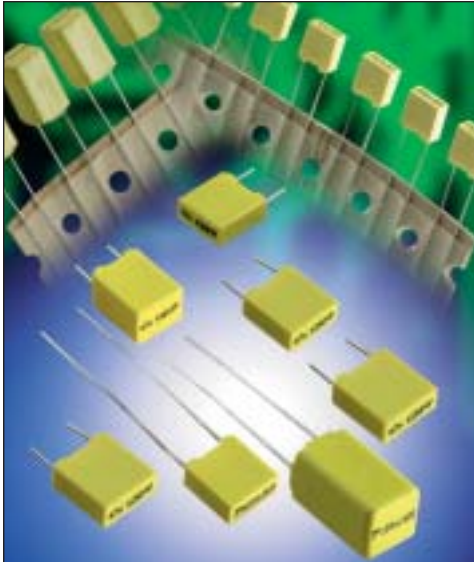


# BF 01/02/07/06/05/04: Radial Leads



**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

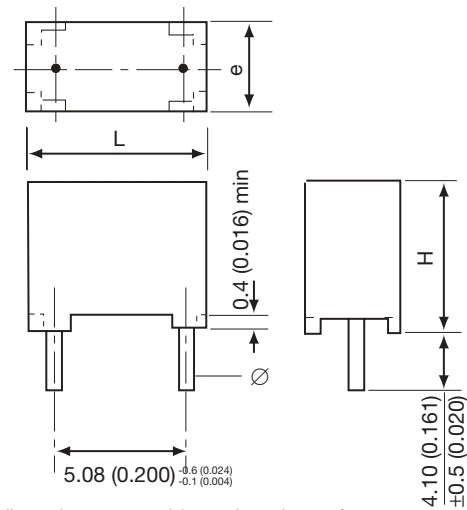
## APPLICATIONS

- 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 2.2 $\mu$ F (E12)
Tolerance on $C_R$	$\pm 5\%$ ; $\pm 10\%$ (other values on request)
Nominal Voltages	VR_ 63/100/250/400V 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 (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	$\geq 30,000 \Omega$			

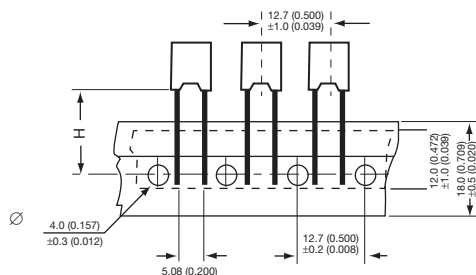
• Max voltage gradient

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

## PACKAGING

millimeters (inches)

	Panasert	Avisert
H	$16.5 \pm 0.30$ ( $0.65 \pm 0.012$ )	$19.5 \pm 0.50$ ( $0.768 \pm 0.020$ )



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		
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:**

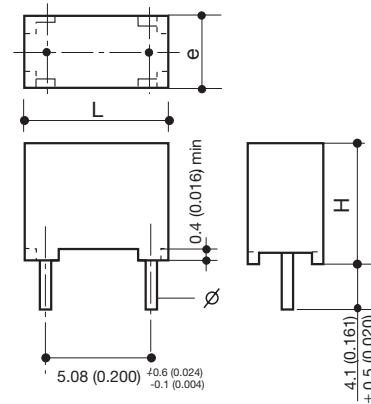
CEI 384-2/CECC 30400/UTE 83151

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, ±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 $V_R$ /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	$\geq 30,000 \Omega$			

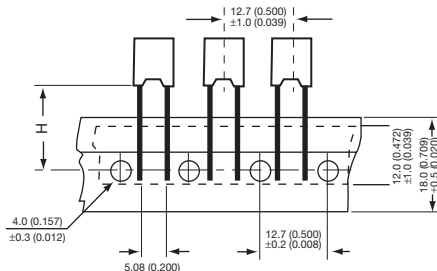
• Max voltage gradient

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

### PACKAGING

millimeters (inches)

	Panasert	Avisert
H	$16.5 \pm 0.30$ (0.65 ± 0.012)	$19.5 \pm 0.50$ (0.768 ± 0.020)



