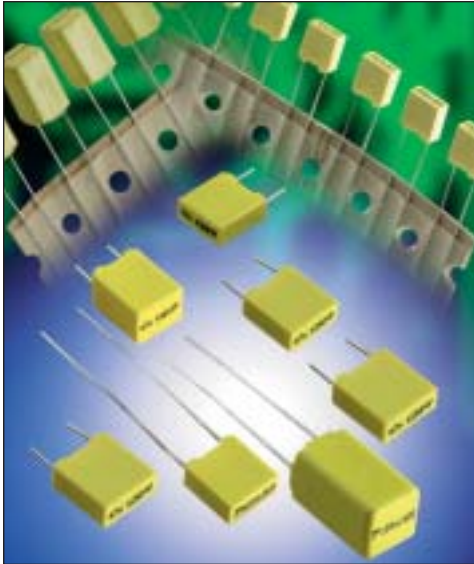


# BF 01/02/07/06/05/04: Radial Leads



**BQ 01/02/07/06/05/04** (Lead Free product available upon request)

CPM-83----- pitch = 5.08mm (0.200")



## GENERAL DESCRIPTION

Dielectric: Metallized polyester film (Polyethylene terephthalate)

Stacked-film

Leads: Radial tin - plated wire

Protection: Plastic case (UL 94: V-O) / Epoxy Resin

Marking: Logo

Nominal Capacitance

Tolerance (EIA)

DC Nominal Voltage

Example: **T 100nK 63**

Delivery Mode: Bulk

Taped (reel or ammpack)

## STANDARDIZATION

### Generic specifications:

CEI 384-1/CECC 30000/UTE 83100

### Sectional specifications:

CEI 384-2/CECC 30400/UTE 83151

### Complies with special specification:

CECC 30401-063

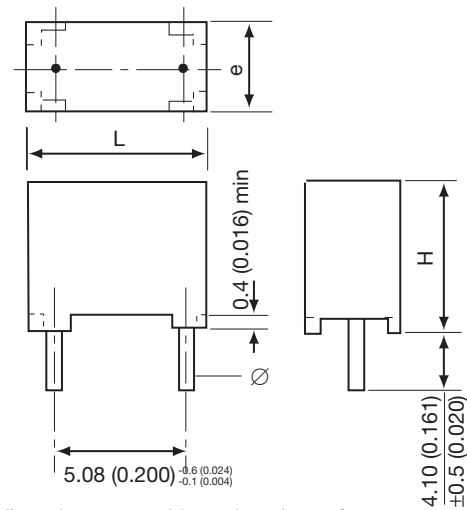
## APPLICATIONS

- Commodity Product:
  - Supply decoupling
  - Filter
  - Integrators
  - Treatment of analog signals
  - Rejection of line perturbations, etc.

## DIMENSIONS

millimeters (inches)

| Case | L max       | H max        | e max       | $\phi \pm 0.02$ |
|------|-------------|--------------|-------------|-----------------|
| 01   | 7.5 (0.295) | 6.5 (0.256)  | 2.5 (0.098) | 0.5 (0.020)     |
| 02   | 7.5 (0.295) | 8.0 (0.315)  | 3.2 (0.126) | 0.5 (0.020)     |
| 05   | 7.5 (0.295) | 12.0 (0.472) | 6.0 (0.236) | 0.5 (0.020)     |
| 06   | 7.5 (0.295) | 9.6 (0.378)  | 6.0 (0.236) | 0.5 (0.020)     |
| 07   | 7.5 (0.295) | 8.0 (0.315)  | 5.0 (0.197) | 0.5 (0.020)     |
| 04   | 7.5 (0.295) | 13.0 (0.512) | 7.5 (0.295) | 0.5 (0.020)     |



\*L dimension measured 3mm above base of case

## HOW TO ORDER

**BF or BQ01**

Type

**4**

Class

**D**

Voltage

**0104**

Capacitance

**K**

Tolerance

**--**

Suffix



# BF 01/02/07/06/05/04: Radial Leads



**BQ 01/02/07/06/05/04** (Lead Free product available upon request)

**CPM-83----- pitch = 5.08mm (0.200")**

## PERFORMANCE CHARACTERISTICS

|                    |                                            |
|--------------------|--------------------------------------------|
| Climatic Category  | 55/100/56 Performance Class 2              |
| Capacitance Range  | $C_R$ 1nF to 2.2μF (E12)                   |
| Tolerance on $C_R$ | ±5%; ±10%<br>(other values on request)     |
| Nominal Voltages   | VR_ 63/100/250/400V<br>VR~ 40/ 63/160/200V |
| Category Voltage   | $V_C = 0.8V_{R-}$ at 100°C                 |
| Test Voltage       | $V_e = 1.6V_{R-}/2s$ at 25°C               |

- Tangent of Loss Angle: D.F.

| Measurement Frequency | Capacitance       | DF: Performance Category 2 |
|-----------------------|-------------------|----------------------------|
| 1kHz                  | $C_R \leq 1\mu F$ | $\leq 1.0\%$               |
| 100 Hz                | $C_R > 1\mu F$    | $\leq 1.0\%$               |

- Insulation Resistance: IR

| Measuring Points             | $C_R \leq 0.33\mu F$ |                 | $C_R > 0.33\mu F$        |                 |
|------------------------------|----------------------|-----------------|--------------------------|-----------------|
|                              | IR min (GΩ)          |                 | IR * $C_R$ min (MΩ * μF) |                 |
|                              | Performance Class 2  |                 | Performance Class 2      |                 |
| Between Terminals            | $V_{R-} \leq 100V$   | $V_{R-} > 100V$ | $V_{R-} \leq 100V$       | $V_{R-} > 100V$ |
|                              | 3.75                 | 7.5             | 1.25                     | 2.5             |
| Between Terminals and Ground | $\geq 30,000 \Omega$ |                 |                          |                 |

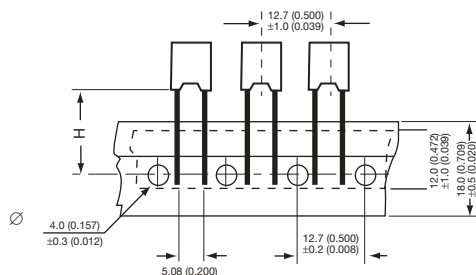
- Max voltage gradient

|                 |    |     |     |     |
|-----------------|----|-----|-----|-----|
| $V_{R-}$        | 63 | 100 | 250 | 400 |
| $(dv/dt)_R$ max | 38 | 40  | 110 | 270 |

## PACKAGING

millimeters (inches)

|   | Panasert                                | Avisert                                  |
|---|-----------------------------------------|------------------------------------------|
| H | $16.5 \pm 0.30$<br>( $0.65 \pm 0.012$ ) | $19.5 \pm 0.50$<br>( $0.768 \pm 0.020$ ) |



Thermoadhesive tape ▲

(Other sizes according to standard CEI : 286-2)  
Dimensions: millimeters (inches)

| Case     | Quantity    |            |             |            |          |                    |
|----------|-------------|------------|-------------|------------|----------|--------------------|
|          | Reel        |            | Ammopack    |            | Bulk     |                    |
| Suffix x | DB panasert | DD avisert | DA panasert | DC avisert | USA Std. | Europe / Asia Std. |
| 01       | 2500        |            | 2500        |            | 1000     | 5000               |
| 02       | 1800        |            | 2000        |            | 1000     | 3800               |
| 07       | 1200        |            | 1250        |            | 1000     | 2500               |
| 06       | 900         |            | 1100        |            | 1000     | 1500               |
| 05       | 900         |            | 1100        |            | 1000     | 1500               |
| 04       | 750         |            | 750         |            | 1000     | 1000               |



# BF 01/02/07/06/05/04: Radial Leads



**BQ 01/02/07/06/05/04** (Lead Free product available upon request)

CPM-83----- pitch = 5.08mm (0.200")

## CAPACITANCE VALUES ( $C_R$ ) and NOMINAL VOLTAGES ( $V_R$ )

| Capacitance Range ( $C_R$ ) | Reference               |                          |                           |                           |
|-----------------------------|-------------------------|--------------------------|---------------------------|---------------------------|
|                             | BF or BQ                |                          |                           |                           |
|                             | $V_R$ / $V_{R-}$        |                          |                           |                           |
|                             | 63/40 (voltage code: D) | 100/63 (voltage code: E) | 250/160 (voltage code: G) | 400/200 (voltage code: I) |
| 1,000 pF                    | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 1,200                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 1,500                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 1,800                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 2,200 pF                    | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 2,700                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 3,300                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 3,900                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 4,700 pF                    | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 5,600                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 6,800                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 8,200                       | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 10,000 pF                   | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF01 or BQ01              |
| 12,000                      | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF02 or BQ02              |
| 15,000                      | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF02 or BQ02              |
| 18,000                      | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF02 or BQ02              |
| 22,000                      | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF02 or BQ02              |
| 27,000                      | BF01 or BQ01            | BF01 or BQ01             | BF01 or BQ01              | BF07 or BQ07              |
| 33,000                      | BF01 or BQ01            | BF01 or BQ01             | BF02 or BQ02              | BF07 or BQ07              |
| 39,000                      | BF01 or BQ01            | BF01 or BQ01             | BF02 or BQ02              | BF06 or BQ06              |
| 47,000 pF                   | BF01 or BQ01            | BF01 or BQ01             | BF02 or BQ02              | BF06 or BQ06              |
| 56,000                      | BF01 or BQ01            | BF01 or BQ01             | BF07 or BQ07              | BF04 or BQ04              |
| 68,000                      | BF01 or BQ01            | BF01 or BQ01             | BF07 or BQ07              | BF04 or BQ04              |
| 82,000                      | BF01 or BQ01            | BF01 or BQ01             | BF07 or BQ07              | BF04 or BQ04              |
| 100 nF                      | BF01 or BQ01            | BF01 or BQ01             | BF07 or BQ07              | BF04 or BQ04              |
| 120                         | BF01 or BQ01            | BF01 or BQ01             | BF06 or BQ06              |                           |
| 150                         | BF01 or BQ01            | BF01 or BQ01             | BF06 or BQ06              |                           |
| 180                         | BF01 or BQ01            | BF02 or BQ02             | BF04 or BQ04              |                           |
| 220 nF                      | BF01 or BQ01            | BF02 or BQ02             | BF04 or BQ04              |                           |
| 270                         | BF02 or BQ02            | BF07 or BQ07             |                           |                           |
| 330                         | BF02 or BQ02            | BF07 or BQ07             |                           |                           |
| 390                         | BF02 or BQ02            | BF07 or BQ07             |                           |                           |
| 470 nF                      | BF02 or BQ02            | BF07 or BQ07             |                           |                           |
| 560                         | BF07 or BQ07            | BF05* or BQ05            |                           |                           |
| 680                         | BF07 or BQ07            | BF05* or BQ05            |                           |                           |
| 820                         | BF07 or BQ07            | BF05* or BQ05            |                           |                           |
| 1 $\mu$ F                   | BF07 or BQ07            | BF05 or BQ05             |                           |                           |
| 1.5 $\mu$ F                 | BF05* or BQ05           |                          |                           |                           |
| 2.2 $\mu$ F                 | BF05** or BQ05          |                          |                           |                           |

\*Upon request - no change

\*\*Upon request & only available 50 V ( $V_R$ ) - no change

BF04/BF06: New

BQ range: New



### METALLIZED POLYESTER FILM CAPACITOR HIGH PERFORMANCES – HIGH TEMPERATURE PULSE APPLICATIONS

#### APPLICATIONS

Non-inductive, self-healing, metallized polyester film capacitor, insulated\* thermoplastic casing, epoxy resin sealed with stand-offs\*. Radial connections with a lead spacing of 5.08 mm.

