.27                          | 560                             | .022                               | 2100   |
| 6800          | 682        | 16 x 31.5 | 7.5                           | 0.29               | 680                           | .018                            | 2350                               |  |
| 8200          | 822        | 16 x 35   | 7.5                           | 0.35               | 820                           | .018                            | 2550                               |  |
| 10000         | 103        | 18 x 35.5 | 7.5                           | 0.35               | 1000                          | .018                            | 2800                               |  |
| 16            | 15         | 150       | 4 x 7                         | 1.5                | 0.16                          | 3                               | 1.15                               | 90   |
|               | 27         | 270       | 5 x 7                         | 2.0                | 0.16                          | 4.3                             | .49                                | 160  |
|               | 47         | 470       | 5 x 11                        | 2.0                | 0.16                          | 7.5                             | .42                                | 190  |
|               | 56         | 560       | 5 x 11                        | 2.0                | 0.16                          | 9.0                             | .42                                | 190  |
|               |            |           | 6.3 x 7                       |                    |                               | 2.5                             | .49                                | 280  |
|               | 68         | 680       | 5 x 11                        | 2.0                | 0.16                          | 10.9                            | .42                                | 190  |
|               | 100        | 101       | 6.3 x 11                      | 2.5                | 0.16                          | 16                              | .22                                | 300  |
|               | 120        | 121       | 6.3 x 11                      | 2.5                | 0.16                          | 19                              | .22                                | 300  |
|               | 220        | 221       | 8 x 11.5                      | 3.5                | 0.16                          | 35                              | .11                                | 560  |
|               | 270        | 271       | 8 x 12.5                      | 3.5                | 0.16                          | 43                              | .11                                | 570  |
|               | 330        | 331       | 8 x 12.5                      | 3.5                | 0.16                          | 53                              | .16                                | 410  |
|               | 390        | 391       | 10 x 12.5                     | 5.0                | 0.16                          | 62                              | .085                               | 800  |
|               | 470        | 471       | 8 x 15                        | 3.5                | 0.16                          | 75                              | .085                               | 730  |
|               |            |           | 10 x 12.5                     | 5.0                |                               |                                 |                                    | 800  |
| 560           | 561        | 10 x 16   | 5.0                           | 0.16               | 90                            | .062                            | 1050                               |  |



## STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| W.V.<br>(Vdc) | Cap.       |           | Case Size<br>D $\phi$ x L(mm) | Lead Space<br>(mm) | Max. Tan $\delta$<br>at 120Hz | Max. LC ( $\mu$ A)<br>2 minutes | Max. Z ( $\Omega$ )<br>100Khz/20°C | Max. Ripple Current<br>100Khz/105°C (mA rms) |
|---------------|------------|-----------|-------------------------------|--------------------|-------------------------------|---------------------------------|------------------------------------|--|
|               | ( $\mu$ F) | Code      |                               |                    |                               |                                 |                                    |  |
| 16            | 680        | 681       | 8 x 20                        | 3.5                | 0.16                          | 109                             | .069                               | 800  |
|               |            |           | 10 x 16                       | 5.0                |                               |                                 |                                    | 1050   |
|               | 820        | 821       | 10 x 20                       | 5.0                | 0.16                          | 131                             | .044                               | 1250   |
|               |            |           | 12.5 x 16                     |                    |                               |                                 |                                    | .063   |
|               | 1000       | 102       | 10 x 22                       | 5.0                | 0.16                          | 160                             | .039                               | 1450   |
|               | 1200       | 122       | 10 x 22                       | 5.0                | 0.16                          | 192                             | .039                               | 1450   |
|               | 1500       | 152       | 12.5 x 20                     | 5.0                | 0.17                          | 240                             | .038                               | 1600   |
|               | 1800       | 182       | 12.5 x 25                     | 5.0                | 0.17                          | 288                             | .029                               | 1800   |
|               | 2200       | 222       | 12.5 x 25                     | 5.0                | 0.18                          | 352                             | .022                               | 1800   |
|               |            |           | 16 x 25                       | 7.5                |                               |                                 |                                    | 2100   |
|               | 2700       | 272       | 12.5 x 30                     | 5.0                | 0.17                          | 432                             | .025                               | 2310   |
|               |            |           | 16 x 25                       | 7.5                | 0.19                          | 432                             | .022                               | 2100   |
|               | 3900       | 392       | 16 x 25                       | 7.5                | 0.21                          | 624                             | .022                               | 2100   |
|               | 4700       | 472       | 16 x 31.5                     | 7.5                | 0.22                          | 752                             | .018                               | 2350   |
|               | 5600       | 562       | 16 x 35                       | 7.5                | 0.24                          | 896                             | .018                               | 2550   |
| 6800          | 682        | 16 x 35   | 7.5                           | 0.26               | 1088                          | .018                            | 2550                               |  |
| 8200          | 822        | 18 x 35.5 | 7.5                           | 0.29               | 1310                          | .018                            | 2800                               |  |
| 25            | 10         | 100       | 4 x 7                         | 1.5                | 0.14                          | 3.0                             | 1.15                               | 90   |
|               | 22         | 220       | 5 x 7                         | 2.0                | 0.14                          | 5.5                             | .49                                | 160  |
|               | 39         | 390       | 5 x 11                        | 2.0                | 0.14                          | 9.8                             | .42                                | 190  |
|               |            |           | 6.3 x 7                       | 2.5                |                               |                                 |                                    | .24  |
|               | 47         | 470       | 5 x 11                        | 2.0                | 0.14                          | 12                              | .42                                | 190  |
|               | 82         | 820       | 6.3 x 11                      | 2.5                | 0.14                          | 21                              | .22                                | 300  |
|               | 100        | 101       | 6.3 x 11                      | 2.5                | 0.14                          | 25                              | .22                                | 300  |
|               | 180        | 181       | 8 x 12.5                      | 3.5                | 0.14                          | 45                              | .11                                | 570  |
|               | 220        | 221       | 8 x 12.5                      | 3.5                | 0.14                          | 55                              | .11                                | 570  |
|               | 270        | 271       | 10 x 12.5                     | 5.0                | 0.14                          | 68                              | .085                               | 850  |
|               | 330        | 331       | 8 x 15                        | 3.5                | 0.14                          | 83                              | .085                               | 730  |
|               |            |           | 10 x 12.5                     | 5.0                |                               |                                 |                                    | 800  |
|               | 390        | 391       | 10 x 16                       | 5.0                | 0.14                          | 98                              | .062                               | 1050   |
|               | 470        | 471       | 8 x 20                        | 3.5                | 0.14                          | 118                             | .069                               | 800  |
|               |            |           | 10 x 16                       | 5.0                |                               |                                 |                                    | .062   |
| 560           | 561        | 10 x 20   | 5.0                           | 0.14               | 140                           | .044                            | 1250                               |  |
|               |            | 12.5 x 16 |                               |                    |                               |                                 | .063                               | 1150   |
| 680           | 681        | 10 x 22   | 5.0                           | 0.14               | 170                           | .039                            | 1450                               |  |

## STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

| W.V.<br>(Vdc) | Cap.       |           | Case Size<br>D $\phi$ x L(mm) | Lead Space<br>(mm) | Max. Tan $\delta$<br>at 120Hz | Max. LC ( $\mu$ A)<br>2 minutes | Max. Z ( $\Omega$ )<br>100Khz/20°C | Max. Ripple Current<br>100Khz/105°C (mA rms) |
|---------------|------------|-----------|-------------------------------|--------------------|-------------------------------|---------------------------------|------------------------------------|--|
|               | ( $\mu$ F) | Code      |                               |                    |                               |                                 |                                    |  |
| 25            | 820        | 821       | 10 x 22                       | 5.0                | 0.14                          | 205                             | .039                               | 1450   |
|               |            |           | 12.5 x 20                     | 5.0                |                               |                                 |                                    | 1600   |
|               | 1000       | 102       | 12.5 x 20                     | 5.0                | 0.14                          | 250                             | .038                               | 1600   |
|               | 1200       | 122       | 12.5 x 25                     | 5.0                | 0.14                          | 300                             | .029                               | 1800   |
|               | 1500       | 152       | 12.5 x 25                     | 5.0                | 0.15                          | 375                             | .029                               | 1800   |
|               | 1800       | 182       | 16 x 25                       | 7.5                | 0.15                          | 450                             | .022                               | 2100   |
|               | 2200       | 222       | 16 x 25                       | 7.5                | 0.16                          | 550                             | .022                               | 2100   |
|               | 2700       | 272       | 16 x 25                       | 7.5                | 0.17                          | 675                             | .022                               | 2100   |
|               | 3300       | 332       | 16 x 31.5                     | 7.5                | 0.18                          | 825                             | .018                               | 2350   |
|               | 3900       | 392       | 16 x 35                       | 7.5                | 0.19                          | 975                             | .018                               | 2550   |
| 4700          | 472        | 18 x 35.5 | 7.5                           | 0.20               | 1175                          | .018                            | 2800                               |  |
| 35            | 6.8        | 6R8       | 4 x 7                         | 1.5                | 0.12                          | 3.0                             | 1.15                               | 90   |
|               | 12         | 120       | 5 x 7                         | 2.0                | 0.12                          | 4.2                             | .49                                | 160  |
|               | 22         | 220       | 5 x 11                        | 2.0                | 0.12                          | 7.7                             | .42                                | 190  |
|               | 27         | 270       | 5 x 11                        | 2.0                | 0.12                          | 9.5                             | .42                                | 190  |
|               |            |           | 6.3 x 7                       | 2.5                |                               |                                 |                                    | .29  |
|               | 33         | 330       | 5 x 11                        | 2.0                | 0.12                          | 12                              | .42                                | 190  |
|               | 47         | 470       | 6.3 x 11                      | 2.5                | 0.12                          | 17                              | .22                                | 300  |
|               | 56         | 560       | 6.3 x 11                      | 2.5                | 0.12                          | 20                              | .22                                | 300  |
|               | 68         | 680       | 6.3 x 11                      | 2.5                | 0.12                          | 24                              | .22                                | 300  |
|               | 100        | 101       | 8 x 11.5                      | 3.5                | 0.12                          | 35                              | .11                                | 560  |
|               | 120        | 121       | 8 x 12.5                      | 3.5                | 0.12                          | 42                              | .11                                | 570  |
|               | 150        | 151       | 8 x 12.5                      | 3.5                | 0.12                          | 53                              | .11                                | 570  |
|               | 180        | 181       | 10 x 12.5                     | 5.0                | 0.12                          | 63                              | .085                               | 800  |
|               | 220        | 221       | 8 x 15                        | 3.5                | 0.12                          | 77                              | .085                               | 730  |
|               |            |           | 10 x 12.5                     | 5.0                |                               |                                 |                                    | 800  |
|               | 270        | 271       | 10 x 16                       | 5.0                | 0.12                          | 95                              | .062                               | 1050   |
|               | 330        | 331       | 8 x 20                        | 3.5                | 0.12                          | 116                             | .069                               | 800  |
|               | 390        | 391       | 10 x 20                       | 5.0                | 0.12                          | 137                             | .044                               | 1250   |
|               | 470        | 471       | 10 x 22                       | 5.0                | 0.12                          | 165                             | .039                               | 1450   |
|               | 560        | 561       | 10 x 22                       | 5.0                | 0.12                          | 196                             | .039                               | 1450   |
|               |            |           | 12.5 x 20                     |                    |                               |                                 |                                    | .038   |
|               | 680        | 681       | 12.5 x 20                     | 5.0                | 0.12                          | 238                             | .038                               | 1600   |
|               | 820        | 821       | 12.5 x 25                     | 5.0                | 0.12                          | 287                             | .029                               | 1800   |
|               | 1000       | 102       | 12.5 x 25                     | 5.0                | 0.12                          | 350                             | .029                               | 1800   |
|               | 1200       | 122       | 12.5 x 25                     | 5.0                | 0.12                          | 420                             | .029                               | 1800   |
|               | 1500       | 152       | 16 x 25                       | 7.5                | 0.13                          | 525                             | .022                               | 2100   |
| 1800          | 182        | 16 x 25   | 7.5                           | 0.13               | 630                           | .022                            | 2100                               |  |
| 2200          | 222        | 16 x 31.5 | 7.5                           | 0.14               | 770                           | .018                            | 2350                               |  |
| 2700          | 272        | 16 x 35   | 7.5                           | 0.15               | 945                           | .018                            | 2550                               |  |
| 3300          | 332        | 18 x 35.5 | 7.5                           | 0.16               | 1155                          | .018                            | 2800                               |  |