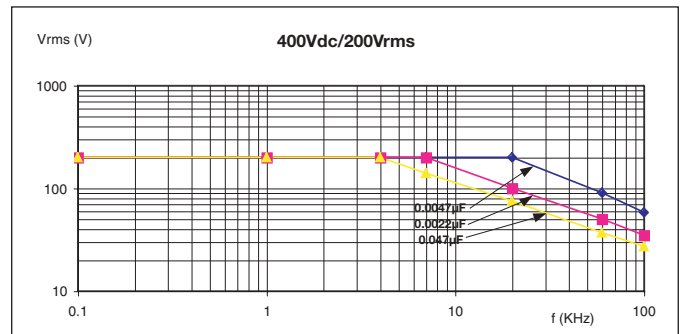
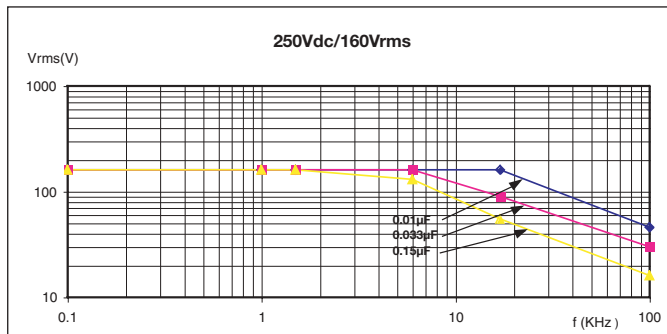
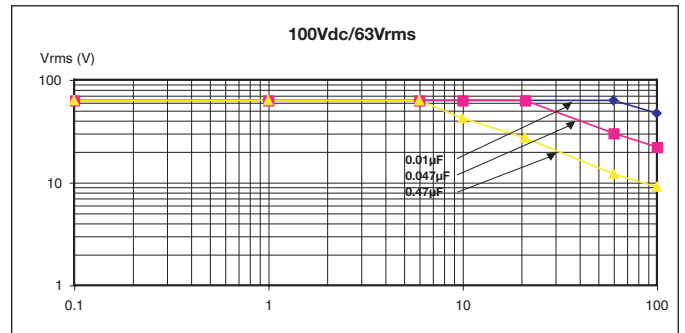
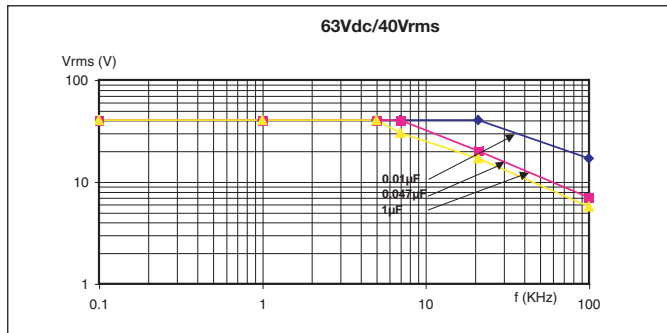
Thermo adhesive tape ▲

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

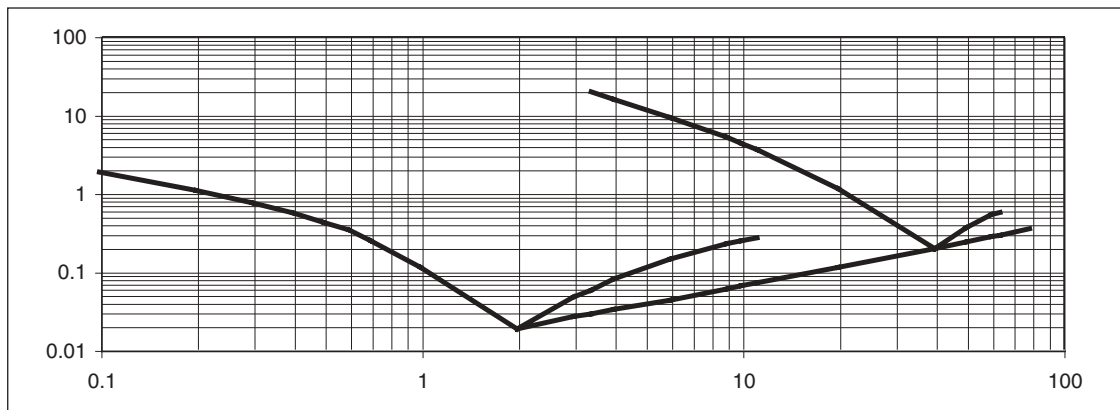
Case	Quantity					
	Reel		Ammopack		Bulk	
Suffix x	DB panasert	DD avisert	DA panasert	DC avisert	USA Std.	Europe / Asia Std.
01	2500		2500		1000	5000
02	1800		2000		1000	3800
07	1200		1250		1000	2500
06	900		1100		1000	1500
05	900		1100		1000	1500
04	750		750		1000	1000