\* Flame retardant case according to UL 94 VO.

#### Some examples of use:

Supply decoupling, filter, integrators, treatment of analog signals, rejection of line perturbations, pulse logic and timing circuit, lamp capacitor for electronic compact lamps, inverter for LCD monitors, automotive DC motor suppression.

#### STANDARDIZATION

##### Generic specifications:

CEI 384-1/CECC 30000/UTE 83100

##### Sectional specifications:

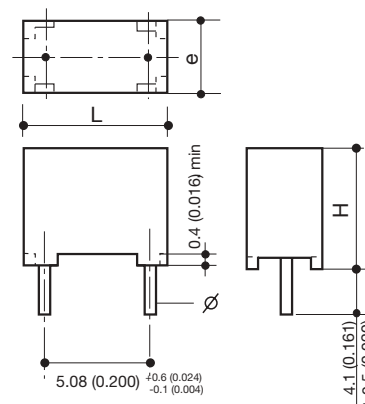
CEI 384-2/CECC 30400/UTE 83151

On the LNZ list:

**Complies with type CPM-N**

RAQ2 production, equivalent AQAP-4 of NATO

#### Schematic Cross Section



#### DIMENSIONS:

millimeters (inches)

| Case | L max.      | H max.       | e max.      | $\phi \pm 0.02$ | Observations                   |
|------|-------------|--------------|-------------|-----------------|--------------------------------|
| 01   | 7.5 (0.295) | 6.5 (0.256)  | 2.5 (0.098) | 0.5 (0.020)     | 1nF < C <sub>r</sub> < 150nF   |
| 02   | 7.5 (0.295) | 8.0 (0.315)  | 3.2 (0.126) | 0.5 (0.020)     | 6.8nF < C <sub>r</sub> < 220nF |
| 05   | 7.5 (0.295) | 12.0 (0.472) | 6.0 (0.236) | 0.5 (0.020)     | 47nF < C <sub>r</sub> < 1500nF |
| 06   | 7.5 (0.295) | 9.6 (0.378)  | 6.0 (0.236) | 0.5 (0.020)     | 33nF < C <sub>r</sub> < 1000nF |
| 07   | 7.5 (0.295) | 8.0 (0.315)  | 5.0 (0.197) | 0.5 (0.020)     | 22nF < C <sub>r</sub> < 680nF  |

#### HOW TO ORDER

**BJ01**



Type

**4**



Class

**D**



Voltage

**0104**



Capacitance Value

**J**



Tolerance

**--**



Suffix

#### MARKING

T 100 nJ D

Marking

Nominal capacitance (EIA code)

Tolerance (EIA code)

DC nominal voltage

Example above: D = 63 Vdc, 100nF,  $\pm 5\%$

### PERFORMANCE CHARACTERISTICS

|                       |                                                                            |
|-----------------------|----------------------------------------------------------------------------|
| Climatic category:    | 55/125/56 - Performance Class 1                                            |
| Capacitance range:    | $C_R$ 1nF to 1500nF (E12)                                                  |
| Tolerances on $C_R$ : | $\pm 5\%$ , $\pm 10\%$ (other values on request)                           |
| Nominal voltages:     | $V_R$ /63/100/250/400 V<br>$V_R$ /40/63/160/200 V                          |
| Rated temperature:    | 85°C                                                                       |
| Category voltages:    | $V_C = 0.8 V_R$ at 100°C; $0.5 V_R$ at 125°C                               |
| Test voltage:         | $V_E = 1.6 V_R / 2s$ at 25°C                                               |
| Life test:            | $dC/C \leq 5\%$ after 125°C/2000h/ $0.625 V_R$                             |
| Thermal shock:        | -55/+125°C/time cycle 1 hr/5 cycles $dC/C \leq 8\%$ ; D.F. 1kHz $\leq 1\%$ |
| Humidity test:        | +40°C/93% RH/56 days $dC/C \leq 5\%$                                       |

- Tangent of Loss Angle: D.F.

| Measurement Frequency | Capacitance       | DF: Performance Category 2 |
|-----------------------|-------------------|----------------------------|
| 1kHz                  | $C_R \leq 1\mu F$ | $\leq 1.0\%$               |
| 100 Hz                | $C_R > 1\mu F$    | $\leq 1.0\%$               |

- Insulation Resistance: IR

| Measuring Points             | $C_R \leq 0.33\mu F$ |                 | $C_R > 0.33\mu F$        |                 |
|------------------------------|----------------------|-----------------|--------------------------|-----------------|
|                              | IR min (GΩ)          |                 | IR * $C_R$ min (MΩ * μF) |                 |
|                              | Performance Class 2  |                 | Performance Class 2      |                 |
| Between Terminals            | $V_{R-} \leq 100V$   | $V_{R-} > 100V$ | $V_{R-} \leq 100V$       | $V_{R-} > 100V$ |
|                              | 3.75                 | 7.5             | 1.25                     | 2.5             |
| Between Terminals and Ground | $\geq 30,000 \Omega$ |                 |                          |                 |

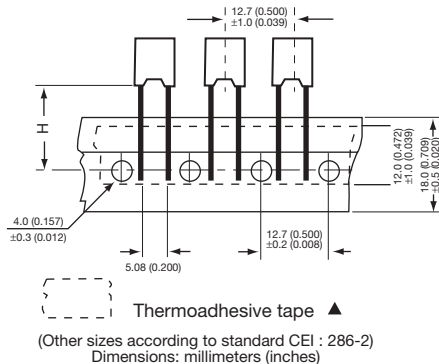
- Max voltage gradient

|                 |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| $V_{R-}$        | 63  | 100 | 250 | 400 |
| $(dv/dt)_R$ max | 250 | 300 | 400 | 600 |

### PACKAGING

millimeters (inches)

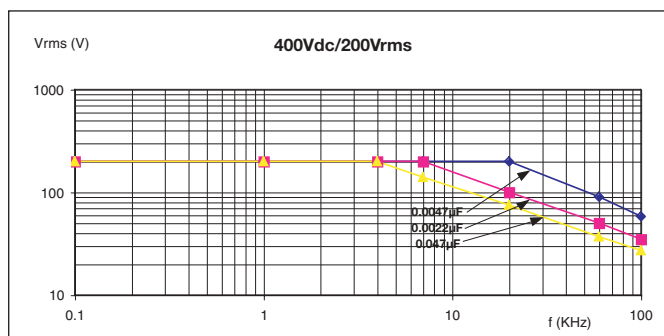
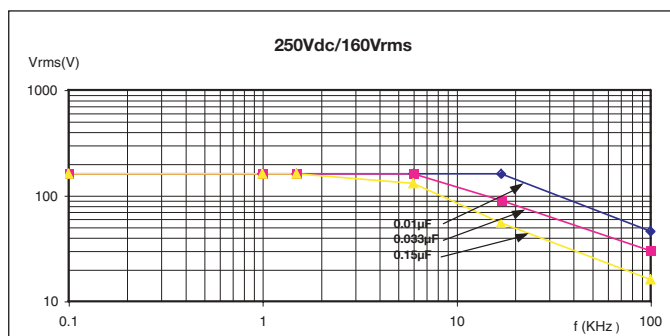
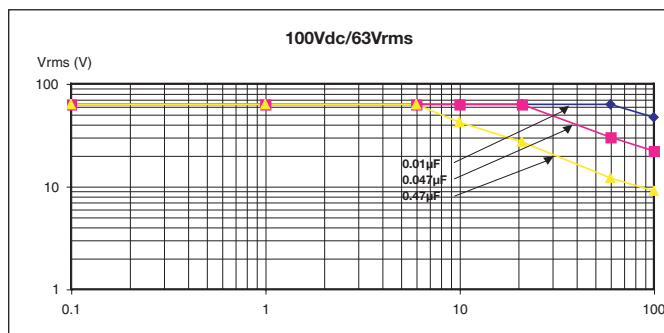
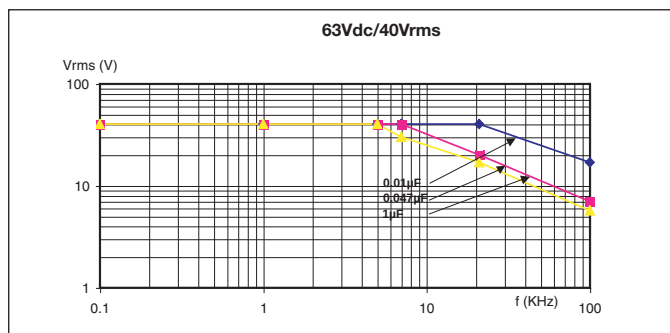
|   | Panasert                                | Avisert                                  |
|---|-----------------------------------------|------------------------------------------|
| H | $16.5 \pm 0.30$<br>( $0.65 \pm 0.012$ ) | $19.5 \pm 0.50$<br>( $0.768 \pm 0.020$ ) |