### STANDARD PRODUCTS, CASE SIZES AND SPECIFICATIONS

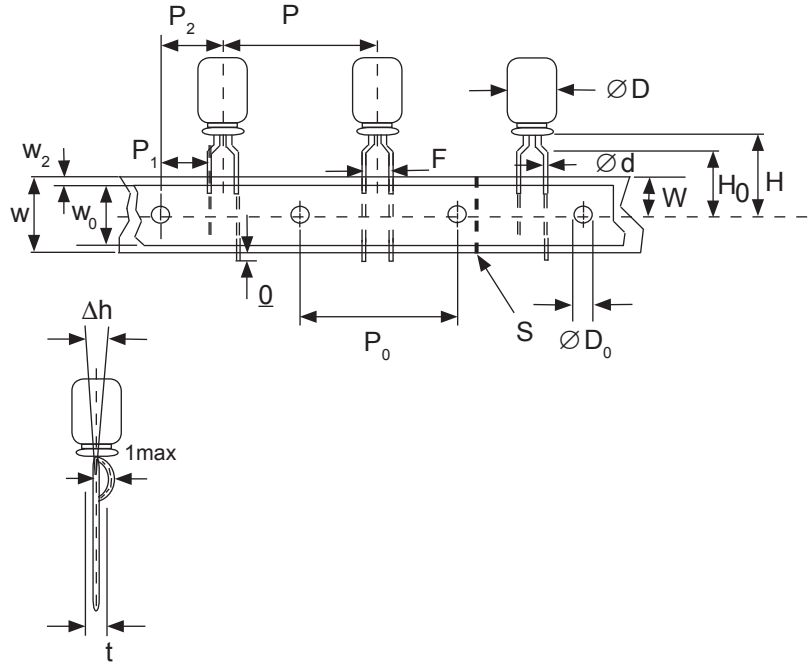
| W.V.<br>(Vdc) | Cap.       |           | Case Size<br>D $\phi$ x L(mm) | Lead Space<br>(mm) | Max. Tan $\delta$<br>at 120Hz | Max. LC ( $\mu$ A)<br>2 minutes | Max. Z ( $\Omega$ )<br>100Khz/20°C | Max. Ripple Current<br>100Khz/105°C (mA rms) |
|---------------|------------|-----------|-------------------------------|--------------------|-------------------------------|---------------------------------|------------------------------------|--|
|               | ( $\mu$ F) | Code      |                               |                    |                               |                                 |                                    |  |
| 50            | 1.0        | 1R0       | 5 x 11                        | 2.0                | 0.1                           | 3.0                             | 3.3                                | 30   |
|               | 2.2        | 2R2       | 5 x 11                        | 2.0                | 0.1                           | 3.0                             | 3.0                                | 45   |
|               | 3.3        | 3R3       | 5 x 11                        | 2.0                | 0.1                           | 3.0                             | 2.7                                | 55   |
|               | 4.7        | 4R7       | 5 x 11                        | 2.0                | 0.1                           | 3.0                             | 2.0                                | 90   |
|               | 10         | 100       | 5 x 11                        | 2.0                | 0.1                           | 5.0                             | 2.0                                | 90   |
|               | 15         | 150       | 5 x 11                        | 2.0                | 0.1                           | 7.5                             | 1.2                                | 130  |
|               | 22         | 220       | 5 x 11                        | 2.0                | 0.1                           | 11                              | .70                                | 160  |
|               | 33         | 330       | 6.3 x 11                      | 2.5                | 0.1                           | 17                              | .43                                | 220  |
|               | 47         | 470       | 6.3 x 11                      | 2.5                | 0.1                           | 24                              | .43                                | 220  |
|               | 68         | 680       | 8 x 11.5                      | 3.5                | 0.1                           | 34                              | .26                                | 360  |
|               | 100        | 101       | 10 x 12.5                     | 5.0                | 0.1                           | 50                              | .16                                | 550  |
|               | 150        | 151       | 10 x 16                       | 5.0                | 0.1                           | 75                              | .12                                | 760  |
|               | 220        | 221       | 10 x 20                       | 5.0                | 0.1                           | 110                             | .088                               | 950  |
|               |            |           | 12.5 x 16                     |                    |                               |                                 | .11                                | 810  |
|               | 330        | 331       | 10 x 22                       | 5.0                | 0.1                           | 165                             | .072                               | 1000   |
|               |            |           | 12.5 x 20                     |                    |                               |                                 | .059                               | 1200   |
|               | 470        | 471       | 12.5 x 20                     | 5.0                | 0.1                           | 235                             | .059                               | 1200   |
|               | 680        | 681       | 12.5 x 25                     | 5.0                | 0.1                           | 340                             | .045                               | 1400   |
|               | 1000       | 102       | 16 x 25                       | 7.5                | 0.1                           | 500                             | .039                               | 1750   |
| 1500          | 152        | 16 x 35   | 7.5                           | 0.11               | 750                           | .025                            | 2300                               |  |
| 2200          | 222        | 18 x 35.5 | 7.5                           | 0.12               | 1100                          | .024                            | 2400                               |  |