**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 Range ( $C_R$ )	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

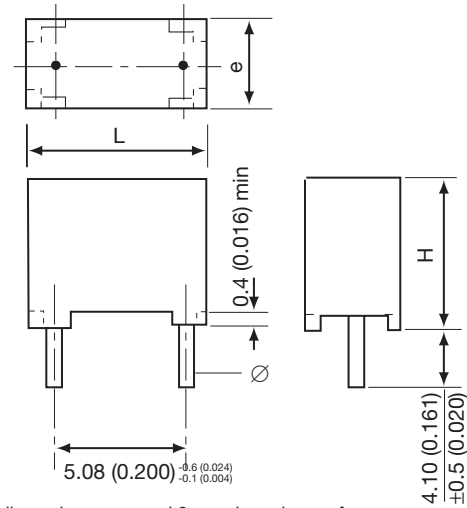
- Supply decoupling
- Filter
- Integrators
- Treatment of analog signals
- Rejection of line perturbations, etc.

**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 $C_R$	$\pm 5\%$ ; $\pm 10\%$ (other values on request)
Nominal Voltages	$V_{R-}$ 63/100/250/400V $V_{R-}$ 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	$V_{R-} \leq 100V$ 3.75	$V_{R-} > 100V$ 7.5	$V_{R-} \leq 100V$ 1.25	$V_{R-} > 100V$ 2.5
Between Terminals and Ground	- 30,000 $\Omega$			

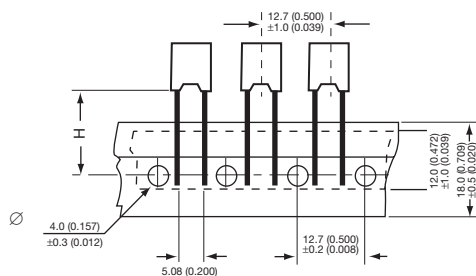
- Max voltage gradient

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

## PACKAGING

millimeters (inches)

	Panasert	Avisert
H	$16.5 \pm 0.30$ ( $0.65 \pm 0.012$ )	$19.5 \pm 0.50$ ( $0.768 \pm 0.020$ )



Thermo adhesive 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")

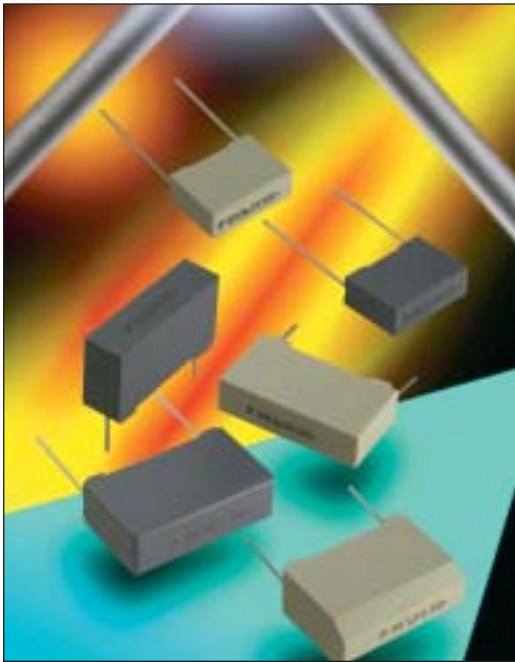


### CAPACITANCE VALUES ( $C_R$ ) and NOMINAL VOLTAGES ( $V_R$ )

Capacitance Range ( $C_R$ )	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 <sub>R</sub> 1 nF to 22 μF (E6)				
Tolerances on C <sub>R</sub> :	±5%, ±10%, ±20% (other values on request)				
Nominal Voltages:	V <sub>R-</sub> 63/100/250/400/630/1000 V V <sub>R~</sub> 40/63/115/200/220/450 V				
Category Voltage:	V <sub>C</sub> = U <sub>n</sub> at 100°C & 0.5 U <sub>n</sub> at 125°C				
Test Voltage:	V <sub>θ</sub> = 1.6 U <sub>ndc</sub> /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. ≤ 100·10<sup>-4</sup> for C > 0.1 μF  
≤ 80·10<sup>-4</sup> for C ≤ 0.1 μF