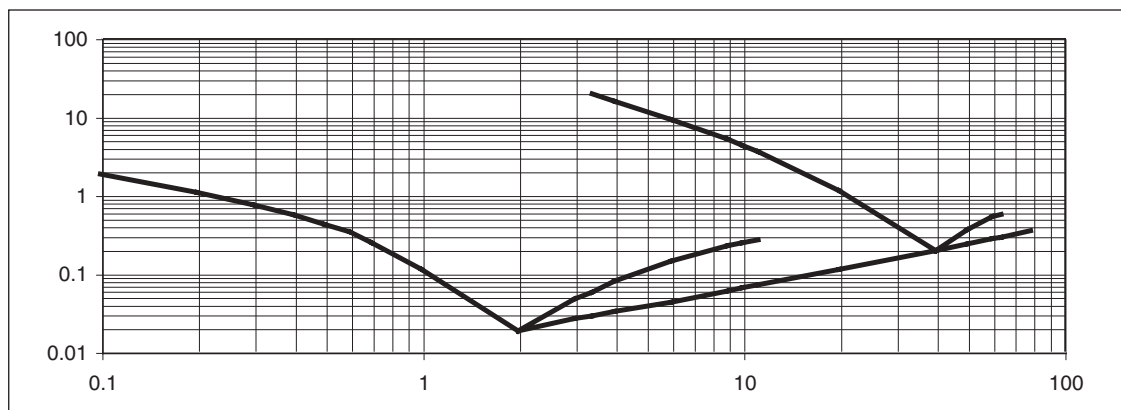
| Case     | Quantity    |            |             |            |          |                    |
|----------|-------------|------------|-------------|------------|----------|--------------------|
|          | Reel        |            | Ammopack    |            | Bulk     |                    |
| Suffix x | DB panasert | DD avisert | DA panasert | DC avisert | USA Std. | Europe / Asia Std. |
| 01       | 2500        |            | 2500        |            | 1000     | 5000               |
| 02       | 1800        |            | 2000        |            | 1000     | 3800               |
| 07       | 1200        |            | 1250        |            | 1000     | 2500               |
| 06       | 900         |            | 1100        |            | 1000     | 1500               |
| 05       | 900         |            | 1100        |            | 1000     | 1500               |
| 04       | 750         |            | 750         |            | 1000     | 1000               |

## CHARACTERISTICS CURVES

### Nominal RMS Voltage vs. Frequency



### Influence of the frequency on the impedance (room Temperature)



# BJ 01/02/05/06/07 : Lead Free product

## 5.08 Radial Leads 63/100/250/400 V-



### CAPACITANCE VALUES ( $C_R$ ) AND NOMINAL VOLTAGES ( $V_R$ ) VS CASE SIZE

| Capacitance<br>Range<br>( $C_R$ ) | Reference            |        |         |         |
|-----------------------------------|----------------------|--------|---------|---------|
|                                   | BJ                   |        |         |         |
|                                   | $V_R$ -/ $V_{R\sim}$ |        |         |         |
|                                   | 63/40                | 100/63 | 250/160 | 400/200 |
| 1                                 | BJ01                 | BJ01   | BJ01    | BJ01    |
| 1.5                               | BJ01                 | BJ01   | BJ01    | BJ01    |
| 2.2                               | BJ01                 | BJ01   | BJ01    | BJ01    |
| 3.3                               | BJ01                 | BJ01   | BJ01    | BJ01    |
| 4.7                               | BJ01                 | BJ01   | BJ01    | BJ01    |
| 6.8                               | BJ01                 | BJ01   | BJ01    | BJ02    |
| 10                                | BJ01                 | BJ01   | BJ01    | BJ02    |
| 15                                | BJ01                 | BJ01   | BJ01    | BJ02    |
| 22                                | BJ01                 | BJ01   | BJ02    | BJ07    |
| 33                                | BJ01                 | BJ01   | BJ02    | BJ06    |
| 47                                | BJ01                 | BJ01   | BJ07    | BJ05    |
| 68                                | BJ01                 | BJ01   | BJ07    |         |
| 100                               | BJ01                 | BJ02   | BJ06    |         |
| 150                               | BJ01                 | BJ07   | BJ05    |         |
| 220                               | BJ01                 | BJ06   |         |         |
| 330                               | BJ02                 | BJ05   |         |         |
| 470                               | BJ02                 | BJ05   |         |         |
| 680                               | BJ07                 |        |         |         |
| 1000                              | BJ06                 |        |         |         |
| 1500                              | BJ05                 |        |         |         |

BH 01/02/07/06/05:



# Radial Leads (Lead Free Product)

CPM-N----- pitch = 5.08mm (0.200")



## GENERAL DESCRIPTION

Dielectric: Metallized polyester film (Polyethylene terephthalate)

Stacked-film

Leads: Radial tin - plated wire

Protection: Plastic case (UL 94: V-O) / Epoxy Resin

Marking: Logo

DC Normal Voltage

Nominal Capacitance

Tolerance (EIA)

Batch Code Number

Example: T D474KC8L

Delivery Mode: Bulk

Taped (reel or ammpack)

## STANDARDIZATION

### Generic specifications:

CEI 384-1/CECC 30000/UTE 83100

### Sectional specifications:

CEI 384-2/CECC 30400/UTE 83151

### On the LNZ List:

Complies with type CPM-N

RAQ2 production, equivalent AQAP-4 of NATO

## APPLICATIONS

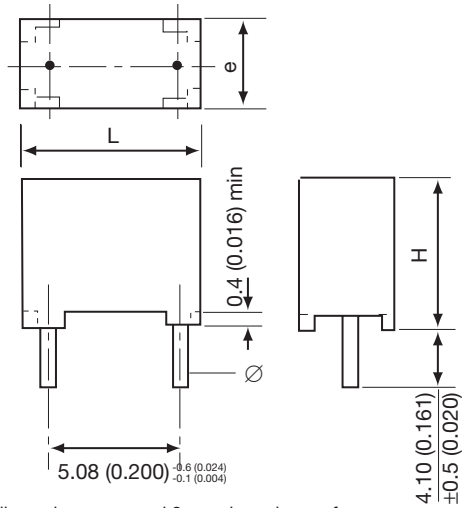
- Supply decoupling
- Filter
- Integrators
- Treatment of analog signals
- Rejection of line perturbations, etc.

Specifically designed of working in severe environmental conditions such as automotive applications: engine control, multiplexing, system, etc.

## DIMENSIONS

millimeters (inches)

| Case | L max       | H max        | e max       | $\phi \pm 0.02$ |
|------|-------------|--------------|-------------|-----------------|
| 01   | 7.5 (0.295) | 6.5 (0.256)  | 2.5 (0.098) | 0.5 (0.020)     |
| 02   | 7.5 (0.295) | 8.0 (0.315)  | 3.2 (0.126) | 0.5 (0.020)     |
| 05   | 7.5 (0.295) | 12.0 (0.472) | 6.0 (0.236) | 0.5 (0.020)     |
| 06   | 7.5 (0.295) | 9.6 (0.378)  | 6.0 (0.236) | 0.5 (0.020)     |
| 07   | 7.5 (0.295) | 8.0 (0.315)  | 5.0 (0.197) | 0.5 (0.020)     |



\*L dimension measured 3mm above base of case

## HOW TO ORDER

**BH01**

Type

**4**

Class

**D**

Voltage

**0104**

Capacitance

**K**

Tolerance

**--**

Suffix



# BH 01/02/07/06/05:

## Radial Leads (Lead Free Product)

### CPM-N----- pitch = 5.08mm (0.200")



## PERFORMANCE CHARACTERISTICS

|                    |                                                                                 |
|--------------------|---------------------------------------------------------------------------------|
| Climatic Category  | 55/125/56 Performance Class 2                                                   |
| Capacitance Range  | $C_R$ 1nF to 2.2mF (E12)                                                        |
| Tolerance on $C_R$ | $\pm 5\%$ ; $\pm 10\%$<br>(other values on request)                             |
| Nominal Voltages   | VR_ 63/100/250/400V<br>VR~ 40/63/160/200V                                       |
| Category Voltage   | $V_C = 0.8V_{R-}$ at 100°C & $0.5V_{R-}$ at 125°C                               |
| Test Voltage       | $V_e = 1.6V_{R-}/2s$ at 25°C                                                    |
| Life Test          | Delta C/C $\leq 5\%$ after 125°C/1000h/ $0.5V_{R-}$                             |
| Thermal Shock      | -55/+125°C/time cycle 1hr/500 cycles delta C/C $\leq 10\%$ D.F. 1kHz $\leq 1\%$ |
| Humidity Test      | 85°C/85% HR/1000 h delta C/C $\leq 10\%$                                        |

### • Tangent of Loss Angle: D.F.

| Measurement Frequency | Capacitance       | DF: Performance Category 2 |
|-----------------------|-------------------|----------------------------|
| 1kHz                  | $C_R \leq 1\mu F$ | $\leq 1.0\%$               |
| 100 Hz                | $C_R > 1\mu F$    | $\leq 1.0\%$               |

### • Insulation Resistance: IR

| Measuring Points             | $C_R \leq 0.33\mu F$ |                 | $C_R > 0.33\mu F$                      |                 |
|------------------------------|----------------------|-----------------|----------------------------------------|-----------------|
|                              | IR min (G $\Omega$ ) |                 | IR * $C_R$ min (M $\Omega$ * $\mu F$ ) |                 |
|                              | Performance Class 2  |                 | Performance Class 2                    |                 |
| Between Terminals            | $V_{R-} \leq 100V$   | $V_{R-} > 100V$ | $V_{R-} \leq 100V$                     | $V_{R-} > 100V$ |
|                              | 3.75                 | 7.5             | 1.25                                   | 2.5             |
| Between Terminals and Ground | - 30,000 $\Omega$    |                 |                                        |                 |

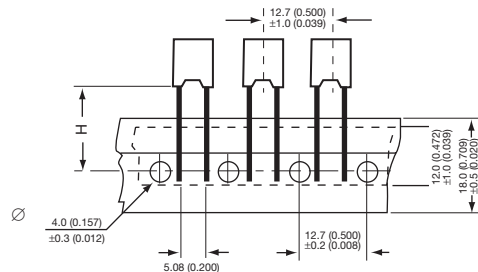
### • Max voltage gradient

|                 |    |     |     |     |
|-----------------|----|-----|-----|-----|
| $V_{R-}$        | 63 | 100 | 250 | 400 |
| $(dv/dt)_R$ max | 38 | 40  | 110 | 270 |

## PACKAGING

millimeters (inches)

|   | Panasert                                | Avisert                                  |
|---|-----------------------------------------|------------------------------------------|
| H | $16.5 \pm 0.30$<br>( $0.65 \pm 0.012$ ) | $19.5 \pm 0.50$<br>( $0.768 \pm 0.020$ ) |