# Miniature Aluminum Electrolytic Capacitors Taping Specifications

## STANDARD RADIAL TAPING (5mm LEAD SPACING, FORMED LEADS) TB

Taping Dimensions (mm)

| Case Dia. (D $\phi$ ) | 4                                  | 5    | 6.3   | 8      |
|-----------------------|------------------------------------|------|-------|--------|
| Case Size             | 4x5                                | 5x5  | 6.3x5 | 8x11.5 |
| Dim.                  | 4x7                                | 5x7  | 6.3x7 | 6.3x11 |
| d $\phi$ $\pm$ 0.05   | 0.45                               | 0.45 | 0.5   | 0.5    |
| H $\pm$ 0.75          | 17.5                               | 17.5 | 18.5  | 17.5   |
| F $+0.8 \sim -0.2$    | 5.0 $-0.2 \sim +0.8$               |      |       |        |
| P                     | 12.7 $\pm$ 1.0                     |      |       |        |
| P <sub>0</sub>        | 12.7 $\pm$ 0.2                     |      |       |        |
| P <sub>1</sub>        | 3.85 $\pm$ 0.5 (at end of tape)    |      |       |        |
| P <sub>2</sub>        | 6.35 $\pm$ 1.0                     |      |       |        |
| W                     | 18.0 $\pm$ 0.5                     |      |       |        |
| W <sub>0</sub>        | 11.5 min.                          |      |       |        |
| W <sub>1</sub>        | 9.0 $\pm$ 0.5                      |      |       |        |
| W <sub>2</sub>        | 0 $\sim$ 2.5                       |      |       |        |
| H <sub>0</sub>        | 16.0 $\pm$ 0.5                     |      |       |        |
| l                     | 1.0 max.                           |      |       |        |
| D <sub>0</sub> $\phi$ | 4.0 $\pm$ 0.2                      |      |       |        |
| $\Delta$ h            | 0 $\pm$ 1.0 (at top of can)        |      |       |        |
| t                     | 0.7 $\pm$ 0.2 (not including lead) |      |       |        |