Insulation Resistance: IR ≥ 3.75 GΩ for C ≤ 0.33 μF  
IR (MΩ) \* C(μF) ≥ 1250 s for C > 0.33 μF  
measures at 10V for U<sub>n</sub>=63Vdc and 100V for others

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
R <sub>th</sub> (stacked)	201	147		117	140	124	90	88	61	82									
R <sub>th</sub> (wound)	201	147		117	140	124	90	123	86	75	64	53	48	42	40	33	30	27	23

### STANDARDIZATION

#### Generic specifications:

CEI 384-1/CECC 30000/UTE 83100

#### Sectional specifications:

CEI 384-2/CECC 30400/UTE 83151

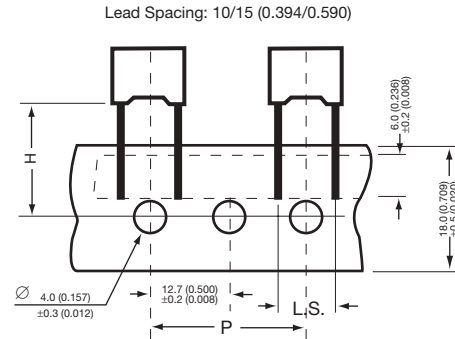
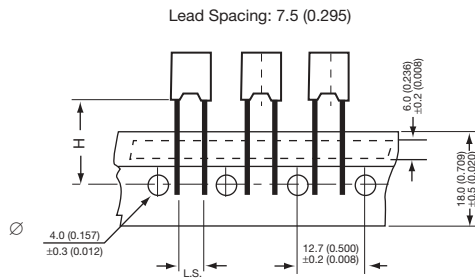
# BN 07/10/15/22/27



Pitch = 7.5mm / 10mm / 15mm / 22.5mm / 27.5mm

## PACKAGING

### • Reel



Adhesive tape ▲

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

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

### • Bulk

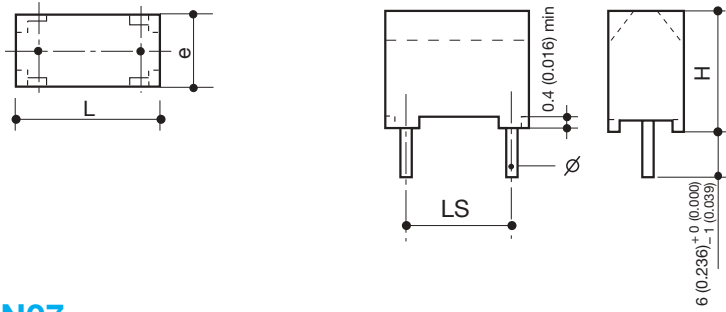
Suffix	- -	LG	KB	KC	KE	KH	KK	K3	K7
Leads Length	6mm +0/-1	3.2mm ±0.4	3.5mm ±0.5	4mm ±0.5	5mm ±0.5	9mm ±0.5	15mm ±0.5	20mm ±1	25mm ±1

Standard Suffix: - -  
Special MOQ for these special suffix

# BN 07/10/15/22/27



Pitch = 7.5mm



## BN07

Pitch mm	Ordering Code	Vr-/Vr~	Cr	Case	Dimensions (mm)			MOQ		∅ +10% -0.5 mm	I <sup>2</sup> t (A <sup>2</sup> .sec)	I <sub>rms</sub> (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+-	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+-	630/220	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 - -

# BN 07/10/15/22/27



Pitch = 10mm

## BN10

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

# BN 07/10/15/22/27



Pitch = 15mm

## BN15

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

# BN 07/10/15/22/27



Pitch = 22.5mm/27.5mm

## BN22

Pitch = 22.5mm

Pitch mm	Ordering Code	Vr-/Vr~	Cr	Case	Dimensions (mm)			MOQ		∅ +10% -0.5 mm	I <sup>2</sup> t (A <sup>2</sup> .sec)	Irms (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+-		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 mm	Ordering Code	Vr-/Vr~	Cr	Case	Dimensions (mm)			MOQ		∅ +10% -0.5 mm	I <sup>2</sup> t (A <sup>2</sup> .sec)	Irms (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+-		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+-		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 -> 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) DIMENSIONS (mm)					DV/DT (V/μsec)	Pt (A <sup>2</sup> .sec)	Ur-/Ur~ 250/100
		L max	H max	e max	LS ±0,4	Ø +10%-0,05			
	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