Thermoadhesive tape ▲  
(Other sizes according to standard CEI : 286-2)  
Dimensions: millimeters (inches)

| Case     | Quantity    |            |             |            |          |                    |
|----------|-------------|------------|-------------|------------|----------|--------------------|
|          | Reel        |            | Ammopack    |            | Bulk     |                    |
| Suffix x | DB panasert | DD avisert | DA panasert | DC avisert | USA Std. | Europe / Asia Std. |
| 01       | 2500        |            | 2500        |            | 1000     | 5000               |
| 02       | 1800        |            | 2000        |            | 1000     | 3800               |
| 07       | 1200        |            | 1250        |            | 1000     | 2500               |
| 06       | 900         |            | 1100        |            | 1000     | 1500               |
| 05       | 900         |            | 1100        |            | 1000     | 1500               |



BH 01/02/07/06/05:

Radial Leads (Lead Free Product)

CPM-N----- pitch = 5.08mm (0.200")

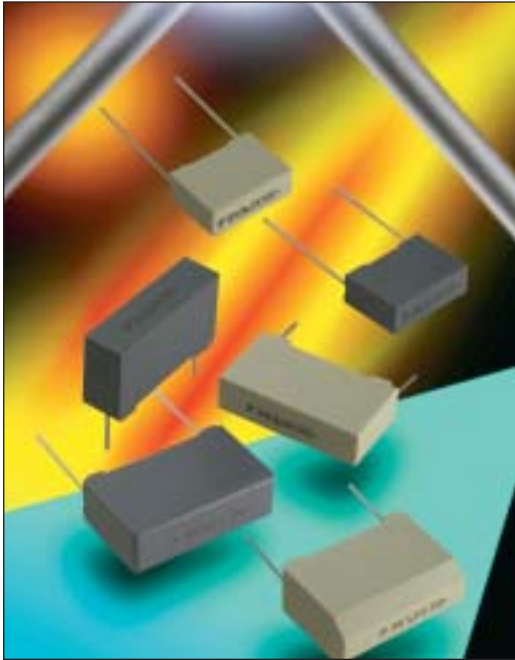


CAPACITANCE VALUES ( $C_R$ ) and NOMINAL VOLTAGES ( $V_R$ )

| Capacitance<br>Range<br>( $C_R$ ) | Reference               |                          |                           |                           |
|-----------------------------------|-------------------------|--------------------------|---------------------------|---------------------------|
|                                   | BH                      |                          |                           |                           |
|                                   | $V_{R-} / V_{R-}$       |                          |                           |                           |
|                                   | 63/40 (voltage code: D) | 100/63 (voltage code: E) | 250/160 (voltage code: G) | 400/200 (voltage code: I) |
| 1,000 pF                          | BH01                    | BH01                     | BH01                      | BH01                      |
| 1,200                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 1,500                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 1,800                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 2,200 pF                          | BH01                    | BH01                     | BH01                      | BH01                      |
| 2,700                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 3,300                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 3,900                             | BH01                    | BH01                     | BH01                      | BH01                      |
| 4,700 pF                          | BH01                    | BH01                     | BH01                      | BH01                      |
| 5,600                             | BH01                    | BH01                     | BH01                      | BH02                      |
| 6,800                             | BH01                    | BH01                     | BH01                      | BH02                      |
| 8,200                             | BH01                    | BH01                     | BH01                      | BH07                      |
| 10,000 pF                         | BH01                    | BH01                     | BH01                      | BH07                      |
| 12,000                            | BH01                    | BH01                     | BH01                      | BH07                      |
| 15,000                            | BH01                    | BH01                     | BH01                      | BH07                      |
| 18,000                            | BH01                    | BH01                     | BH01                      | BH06                      |
| 22,000                            | BH01                    | BH01                     | BH02                      | BH06                      |
| 27,000                            | BH01                    | BH01                     | BH02                      | BH06                      |
| 33,000                            | BH01                    | BH01                     | BH02                      | BH06                      |
| 39,000                            | BH01                    | BH01                     | BH07                      | BH05                      |
| 47,000 pF                         | BH01                    | BH01                     | BH07                      | BH05                      |
| 56,000                            | BH01                    | BH01                     | BH07                      |                           |
| 68,000                            | BH01                    | BH01                     | BH07                      |                           |
| 82,000                            | BH01                    | BH01                     | BH06                      |                           |
| 100 nF                            | BH01                    | BH01                     | BH06                      |                           |
| 120                               | BH01                    | BH01                     | BH05                      |                           |
| 150                               | BH01                    | BH01                     | BH05                      |                           |
| 180                               | BH01                    | BH02                     |                           |                           |
| 220 nF                            | BH01                    | BH02                     |                           |                           |
| 270                               | BH02                    | BH07                     |                           |                           |
| 330                               | BH02                    | BH07                     |                           |                           |
| 390                               | BH07                    | BH07                     |                           |                           |
| 470 nF                            | BH07                    | BH05                     |                           |                           |
| 560                               | BH07                    | BH05                     |                           |                           |
| 680                               | BH07                    | BH05                     |                           |                           |
| 820                               | BH07                    | BH05                     |                           |                           |
| 1 $\mu$ F                         | BH07                    | BH05                     |                           |                           |
| 1.5 $\mu$ F                       | BH05                    |                          |                           |                           |
| 2.2 $\mu$ F                       | BH05**                  |                          |                           |                           |

\*\*Upon request & only available 50 V ( $V_R$ )





Schematic Cross Section



## APPLICATIONS

- Commodity Product:
  - Decoupling with AC or pulse components
  - High current uses (TV deflection coils)
  - Capacitive dividers
  - Energy saving lamps, etc.

## TECHNOLOGY

- Dielectric: Polyester film
- Stacked-film for pitch 7.5, 10 & 15mm (63Vdc...400Vdc)  
Wound capacitor for pitch 7.5 & 10 & 15mm (630Vdc/1000Vdc)  
for pitch 22.5 & 27.5mm (63Vdc/1000Vdc)
- Leads: Radial tinned copper wire
- Protection: Plastic case (UL94: V-O) / Polyurethane resin
- Marking: Logo  
Type  
Nominal Capacitance  
Tolerance (EIA)  
DC Nominal Voltage  
Example: **T BN 47n J 400**
- Delivery Mode: Bulk  
Taped (reel)

## PERFORMANCE CHARACTERISTICS

|                            |                                                                           |    |    |      |      |  |
|----------------------------|---------------------------------------------------------------------------|----|----|------|------|--|
| Climatic Category:         | 55/125/56 Performance Class 2                                             |    |    |      |      |  |
| Capacitance Range:         | $C_R$ 1 nF to 22 $\mu$ F (E6)                                             |    |    |      |      |  |
| Tolerances on $C_R$ :      | $\pm 5\%$ , $\pm 10\%$ , $\pm 20\%$ (other values on request)             |    |    |      |      |  |
| Nominal Voltages:          | $V_{R-}$ 63/100/250/400/630/1000 V<br>$V_{R\sim}$ 40/63/115/200/220/450 V |    |    |      |      |  |
| Category Voltage:          | $V_C = U_n$ at 100°C & 0.5 $U_n$ at 125°C                                 |    |    |      |      |  |
| Test Voltage:              | $V_e = 1.6 U_{ndc}/2$ s at 20°C                                           |    |    |      |      |  |
| Total Self Inductance (L): | For lead length = 2mm                                                     |    |    |      |      |  |
| Pitch (mm)                 | 7.5                                                                       | 10 | 15 | 22.5 | 27.5 |  |
| L (nH)                     | 8                                                                         | 9  | 10 | 18   | 18   |  |

|                                 |                                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| Tangent of Loss Angle at 1 kHz: | $D.F. \leq 100 \cdot 10^{-4}$ for $C > 0.1 \mu F$<br>$\leq 80 \cdot 10^{-4}$ for $C \leq 0.1 \mu F$ |
|---------------------------------|-----------------------------------------------------------------------------------------------------|

|                        |                                                                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation Resistance: | $IR \geq 3.75 G\Omega$ for $C \leq 0.33 \mu F$<br>$IR (M\Omega) \cdot C (\mu F) \geq 1250$ s for $C > 0.33 \mu F$<br>measures at 10V for $U_n=63V_{dc}$ and 100V for other |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

dv/dt: (V/μsec)

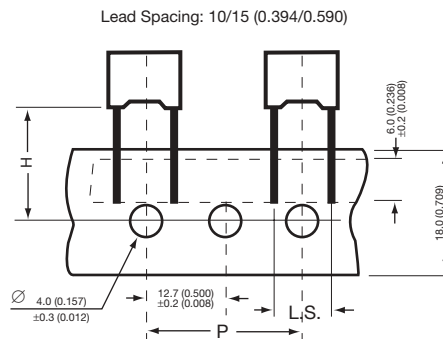
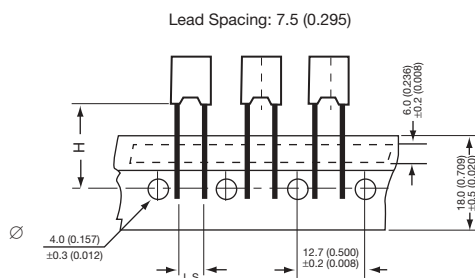
| V <sub>R-</sub>                        | 63 | 100 | 250 | 400 | 630 | 1000 |
|----------------------------------------|----|-----|-----|-----|-----|------|
| (dv/dt) <sub>R</sub> max pitch: 7.5mm  | 60 | 75  | 120 | 300 | 440 |      |
| (dv/dt) <sub>R</sub> max pitch: 10mm   | 30 | 40  | 50  | 110 | 112 | 800  |
| (dv/dt) <sub>R</sub> max pitch: 15mm   | 23 | 27  | 34  | 79  | 102 | 400  |
| (dv/dt) <sub>R</sub> max pitch: 22.5mm | 8  | 9   | 14  | 25  | 25  | 380  |
| (dv/dt) <sub>R</sub> max pitch: 27.5mm | 5  | 5   | 6   | 8   | 15  | 340  |

Thermal Resistance: R<sub>th</sub> hot spot/ambient (°C/W)

| Pitch (mm)    | 7.5mm |     |   |     | 10mm |     |    | 15mm |    |    | 22.5mm |    |    | 27.5mm |    |    |    |    |     |
|---------------|-------|-----|---|-----|------|-----|----|------|----|----|--------|----|----|--------|----|----|----|----|-----|
| Case          | 1     | 2   | C | D   | E0   | 4   | 5  | 6    | 9  | 10 | 11     | 12 | 13 | 16     | P0 | 18 | 19 | 26 | R68 |
| Rth (stacked) | 201   | 147 |   | 117 | 140  | 124 | 90 | 88   | 61 | 82 |        |    |    |        |    |    |    |    |     |
| Rth (wound)   | 201   | 147 |   | 117 | 140  | 124 | 90 | 123  | 86 | 75 | 64     | 53 | 48 | 42     | 40 | 33 | 30 | 27 | 23  |