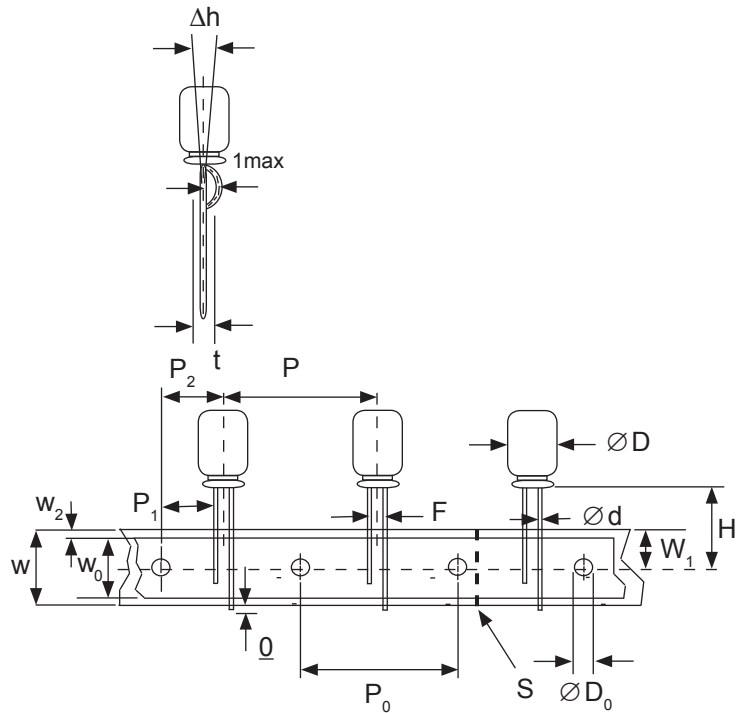


## STANDARD RADIAL TAPING (5mm LEAD SPACING, STRAIGHT LEADS) TB

Taping Dimensions (mm)

| Case Dia. (D $\phi$ ) | 10                                 | 12.5 |
|-----------------------|------------------------------------|------|
| Case Size             | All                                | All  |
| Dim.                  | All                                | All  |
| d $\phi$ $\pm$ 0.05   | 0.6                                | 0.6  |
| H $\pm$ 0.75          | 19.0                               | 19.0 |
| F $+0.8 \sim -0.2$    | 5.0                                | 5.0  |
| P $\pm$ 1.0           | 25.4*                              |      |
| P <sub>0</sub>        | 12.7 $\pm$ 0.2                     |      |
| P <sub>1</sub>        | 3.85                               |      |
| P <sub>2</sub>        | 6.35 $\pm$ 1.0                     |      |
| W                     | 18.0 $\pm$ 0.5                     |      |
| W <sub>0</sub>        | 11.5 min                           |      |
| W <sub>1</sub>        | 9.0 $\pm$ 0.5                      |      |
| W <sub>2</sub>        | 0 $\sim$ 2.5                       |      |
| H <sub>0</sub>        | 16.0 $\pm$ 0.5                     |      |
| l                     | 1.0 max.                           |      |
| D <sub>0</sub> $\phi$ | 4.0 $\pm$ 0.2                      |      |
| $\Delta$ h            | 0 $\pm$ 1.0 (at top of can)        |      |
| t                     | 0.7 $\pm$ 0.2 (not including lead) |      |

**\*Optional Taping Specifications**  
 10mm diameter available with P dim. = 12.7mm (P/N Suf x: TB12.7MMP)  
 12.5mm diameter available with P dim. = 15mm, P<sub>1</sub> = 5.0mm, P<sub>0</sub> = 15.0mm & P<sub>2</sub> = 7.5mm (P/N Suf x: TB15MMP)



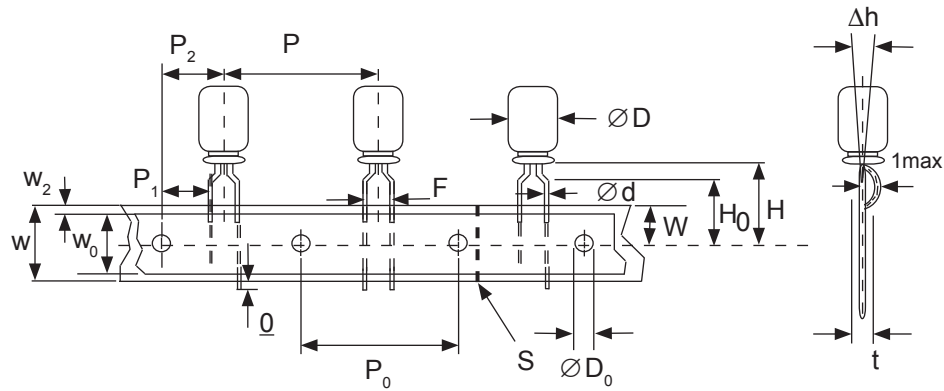
**NOTE:** ANODE (+) LEAD FEEDS OFF FIRST. FOR OPTION OF NEGATIVE (-) LEAD FIRST, SPECIFY "TBN".