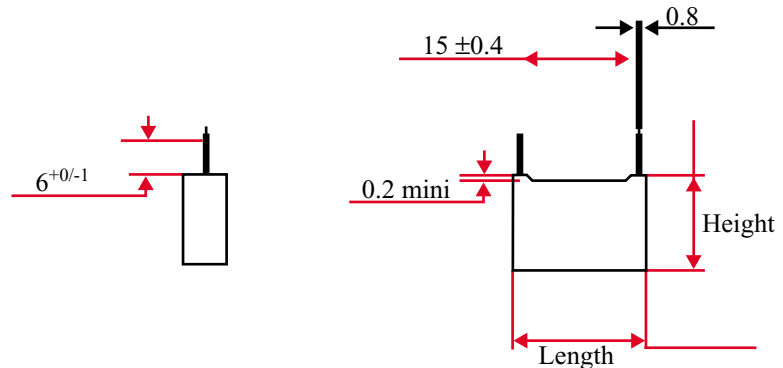
Climatic category	55 / 100 / 56
Capacitance (Cr)	See table
Tolerance	±5% ±10 %
Nominal voltage	250 V-
Test voltage (1.4Ur-2sec)	350 V-
Category voltage	Ur at 100°C
Tangent of loss angle at 1Khz (DF)	< 80. 10 <sup>-4</sup>
Insulation resistance between terminals under 100V-	Ir * C > 1 Gohm μF
Insulation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

## MARKING

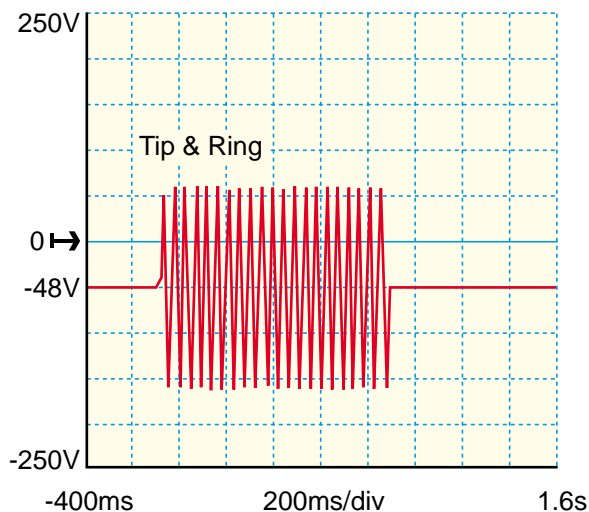
T BW 1 μ0 K	Logo
250 V-	Type
	Nominal capacitance
	Tolerance(EIA code)
	DC nominal voltage

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

## SCHEMATIC DRAWING



## « TIP&RING » GRAPH



## MOQ= primary packaging

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



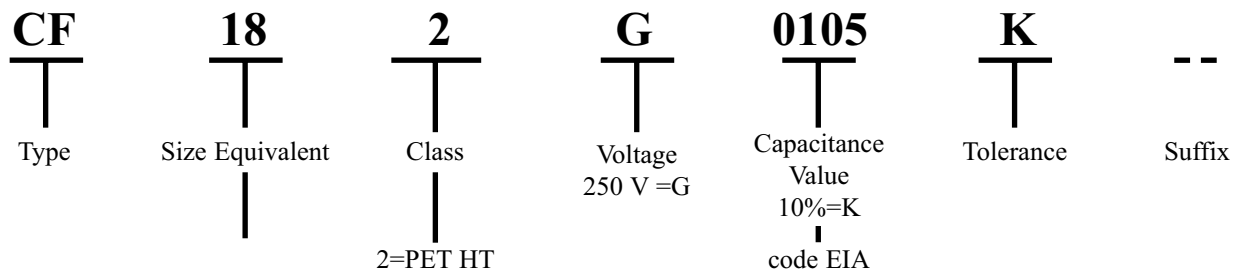
## FILM CHIP CAPACITORS

« 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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