### PACKAGING

#### • Reel



Adhesive tape ▲

(Other sizes according to standard CEI : 286-2)  
Dimensions: millimeters (inches)

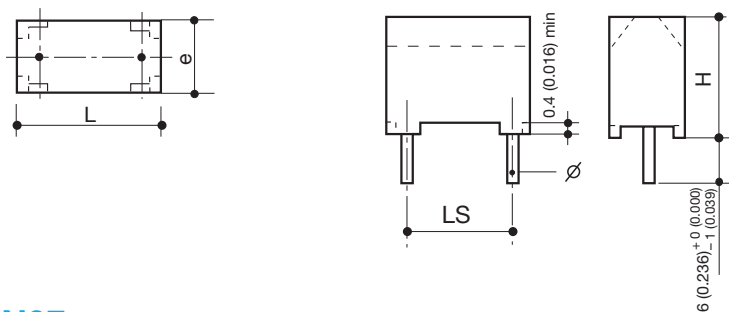
| Taping Suffix EN                 |                             |                                       |            |
|----------------------------------|-----------------------------|---------------------------------------|------------|
| Lead Spacing<br>Tol ±0.4 (0.016) |                             |                                       |            |
|                                  | 7.5 (0.295)                 | 10 (0.394)                            | 15 (0.590) |
| P                                | 12.7 ±1<br>(0.5 ±0.039)     | 25.4 ±1<br>(1.0 ±0.039)               |            |
| H                                | 16.5 ±0.3<br>(0.650 ±0.012) | 16 +1.5/-0.5<br>(0.600 +0.059/-0.020) |            |

#### • Bulk

| Suffix       | - -          | LG            | KB            | KC          | KE          | KH          | KK           | K3         | K7         |
|--------------|--------------|---------------|---------------|-------------|-------------|-------------|--------------|------------|------------|
| Leads Length | 6mm<br>+0/-1 | 3.2mm<br>±0.4 | 3.5mm<br>±0.5 | 4mm<br>±0.5 | 5mm<br>±0.5 | 9mm<br>±0.5 | 15mm<br>±0.5 | 20mm<br>±1 | 25mm<br>±1 |

Standard Suffix: - -  
Special MOQ for these special suffix

Pitch = 7.5mm



## BN07

| Pitch<br>mm | Ordering Code | Vr-/Vr~ | Cr    | Case | Dimensions (mm) |       |       | MOQ    |                     | Ø +10%<br>-0.5 mm | I <sup>2</sup> t<br>(A <sup>2</sup> .sec) | I <sub>rms</sub><br>(A) |
|-------------|---------------|---------|-------|------|-----------------|-------|-------|--------|---------------------|-------------------|-------------------------------------------|-------------------------|
|             |               |         |       |      | L max           | H max | e max | Reel   | Bulk <sup>(1)</sup> |                   |                                           |                         |
| 7.5         | BN074D0683+-  | 63/40   | 68nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 8.33 x 10 <sup>-4</sup>                   | 0.357                   |
| 7.5         | BN074D0104+-  |         | 100nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 1.41 x 10 <sup>-3</sup>                   | 0.48                    |
| 7.5         | BN074D0224+-  |         | 220nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.79 x 10 <sup>-3</sup>                   | 0.53                    |
| 7.5         | BN074D0334+-  |         | 330nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 3.63 x 10 <sup>-3</sup>                   | 0.64                    |
| 7.5         | BN074D0474+-  |         | 470nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 5.11 x 10 <sup>-3</sup>                   | 0.84                    |
| 7.5         | BN074D0684+-  |         | 680nF | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.54 x 10 <sup>-2</sup>                   | 1.33                    |
| 7.5         | BN074D0105+-  |         | 1µF   | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 2.78 x 10 <sup>-2</sup>                   | 1.77                    |
| 7.5         | BN074D0225+-  |         | 2.2µF | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 1.12 x 10 <sup>-1</sup>                   | 4                       |
| 7.5         | BN074E0333+-  | 100/63  | 33nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 4.52 x 10 <sup>-4</sup>                   | 0.21                    |
| 7.5         | BN074E0473+-  |         | 47nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 6.12 x 10 <sup>-4</sup>                   | 0.29                    |
| 7.5         | BN074E0104+-  |         | 100nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 1.41 x 10 <sup>-3</sup>                   | 0.48                    |
| 7.5         | BN074E0224+-  |         | 220nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.79 x 10 <sup>-3</sup>                   | 0.53                    |
| 7.5         | BN074E0334+-  |         | 330nF | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 7.85 x 10 <sup>-3</sup>                   | 1.00                    |
| 7.5         | BN074E0474+-  |         | 470nF | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.27 x 10 <sup>-2</sup>                   | 1.16                    |
| 7.5         | BN074E0684+-  |         | 680nF | C    | 10.1            | 11.2  | 5.2   | 10,000 | 12,000              | 0.6               | 2.23 x 10 <sup>-2</sup>                   | 1.48                    |
| 7.5         | BN074E0105+-  |         | 1µF   | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 4.61 x 10 <sup>-2</sup>                   | 2.18                    |
| 7.5         | BN074G0472+-  | 250/115 | 4.7nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 6.88 x 10 <sup>-5</sup>                   | 0.05                    |
| 7.5         | BN074G0682+-  |         | 6.8nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 9.61 x 10 <sup>-4</sup>                   | 0.08                    |
| 7.5         | BN074G0103+-  |         | 10nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.45 x 10 <sup>-4</sup>                   | 0.14                    |
| 7.5         | BN074G0223+-  |         | 22nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 3.62 x 10 <sup>-4</sup>                   | 0.19                    |
| 7.5         | BN074G0333+-  |         | 33nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 4.52 x 10 <sup>-4</sup>                   | 0.21                    |
| 7.5         | BN074G0473+-  |         | 47nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 6.11 x 10 <sup>-4</sup>                   | 0.29                    |
| 7.5         | BN074G0104+-  |         | 100nF | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.85 x 10 <sup>-3</sup>                   | 0.53                    |
| 7.5         | BN074G0224+-  |         | 220nF | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 8.93 x 10 <sup>-3</sup>                   | 1.53                    |
| 7.5         | BN074I0102+-  | 400/200 | 1nF   | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 1.10 x 10 <sup>-5</sup>                   | 0.02                    |
| 7.5         | BN074I0222+-  |         | 2.2nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 3.63 x 10 <sup>-5</sup>                   | 0.03                    |
| 7.5         | BN074I0332+-  |         | 3.3nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 5.09 x 10 <sup>-5</sup>                   | 0.04                    |
| 7.5         | BN074I0472+-  |         | 4.7nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 6.88 x 10 <sup>-5</sup>                   | 0.05                    |
| 7.5         | BN074I0103+-  |         | 10nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.45 x 10 <sup>-4</sup>                   | 0.14                    |
| 7.5         | BN074I0223+-  |         | 22nF  | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 3.62 x 10 <sup>-4</sup>                   | 0.19                    |
| 7.5         | BN074I0333+-  |         | 33nF  | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.44 x 10 <sup>-3</sup>                   | 0.38                    |
| 7.5         | BN074I0473+-  |         | 47nF  | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.65 x 10 <sup>-3</sup>                   | 0.40                    |
| 7.5         | BN074I0683+-  | 630/220 | 68nF  | C    | 10.1            | 11.2  | 5.2   | 10,000 | 12,000              | 0.6               | 3.46 x 10 <sup>-3</sup>                   | 0.59                    |
| 7.5         | BN074I0823+-  |         | 82nF  | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 5.03 x 10 <sup>-3</sup>                   | 0.71                    |
| 7.5         | BN074K0102+-  |         | 1nF   | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 9.0 x 10 <sup>-7</sup>                    | 0.027                   |
| 7.5         | BN074K0152+-  |         | 1.5nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.0 x 10 <sup>-6</sup>                    | 0.027                   |
| 7.5         | BN074K0222+-  |         | 2.2nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.3 x 10 <sup>-6</sup>                    | 0.027                   |
| 7.5         | BN074K0332+-  |         | 3.3nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 2.5 x 10 <sup>-6</sup>                    | 0.027                   |
| 7.5         | BN074K0472+-  |         | 4.7nF | 1    | 9.3             | 8.2   | 3.3   | 8000   | 12,000              | 0.6               | 5.7 x 10 <sup>-6</sup>                    | 0.027                   |
| 7.5         | BN074K0682+-  |         | 6.8nF | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 1.2 x 10 <sup>-5</sup>                    | 0.14                    |
| 7.5         | BN074K0103+-  |         | 10nF  | 2    | 10.1            | 10.2  | 5.2   | 10,000 | 14,000              | 0.6               | 2.6 x 10 <sup>-5</sup>                    | 0.14                    |
| 7.5         | BN074K0153+-  |         | 15nF  | C    | 10.1            | 11.2  | 5.2   | 10,000 | 12,000              | 0.6               | 5.8 x 10 <sup>-5</sup>                    | 0.22                    |
| 7.5         | BN074K0223+-  |         | 22nF  | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 1.2 x 10 <sup>-4</sup>                    | 0.34                    |
| 7.5         | BN074K0273+-  |         | 27nF  | D    | 10.1            | 12.2  | 6.2   | 8000   | 8000                | 0.6               | 1.8 x 10 <sup>-4</sup>                    | 0.34                    |

Replace the + by the tolerance code: J=5% - K=10% - M=20%

Replace the - - by the packaging suffix: - - = standard bulk - EN = taping on reel etc