## SPECIAL RADIAL TAPING (2.5mm LEAD SPACING, FORMED LEADS) TBF1

Taping Dimensions (mm)

| Case Dia. (D $\phi$ )    | 4               |            | 5    |  |
|--------------------------|-----------------|------------|------|--|
| Case Size Dim.           | 4x5<br>4x7      | 5x5<br>5x7 | 5x11 |  |
| d $\phi$ $\pm$ 0.05      | 0.45            | 0.45       | 0.5  |  |
| H $\pm$ 0.75             | 17.5            | 17.5       | 18.5 |  |
| H <sub>0</sub> $\pm$ 0.5 | 16.0            | -          | -    |  |
| F                        | 2.5 -0.2 ~ +0.8 |            |      |  |
| P                        | 12.7 $\pm$ 1.0  |            |      |  |
| P <sub>0</sub>           | 12.7 $\pm$ 0.2  |            |      |  |
| P <sub>1</sub>           | 5.1 $\pm$ 0.5   |            |      |  |
| P <sub>2</sub>           | 6.35 $\pm$ 1.0  |            |      |  |
| W                        | 18.0 $\pm$ 0.5  |            |      |  |
| W <sub>0</sub>           | 11.5 min.       |            |      |  |
| W <sub>1</sub>           | 9.0 $\pm$ 0.5   |            |      |  |
| W <sub>2</sub>           | 0 ~ 1.5         |            |      |  |
| l                        | 1.0 max.        |            |      |  |
| D <sub>0</sub> $\phi$    | 4.0 $\pm$ 0.2   |            |      |  |
| $\Delta$ h               | 0 $\pm$ 1.0     |            |      |  |
| t                        | 0.7 $\pm$ 0.2   |            |      |  |

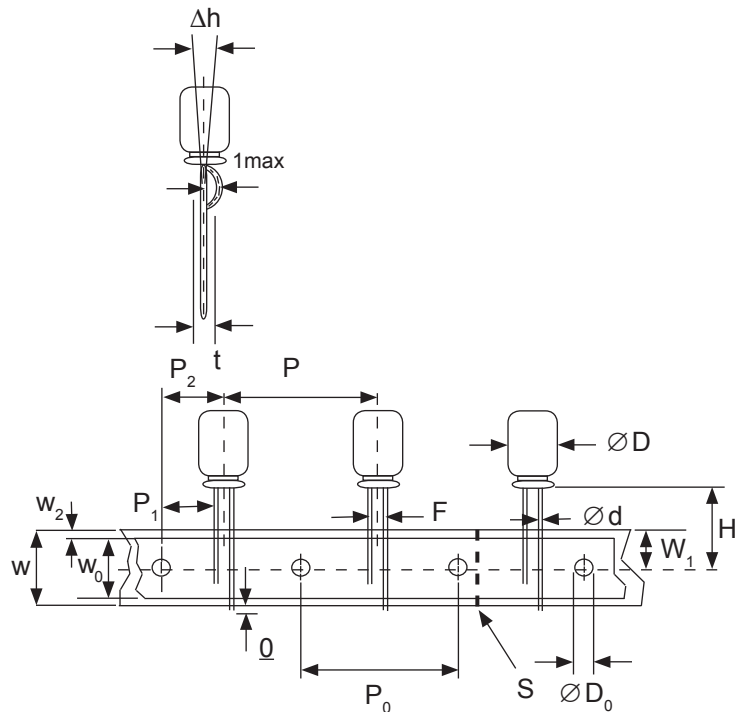


## SPECIAL STRAIGHT LEAD TAPING TBST

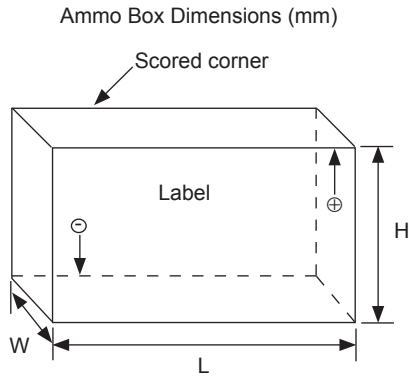
Taping Dimensions (mm)