<sup>(1)</sup>: MOQ for standard bulk suffix - -

Pitch = 10mm

## BN10

| Pitch<br>mm | Ordering Code | Vr-/Vr~  | Cr          | Case | Dimensions (mm) |       |       | MOQ  |                     | $\varnothing$ +10%<br>-0.5 mm | I <sup>2</sup> t<br>(A <sup>2</sup> .sec) | I <sub>rms</sub><br>(A) |
|-------------|---------------|----------|-------------|------|-----------------|-------|-------|------|---------------------|-------------------------------|-------------------------------------------|-------------------------|
|             |               |          |             |      | L max           | H max | e max | Reel | Bulk <sup>(1)</sup> |                               |                                           |                         |
| 10          | BN104D0224+-  | 63/40    | 220nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $2.20 \times 10^{-3}$                     | 0.71                    |
| 10          | BN104D0334+-  |          | 330nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $3.54 \times 10^{-3}$                     | 0.73                    |
| 10          | BN104D0474+-  |          | 470nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $5.74 \times 10^{-3}$                     | 0.765                   |
| 10          | BN104D0684+-  |          | 680nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $6.84 \times 10^{-3}$                     | 0.837                   |
| 10          | BN104D0105+-  |          | 1 $\mu$ F   | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.11 \times 10^{-2}$                     | 1.23                    |
| 10          | BN104D0155+-  |          | 1.5 $\mu$ F | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $2.50 \times 10^{-2}$                     | 1.83                    |
| 10          | BN104D0225+-  |          | 2.2 $\mu$ F | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $5.37 \times 10^{-2}$                     | 2.685                   |
| 10          | BN104E0683+-  | 100/63   | 68nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $8.74 \times 10^{-4}$                     | 0.32                    |
| 10          | BN104E0104+-  |          | 100nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.33 \times 10^{-3}$                     | 0.40                    |
| 10          | BN104E0154+-  |          | 150nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.47 \times 10^{-3}$                     | 0.667                   |
| 10          | BN104E0224+-  |          | 220nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $2.20 \times 10^{-3}$                     | 0.71                    |
| 10          | BN104E0334+-  |          | 330nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $3.54 \times 10^{-3}$                     | 0.73                    |
| 10          | BN104E0474+-  |          | 470nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $5.74 \times 10^{-3}$                     | 0.765                   |
| 10          | BN104E0684+-  |          | 680nF       | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $1.20 \times 10^{-2}$                     | 1.107                   |
| 10          | BN104E0105+-  |          | 1000nF      | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $2.60 \times 10^{-2}$                     | 1.629                   |
| 10          | BN104G0333+-  | 250/115  | 33nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $4.86 \times 10^{-4}$                     | 0.21                    |
| 10          | BN104G0473+-  |          | 47nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $6.01 \times 10^{-4}$                     | 0.26                    |
| 10          | BN104G0683+-  |          | 68nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $8.74 \times 10^{-4}$                     | 0.32                    |
| 10          | BN104G0104+-  |          | 100nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.33 \times 10^{-3}$                     | 0.4                     |
| 10          | BN104G0154+-  |          | 150nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.47 \times 10^{-3}$                     | 0.5                     |
| 10          | BN104G0224+-  |          | 220nF       | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $3.16 \times 10^{-3}$                     | 0.73                    |
| 10          | BN104G0334+-  |          | 330nF       | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $7.11 \times 10^{-3}$                     | 1.1                     |
| 10          | BN104G0474+-  |          | 470nF       | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $1.44 \times 10^{-2}$                     | 1.57                    |
| 10          | BN104I0472+-  | 400/200  | 4.7nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $6.03 \times 10^{-5}$                     | 0.043                   |
| 10          | BN104I0682+-  |          | 6.8nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $9.96 \times 10^{-5}$                     | 0.07                    |
| 10          | BN104I0103+-  |          | 10nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.13 \times 10^{-4}$                     | 0.088                   |
| 10          | BN104I0153+-  |          | 15nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.70 \times 10^{-4}$                     | 0.129                   |
| 10          | BN104I0223+-  |          | 22nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $3.31 \times 10^{-4}$                     | 0.157                   |
| 10          | BN104I0333+-  |          | 33nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $4.66 \times 10^{-4}$                     | 0.213                   |
| 10          | BN104I0473+-  |          | 47nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $6.01 \times 10^{-4}$                     | 0.26                    |
| 10          | BN104I0683+-  | 630/220  | 68nF        | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $1.26 \times 10^{-3}$                     | 0.35                    |
| 10          | BN104I0104+-  |          | 100nF       | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $2.72 \times 10^{-3}$                     | 0.52                    |
| 10          | BN104K0472+-  |          | 4.7nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $2.16 \times 10^{-5}$                     | 0.05                    |
| 10          | BN104K0682+-  |          | 6.8nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $4.53 \times 10^{-5}$                     | 0.07                    |
| 10          | BN104K0103+-  |          | 10nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $9.74 \times 10^{-5}$                     | 0.08                    |
| 10          | BN104K0153+-  |          | 15nF        | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $2.20 \times 10^{-4}$                     | 0.10                    |
| 10          | BN104K0223+-  |          | 22nF        | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $4.74 \times 10^{-4}$                     | 0.14                    |
| 10          | BN104K0333+-  | 1000/450 | 33nF        | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $7.41 \times 10^{-4}$                     | 0.18                    |
| 10          | BN104K0473+-  |          | 47nF        | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $9.16 \times 10^{-4}$                     | 0.24                    |
| 10          | BN104L0102+-  |          | 1nF         | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $1.8 \times 10^{-5}$                      | 0.05                    |
| 10          | BN104L0152+-  |          | 1.5nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $4.00 \times 10^{-5}$                     | 0.05                    |
| 10          | BN104L0222+-  |          | 2.2nF       | E0   | 12.7            | 9.2   | 4.2   | 6800 | 14,000              | 0.6                           | $7.00 \times 10^{-5}$                     | 0.08                    |
| 10          | BN104L0332+-  |          | 3.3nF       | 4    | 12.7            | 10.2  | 5.2   | 5600 | 10,000              | 0.6                           | $1.24 \times 10^{-4}$                     | 0.14                    |
| 10          | BN104L0472+-  |          | 4.7nF       | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $2.51 \times 10^{-4}$                     | 0.22                    |
| 10          | BN104L0682+-  |          | 6.8nF       | 5    | 12.7            | 13.6  | 5.2   | 5600 | 8000                | 0.6                           | $5.26 \times 10^{-4}$                     | 0.26                    |

Replace the + by the tolerance code: J=5% - K=10% - M=20%

Replace the -- by the packaging suffix: -- = standard bulk - EN = taping on reel etc

<sup>(1)</sup>: MOQ for standard bulk suffix --

Pitch = 15mm

## BN15

| Pitch<br>mm | Ordering Code | Vr-/Vr~  | Cr          | Case | Dimensions (mm) |       |       | MOQ  |                     | $\varnothing$ +10%<br>-0.5 mm | I <sup>2</sup> t<br>(A <sup>2</sup> .sec) | I <sub>rms</sub><br>(A) |
|-------------|---------------|----------|-------------|------|-----------------|-------|-------|------|---------------------|-------------------------------|-------------------------------------------|-------------------------|
|             |               |          |             |      | L max           | H max | e max | Reel | Bulk <sup>(1)</sup> |                               |                                           |                         |
| 15          | BN154D0684+-  | 63/40    | 680nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.22 \times 10^{-2}$                     | 0.83                    |
| 15          | BN154D0105+-  |          | 1 $\mu$ F   | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $2.12 \times 10^{-2}$                     | 0.96                    |
| 15          | BN154D0155+-  |          | 1.5 $\mu$ F | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $3.60 \times 10^{-2}$                     | 1.43                    |
| 15          | BN154D0225+-  |          | 2.2 $\mu$ F | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $4.38 \times 10^{-2}$                     | 1.783                   |
| 15          | BN154D0335+-  |          | 3.3 $\mu$ F | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $9.86 \times 10^{-2}$                     | 2.674                   |
| 15          | BN154D0475+-  |          | 4.7 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $4.19 \times 10^{-1}$                     | 3.808                   |
| 15          | BN154D0685+-  |          | 6.8 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $2.00 \times 10^{-1}$                     | 5.50                    |
| 15          | BN154D0825+-  |          | 8.2 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $6.09 \times 10^{-1}$                     | 6.200                   |
| 15          | BN154E0154+-  | 100/63   | 150nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $4.35 \times 10^{-3}$                     | 0.43                    |
| 15          | BN154E0224+-  |          | 220nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $5.53 \times 10^{-3}$                     | 0.64                    |
| 15          | BN154E0334+-  |          | 330nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.13 \times 10^{-2}$                     | 0.72                    |
| 15          | BN154E0474+-  |          | 470nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.33 \times 10^{-2}$                     | 0.96                    |
| 15          | BN154E0105+-  |          | 1 $\mu$ F   | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.71 \times 10^{-2}$                     | 0.96                    |
| 15          | BN154E0155+-  |          | 1.5 $\mu$ F | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $3.60 \times 10^{-2}$                     | 1.43                    |
| 15          | BN154E0225+-  |          | 2.2 $\mu$ F | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $8.20 \times 10^{-2}$                     | 2.111                   |
| 15          | BN154E0335+-  |          | 3.3 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $1.85 \times 10^{-1}$                     | 3.168                   |
| 15          | BN154E0475+-  |          | 4.7 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $3.74 \times 10^{-1}$                     | 4.51                    |
| 15          | BN154G0104+-  | 250/115  | 100nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $2.58 \times 10^{-3}$                     | 0.38                    |
| 15          | BN154G0154+-  |          | 150nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $4.35 \times 10^{-3}$                     | 0.43                    |
| 15          | BN154G0224+-  |          | 220nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $5.57 \times 10^{-3}$                     | 0.64                    |
| 15          | BN154G0334+-  |          | 330nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $7.51 \times 10^{-3}$                     | 0.72                    |
| 15          | BN154G0474+-  |          | 470nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.17 \times 10^{-2}$                     | 1.024                   |
| 15          | BN154G0684+-  |          | 680nF       | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $2.44 \times 10^{-2}$                     | 1.483                   |
| 15          | BN154G0105+-  |          | 1 $\mu$ F   | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $5.28 \times 10^{-2}$                     | 2.178                   |
| 15          | BN154G0155+-  |          | 1.5 $\mu$ F | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $1.19 \times 10^{-1}$                     | 3.267                   |
| 15          | BN154I0473+-  | 400/200  | 47nF        | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.19 \times 10^{-3}$                     | 0.191                   |
| 15          | BN154I0683+-  |          | 68nF        | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.59 \times 10^{-3}$                     | 0.28                    |
| 15          | BN154I0104+-  |          | 100nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $2.58 \times 10^{-3}$                     | 0.38                    |
| 15          | BN154I0154+-  |          | 150nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $4.35 \times 10^{-3}$                     | 0.43                    |
| 15          | BN154I0224+-  |          | 220nF       | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $9.37 \times 10^{-3}$                     | 0.70                    |
| 15          | BN154I0334+-  |          | 330nF       | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $2.11 \times 10^{-2}$                     | 1.05                    |
| 15          | BN154I0474+-  |          | 470nF       | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $4.27 \times 10^{-2}$                     | 1.50                    |
| 15          | BN154K0333+-  | 630/220  | 33nF        | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $4.90 \times 10^{-4}$                     | 0.14                    |
| 15          | BN154K0473+-  |          | 47nF        | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $8.73 \times 10^{-4}$                     | 0.20                    |
| 15          | BN154K0683+-  |          | 68nF        | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $4.11 \times 10^{-3}$                     | 0.32                    |
| 15          | BN154K0104+-  |          | 100nF       | 10   | 17.7            | 12.2  | 6.2   | 4000 | 6000                | 0.8                           | $4.50 \times 10^{-3}$                     | 0.46                    |
| 15          | BN154K0154+-  |          | 150nF       | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $1.00 \times 10^{-2}$                     | 0.70                    |
| 15          | BN154L0682+-  | 1000/450 | 6.8nF       | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $1.11 \times 10^{-4}$                     | 0.14                    |
| 15          | BN154L0103+-  |          | 10nF        | 6    | 17.7            | 10.6  | 5.2   | 4000 | 6000                | 0.8                           | $2.41 \times 10^{-4}$                     | 0.22                    |
| 15          | BN154L0223+-  |          | 22nF        | 9    | 17.7            | 14.6  | 8.7   | 2500 | 6000                | 0.8                           | $1.17 \times 10^{-3}$                     | 0.60                    |
| 15          | BN154L0333+-  |          | 33nF        | 9    | 17.7            | 14.6  | 8.7   | 2500 | 8000                | 0.8                           | $2.62 \times 10^{-3}$                     | 0.76                    |

Replace the + by the tolerance code: J=5% - K=10% - M=20%

Replace the - - by the packaging suffix: - - = standard bulk - EN = taping on reel etc

<sup>(1)</sup>: MOQ for standard bulk suffix - -

## BN22

Pitch = 22.5mm

| Pitch<br>mm | Ordering Code | Vr-/Vr~  | Cr    | Case | Dimensions (mm) |       |       | MOQ  |                     | Ø +10%<br>-0.5 mm | I <sup>2</sup> t<br>(A <sup>2</sup> .sec) | Irms<br>(A) |
|-------------|---------------|----------|-------|------|-----------------|-------|-------|------|---------------------|-------------------|-------------------------------------------|-------------|
|             |               |          |       |      | L max           | H max | e max | Reel | Bulk <sup>(1)</sup> |                   |                                           |             |
| 22.5        | BN224D0685+-  | 63/40    | 6.8µF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 1.39 x 10 <sup>-1</sup>                   | 2.09        |
| 22.5        | BN224D0106+-  |          | 10µF  | 12   | 26.7            | 17.6  | 7.7   |      | 1600                | 0.8               | 3.01 x 10 <sup>-1</sup>                   | 3.07        |
| 22.5        | BN224D0156+-  |          | 15µF  | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 6.77 x 10 <sup>-1</sup>                   | 4.6         |
| 22.5        | BN224E0225+-  | 100/63   | 2.2µF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 2.59 x 10 <sup>-2</sup>                   | 1.08        |
| 22.5        | BN224E0335+-  |          | 3.3µF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 5.82 x 10 <sup>-2</sup>                   | 1.60        |
| 22.5        | BN224E0475+-  |          | 4.7µF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 1.18 x 10 <sup>-1</sup>                   | 2.30        |
| 22.5        | BN224E0685+-  |          | 6.8µF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 2.47 x 10 <sup>-1</sup>                   | 3.30        |
| 22.5        | BN224E0825+-  |          | 8.2µF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 3.59 x 10 <sup>-1</sup>                   | 4.00        |
| 22.5        | BN224G0105+-  | 250/115  | 1µF   | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 1.64 x 10 <sup>-2</sup>                   | 1.14        |
| 22.5        | BN224G0155+-  |          | 1.5µF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 3.68 x 10 <sup>-2</sup>                   | 1.71        |
| 22.5        | BN224G0225+-  |          | 2.2µF | 12   | 26.7            | 17.6  | 7.7   |      | 1600                | 0.8               | 7.92 x 10 <sup>-1</sup>                   | 2.50        |
| 22.5        | BN224G0335+-  |          | 3.3µF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 1.78 x 10 <sup>-1</sup>                   | 3.74        |
| 22.5        | BN224I0334+-  | 400/200  | 330nF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 3.64 x 10 <sup>-3</sup>                   | 0.383       |
| 22.5        | BN224I0474+-  |          | 470nF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 7.38 x 10 <sup>-3</sup>                   | 0.54        |
| 22.5        | BN224I0684+-  |          | 680nF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 1.54 x 10 <sup>-2</sup>                   | 0.80        |
| 22.5        | BN224I0105+-  |          | 1µF   | 12   | 26.7            | 17.6  | 7.7   |      | 1600                | 0.8               | 3.34 x 10 <sup>-2</sup>                   | 1.16        |
| 22.5        | BN224I0155+-  |          | 1.5µF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 7.52 x 10 <sup>-2</sup>                   | 1.75        |
| 22.5        | BN224K0154+-  | 630/220  | 150nF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 2.17 x 10 <sup>-3</sup>                   | 0.38        |
| 22.5        | BN224K0224+-  |          | 220nF | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 4.66 x 10 <sup>-3</sup>                   | 0.54        |
| 22.5        | BN224K0334+-  |          | 330nF | 12   | 26.7            | 17.6  | 7.7   |      | 1600                | 0.8               | 1.05 x 10 <sup>-2</sup>                   | 0.74        |
| 22.5        | BN224K0474+-  |          | 470nF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 2.13 x 10 <sup>-2</sup>                   | 1.18        |
| 22.5        | BN224K0564+-  |          | 560nF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 3.02 x 10 <sup>-2</sup>                   | 1.40        |
| 22.5        | BN224L0333+-  | 1000/450 | 33nF  | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 2.64 x 10 <sup>-3</sup>                   | 0.28        |
| 22.5        | BN224L0473+-  |          | 47nF  | 11   | 26.7            | 15.2  | 7.7   |      | 1600                | 0.8               | 5.35 x 10 <sup>-3</sup>                   | 0.40        |
| 22.5        | BN224L0683+-  |          | 68nF  | 12   | 26.7            | 17.6  | 7.7   |      | 1600                | 0.8               | 1.12 x 10 <sup>-2</sup>                   | 0.60        |
| 22.5        | BN224L0104+-  |          | 100nF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 2.42 x 10 <sup>-2</sup>                   | 0.86        |
| 22.5        | BN224L0124+-  |          | 120nF | 13   | 26.7            | 19.6  | 10.2  |      | 1200                | 0.8               | 3.49 x 10 <sup>-2</sup>                   | 1.00        |

Replace the + by the tolerance code : J=5% - K=10% - M=20%

Replace the - - by the packaging suffix : - - = standard bulk - EN = taping on reel etc

<sup>(1)</sup>: MOQ for standard bulk suffix - -

## BN27

Pitch = 27.5mm

| Pitch<br>mm | Ordering Code | Vr-/Vr~  | Cr      | Case | Dimensions (mm) |       |       | MOQ  |                     | Ø +10%<br>-0.5 mm | I <sup>2</sup> t<br>(A <sup>2</sup> .sec) | Irms<br>(A) |
|-------------|---------------|----------|---------|------|-----------------|-------|-------|------|---------------------|-------------------|-------------------------------------------|-------------|
|             |               |          |         |      | L max           | H max | e max | Reel | Bulk <sup>(1)</sup> |                   |                                           |             |
| 27.5        | BN274D0156+-  | 63/40    | 15µF    | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 4.07 x 10 <sup>-1</sup>                   | 3.57        |
| 27.5        | BN274D0206+-  |          | 20µF    | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 7.24 x 10 <sup>-1</sup>                   | 4.80        |
| 27.5        | BN274E0825+-  | 100/63   | 8.2µF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 2.16 x 10 <sup>-1</sup>                   | 3.12        |
| 27.5        | BN274E0106+-  |          | 10µF    | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 3.22 x 10 <sup>-1</sup>                   | 3.80        |
| 27.5        | BN274E0126+-  |          | 12µF    | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 4.63 x 10 <sup>-1</sup>                   | 4.56        |
| 27.5        | BN274G0335+-  | 250/115  | 3.3µF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 1.07 x 10 <sup>-1</sup>                   | 2.9         |
| 27.5        | BN274G0395+-  |          | 3.9µF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 1.50 x 10 <sup>-1</sup>                   | 3.42        |
| 27.5        | BN274G0475+-  |          | 4.7µF   | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 2.18 x 10 <sup>-1</sup>                   | 4.17        |
| 27.5        | BN274G0685+-  |          | 6.8µF   | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 4.56 x 10 <sup>-1</sup>                   | 6.00        |
| 27.5        | BN274G0106+-  |          | 10µF    | 18   | 31.7            | 26.2  | 15.2  |      | 1280                | 0.8               | 9.85 x 10 <sup>-1</sup>                   | 6.20        |
| 27.5        | BN274G0156+-  |          | 15µF    | 26   | 31.7            | 31.6  | 21.2  |      | 448                 | 0.8               | 2.77                                      | 6.20        |
| 27.5        | BN274G0226+-  |          | 22µF *  | R68  | 32              | 37    | 22    |      | 448                 | 0.8               | 5.96                                      | 6.20        |
| 27.5        | BN274I0155+-  | 400/200  | 1.5µF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 4.52 x 10 <sup>-2</sup>                   | 1.43        |
| 27.5        | BN274I0225+-  |          | 2.2µF   | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 9.73 x 10 <sup>-2</sup>                   | 1.98        |
| 27.5        | BN274I0335+-  |          | 3.3µF   | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 2.19 x 10 <sup>-1</sup>                   | 2.98        |
| 27.5        | BN274I0475+-  |          | 4.7µF   | 18   | 31.7            | 26.2  | 15.2  |      | 1280                | 0.8               | 4.44 x 10 <sup>-1</sup>                   | 4.23        |
| 27.5        | BN274I0685+-  |          | 6.8µF   | 19   | 31.7            | 30.2  | 17.7  |      | 1040                | 0.8               | 9.30 x 10 <sup>-1</sup>                   | 6.10        |
| 27.5        | BN274I0106+-  |          | 10µF *  | R68  | 32              | 37    | 22    |      | 448                 | 0.8               | 2.01                                      | 6.20        |
| 27.5        | BN274K0564+-  | 630/220  | 560nF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 1.77 x 10 <sup>-2</sup>                   | 1.61        |
| 27.5        | BN274K0684+-  |          | 680nF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 2.61 x 10 <sup>-2</sup>                   | 1.70        |
| 27.5        | BN274K0105+-  |          | 1µF     | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 5.69 x 10 <sup>-2</sup>                   | 1.90        |
| 27.5        | BN274K0225+-  |          | 2.2µF   | 19   | 31.7            | 30.2  | 17.7  |      | 1040                | 0.8               | 2.73 x 10 <sup>-1</sup>                   | 4.20        |
| 27.5        | BN274K0335+-  |          | 3.3µF * | R68  | 32              | 37    | 22    |      | 448                 | 0.8               | 6.14 x 10 <sup>-1</sup>                   | 6.20        |
| 27.5        | BN274K0435+-  |          | 4.3µF * | R68  | 32              | 37    | 22    |      | 448                 | 0.8               | 1.04                                      | 6.20        |
| 27.5        | BN274L0124+-  | 1000/450 | 120nF   | 16   | 31.7            | 19.6  | 10.2  |      | 960                 | 0.8               | 1.82 x 10 <sup>-2</sup>                   | 0.76        |
| 27.5        | BN274L0224+-  |          | 220nF   | P0   | 31.7            | 22.6  | 13.7  |      | 1600                | 0.8               | 6.12 x 10 <sup>-2</sup>                   | 1.38        |
| 27.5        | BN274L0334+-  |          | 330nF   | 18   | 31.7            | 26.2  | 15.2  |      | 1280                | 0.8               | 1.38 x 10 <sup>-1</sup>                   | 2.08        |
| 27.5        | BN274L0474+-  |          | 470nF   | 19   | 31.7            | 30.2  | 17.7  |      | 1040                | 0.8               | 2.79 x 10 <sup>-1</sup>                   | 2.96        |
| 27.5        | BN274L0684+-  |          | 680nF   | 26   | 31.7            | 31.6  | 21.2  |      | 448                 | 0.8               | 5.85 x 10 <sup>-1</sup>                   | 4.28        |
| 27.5        | BN274L0914+-  |          | 910nF * | R68  | 32              | 37    | 22    |      | 448                 | 0.8               | 1.05                                      | 5.72        |