| Case Dia. (D $\phi$ ) | 4                                  |            | 5    |                | 6.3    |        | 8 |
|-----------------------|------------------------------------|------------|------|----------------|--------|--------|---|
| Case Size Dim.        | 4x5<br>4x7                         | 5x5<br>5x7 | 5x11 | 6.3x5<br>6.3x7 | 6.3x11 | 8x11.5 |   |
| d $\phi$ $\pm$ 0.05   | 0.45                               | 0.45       | 0.5  | 0.45           | 0.5    | 0.6    |   |
| H $\pm$ 0.75          | 17.5                               | 17.5       | 18.5 | 17.5           | 18.5   | 20.0   |   |
| F +0.8 ~ -0.2         | 2.0*                               | 2.0        | 2.0  | 2.5            | 2.5    | 3.5    |   |
| P $\pm$ 1.0           | 12.7 $\pm$ 0.2                     |            |      |                |        |        |   |
| P <sub>0</sub>        | 12.7 $\pm$ 0.2                     |            |      |                |        |        |   |
| P <sub>1</sub>        | 5.1                                | 5.1        | 5.1  | 5.1            | 5.1    | 4.6    |   |
| P <sub>2</sub>        | 6.35 $\pm$ 1.0                     |            |      |                |        |        |   |
| W                     | 18.0 $\pm$ 0.5                     |            |      |                |        |        |   |
| W <sub>0</sub>        | 11.5 min.                          |            |      |                |        |        |   |
| W <sub>1</sub>        | 9.0 $\pm$ 0.5                      |            |      |                |        |        |   |
| W <sub>2</sub>        | 0 ~ 2.5                            |            |      |                |        |        |   |
| H <sub>0</sub>        | 16.0 $\pm$ 0.5                     |            |      |                |        |        |   |
| l                     | 1.0 max.                           |            |      |                |        |        |   |
| D <sub>0</sub> $\phi$ | 4.0 $\pm$ 0.2                      |            |      |                |        |        |   |
| $\Delta$ h            | 0 $\pm$ 1.0 (at top of can)        |            |      |                |        |        |   |
| t                     | 0.7 $\pm$ 0.2 (not including lead) |            |      |                |        |        |   |

\* Parts with 4mm diameter are taped with a slight lead in the lead and a 2.0mm lead-space.



## RADIAL TAPED PACKAGING



Ammo Box (Tape & Box) TB, TBF1, TBST

Size of box and component quantity

| Case Dia (D $\phi$ ) or Case Size | Q'ty per Box (pcs) | Dim. L | Dim. H | Dim. W |
|-----------------------------------|--------------------|--------|--------|--------|
| 4x5, 4x7                          | 2,000              | 331    | 175    | 43     |
| 5x5, 5x7                          | 2,000              | 331    | 220    | 43     |
| 5x11                              | 2,000              | 340    | 255    | 55     |
| 6.3x5, 6.3x7                      | 2,000              | 331    | 280    | 43     |
| 6.3x11                            | 2,000              | 331    | 280    | 48     |
| 8x11.5, 8x12.5                    | 1,000              | 335    | 235    | 53     |
| 10x12.5*                          | 500                | 335    | 190    | 53     |
| 10x16*                            | 500                | 335    | 300    | 53     |
| 10x20*                            | 500                | 335    | 300    | 55     |
| 12.x20*                           | 500                | 335    | 300    | 55     |
| 12.5x25*                          | 500                | 335    | 300    | 61     |

\*Special Taping Consult Factory For Availability