\*only available standard bulk: no special lead length

Replace the + by the tolerance code: J=5% - K=10% - M=20%

Replace the - - by the packaging suffix: - - = standard bulk - EN = taping on reel etc

For values bigger -&gt; see FFB range

<sup>(1)</sup>: MOQ for standard bulk suffix - -

# BW 15: TIP & RING 15 Radial leads-250 V-



## DESCRIPTION

Non inductive, stacked, self healing, metallised polyester film capacitor. Insulated thermoplastic casing, polyurethane resin sealed. Radial connections. Also available in SMD version. (see below)

## APPLICATIONS

AVX's « TIP & RING » or « ringer » metallised polyester film capacitors are designed as a standard telecom filter to block –48 Volts DC telephone line voltage and pass subscriber's AC signal pulse (16 to 25 Hz, 70 to 90 Vrms). The typical ringing Signal is shown in the enclosed figure. The ringer film capacitors are ideal for telecom/modem applications. This is a complement range to the AVX's ceramic one.

## STANDARDISATION

### Generic specifications:

CEI 384-1/CECC 30000/UTE 83100

### Sectional specifications:

CEI 384-2/CECC 30400/UTE 83151



## DIMENSIONS AND CAPACITANCE VALUES

| Size | Case | millimeters (inches)<br>DIMENSIONS<br>(mm) |              |             |           |                | DV/DT<br>(V/μsec) | P <sub>t</sub><br>(A <sup>2</sup> .sec) | U <sub>r</sub> ~/U <sub>r</sub> ~<br>250/100 |
|------|------|--------------------------------------------|--------------|-------------|-----------|----------------|-------------------|-----------------------------------------|----------------------------------------------|
|      |      | L max                                      | H max        | e max       | LS ±0,4   | Ø<br>+10%-0,05 |                   |                                         | Capacitance                                  |
|      | 6    | 17,5(0,689)                                | 10,50(0,413) | 5(0,197)    | 15(0,591) | 0,80(0,031)    | 430               | 0,166                                   | 470 nF                                       |
|      | 7    | 17,5(0,689)                                | 13,5(0,531)  | 5(0,197)    | 15(0,591) | 0,80(0,031)    | 300               | 0,183                                   | 680 nF                                       |
| 15   | 7    | 17,5(0,689)                                | 13,5(0,531)  | 5(0,197)    | 15(0,591) | 0,80(0,031)    | 300               | 0,276                                   | 820 nF                                       |
|      | 8    | 17,5(0,689)                                | 13,5(0,531)  | 6,25(0,246) | 15(0,591) | 0,80(0,031)    | 300               | 0,405                                   | 1μF                                          |
|      | 9    | 17,5(0,689)                                | 14,5(0,571)  | 8,50(0,335) | 15(0,591) | 0,80(0,031)    | 50                | 0,159                                   | 1,5μF                                        |
|      | 9    | 17,5(0,689)                                | 14,5(0,571)  | 8,50(0,335) | 15(0,591) | 0,80(0,031)    | 50                | 0,336                                   | 2,2μF                                        |

## HOW TO ORDER

**BW15**

—  
|  
Type

**4**

—  
|  
Class  
|  
PET

**G**

—  
|  
Voltage  
|  
250V

**0105**

—  
|  
Capacitance  
Value  
|  
EIA code

**K**

—  
|  
Tolerance  
|  
±10%

—  
|  
Suffix



# BW 15: TIP & RING 15 Radial leads-250 V-



## PERFORMANCE CHARACTERISTICS

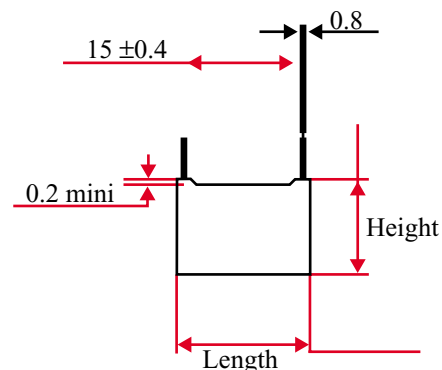
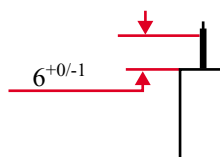
|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Climatic category                                   | 55 / 100 / 56          |
| Capacitance (Cr)                                    | See table              |
| Tolerance                                           | ±5% ±10 %              |
| Nominal voltage                                     | 250 V-                 |
| Test voltage (1.4Ur-2sec)                           | 350 V-                 |
| Category voltage                                    | Ur at 100°C            |
| Tangent of loss angle at 1Khz (DF)                  | < 80. 10 <sup>-4</sup> |
| Insulation resistance between terminals under 100V- | Ir * C > 1 Gohm µF     |
| Insulation resistance between terminals and case    | > 30 Gohms             |

## MARKING

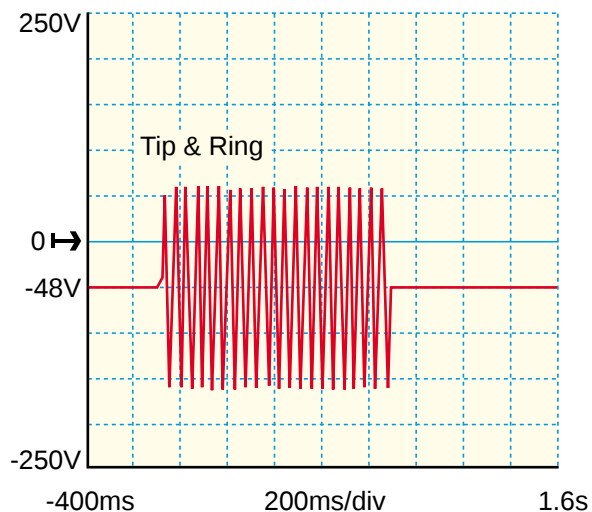
|             |                     |
|-------------|---------------------|
| T BW 1 µ0 K | Logo                |
| 250 V-      | Type                |
|             | Nominal capacitance |
|             | Tolerance(EIA code) |
|             | DC nominal voltage  |

| SUFFIX      | --                                     | EN         | LG                                       | KB                                       | KC                                     | KE                                     | KH                                     | K7                                    |
|-------------|----------------------------------------|------------|------------------------------------------|------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---------------------------------------|
| Description | Connections<br>bulk length=<br>6mm±0.5 | Tape\$reel | Connections<br>bulk length=<br>3.2mm±0.4 | Connections<br>bulk length=<br>3.5mm±0.5 | Connections<br>bulk length=<br>4mm±0.5 | Connections<br>bulk length=<br>5mm±0.5 | Connections<br>bulk length=<br>9mm±0.5 | Connections<br>bulk length=<br>25mm±1 |

## SCHEMATIC DRAWING



## « TIP&RING » GRAPH



## MOQ= primary packaging

| Size | Case | Reel (EN)<br>Minimum | Bulk (—)<br>Quantity |
|------|------|----------------------|----------------------|
| 15   | 6    | 4000                 | 6000                 |
| 15   | 7    | 4000                 | 6000                 |
| 15   | 8    | 3332                 | 6000                 |
| 15   | 9    | 2500                 | 8000                 |



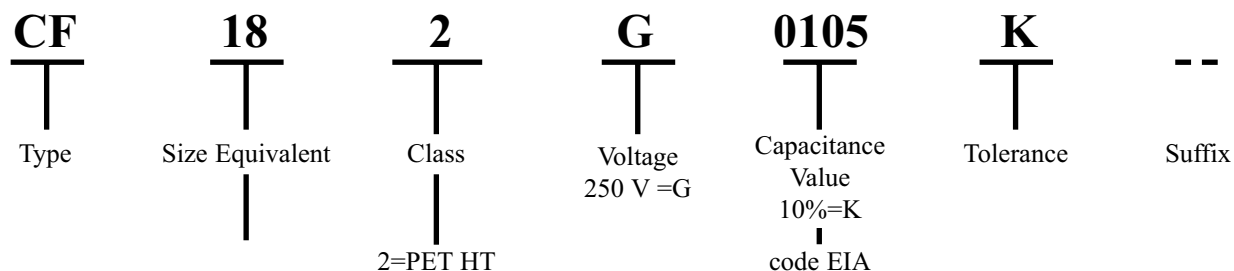
## FILM CHIP CAPACITORS

« TIP&RING » film chip capacitors are designed also as a standard telecom filter

Standard range  
Extended range

|             |      | Size Code | H max   |
|-------------|------|-----------|---------|
| 470 nF      | 0474 | 5040/4030 | 4.6/5.5 |
| 680 nF      | 0684 | 6054/5040 | 4.4/4.6 |
| 820 nF      | 0824 | 6054/5040 | 5/5.7   |
| 1 $\mu$ F   | 0105 | 6054/5040 | 5.7/6.6 |
| 1.5 $\mu$ F | 0155 | 6054      | 5.9     |

## PART NUMBER SCHEME



PERFORMANCE CHARACTERISTICS AND PACKAGING: see catalog film chip capacitors

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