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SMD and DIL • 6

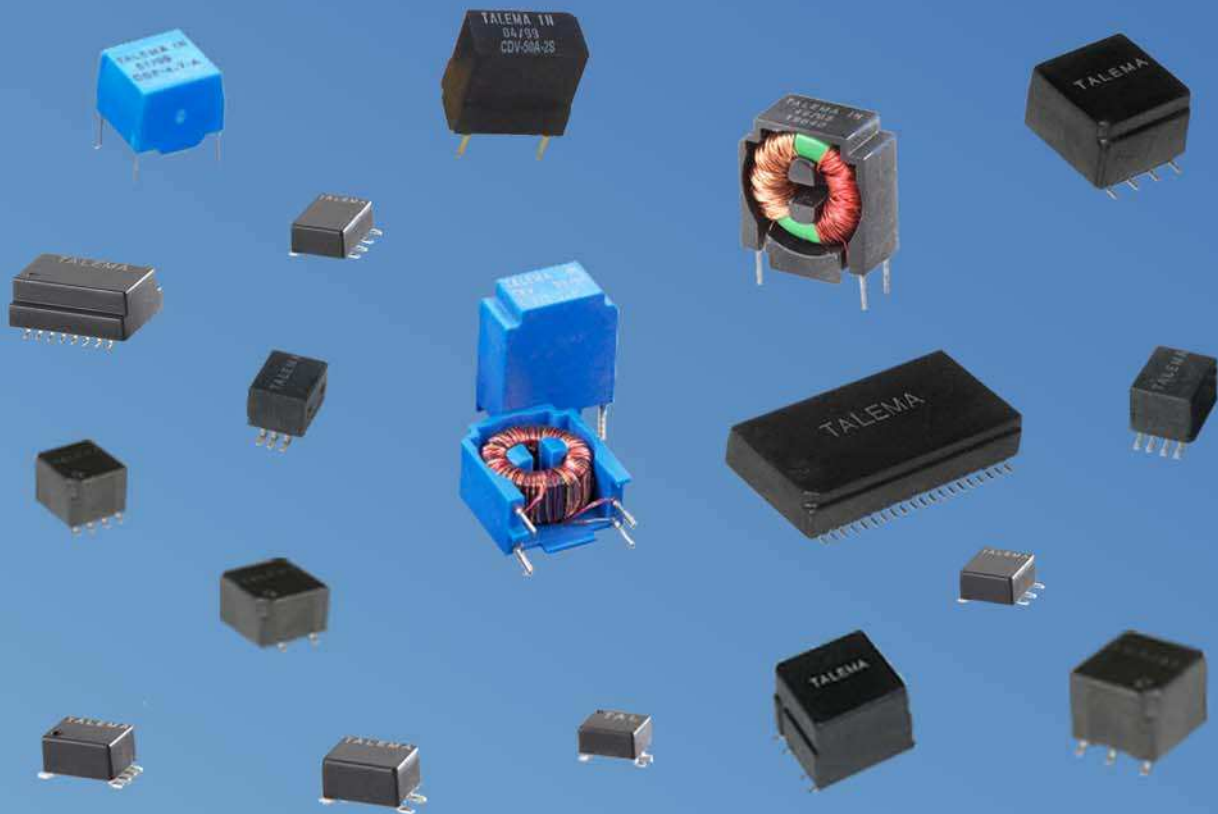
EMI Noise Suppression •

Data and Signal Line Filters •

Common Mode Interface Chokes •

SECTION 6

## Current Compensated EMI Noise Suppression Chokes



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**THE TALEMA GROUP • Magnetic Components for ISDN / xDSL / LAN Data Communications**



## Common Mode Interface Chokes - DIL and SMD

### TALEMA PROFILE

Founded in 1975, The TALEMA International Group has established itself as a world leader in the manufacture of toroidal transformers and related magnetic components. Our strong technical engineering expertise has contributed to the growth of our current workforce to over 1,200 employees in manufacturing locations in the Czech Republic and India.

Over the years The Talema Group has succeeded in designing, producing and delivering in excess of 50 million transformers to its customers. The recent incorporation of xDSL technology into our extensive range of Telecom and LAN magnetics offerings, such as ISDN, 10Base-T, Ethernet transformers for 100/1000Base-T, has broadened our market offering to an even higher level.

### QUALITY

The TALEMA Group has a total commitment to quality and employs Lean Six Sigma training for engineering, production and administrative staff to help achieve a goal of zero defects. All facilities maintain very stringent Quality Control and Quality Assurance procedures and are certified to and manufacture in accordance with ISO-9001:2000, TS-16949:2002 and meet a broad range of International Standards including UL, VDE, IEC, and EN.

### ENVIRONMENT

All TALEMA International Group manufacturing facilities are RoHS compliant and all chokes, inductors and HF components are produced in an EMS facility which is certified to ISO-14001:2004.



### DIL and SMD Common Mode Interface Chokes

Series	Inductance Range	Number of Lines	Mounting Style	No. Contacts & Pitch	Max. Board Area W x L x Ht (mm)	Data Sheet Page Nr.
CTJ-2-XXX Data Line	11µH - 4.7mH	2	"J" Lead SMD	4 x 1.27	5.0 x 3.3 x 3.3	3 - 4
CTJ-2-XXX-S Power Line	11µH - 51µH	2				
CLJ-2-XXX Data Line	5µH - 47mH	2		4 x 2.54	8.9 x 5.4 x 4.8	5 - 6
CLJ-2-XXX-S Power Line	6µH - 51µH	2	"J" Lead SMD			
CLJ-4-XXX	11µH - 12mH	4		8 x 1.27		7
CMJ-2-XXX	5µH - 47mH	2		4 x 2.54	9.0 x 5.8 x 5.3	8 - 9
CMJ-4-XXX	5µH - 12mH	4	"J" Lead SMD	8 x 1.27		
CFJ-3-XXX	24µH - 4.7mH	3		6 x 2.54	11.5 x 7.8 x 7.2	11
CFJ-4-XXX	33µH - 4.7mH	4	"J" Lead SMD	8 x 2.54	11.5 x 9.6 x 7.2	
CSJ-2-XXX	11µH - 47mH	2		6 x 2.54	8.0 x 6.6 x 4.5	12 - 13
CSJ-3-XXX	11µH - 12mH	3	"J" Lead SMD			
CSJ-4-XXX	11µH - 12mH	4		8 x 2.54	8.0 x 9.14 x 4.5	
CCJ-2-XXX	26µH - 70mH	2		4 x 7.62	14.0 x 11.0 x 9.0	14 - 15
CCJ-4-XXX	26µH - 58mH	4	"J" Lead SMD	8 x 2.54		
CDJ-XXX	1.0mH - 70mH	2		4 x 10.16	16.6 x 13.2 x 11.7	
CQJ-XXX	1.0mH - 90mH	4	"J" Lead SMD	8 x 2.54		
CDF-XXX	1.0mH - 70mH	2	Flat - THT	4 x 10.16	14.0 x 12.5 x 11.0	16 - 18
CDV-XXX		2	Vertical - THT		9.0 x 14.0 x 14.5	
CQF-XXX	1.0mH - 90mH	4	Flat - THT	8 x 2.54	14.0 x 12.5 x 11.0	
CQV-XXX		4	Vertical - THT		9.0 x 14.0 x 14.5	
CKV-XXX Data Line	120µH - 68mH	2		4 x 2.54/5.08	7.4 x 15.2 x 17.6	19
CKV-XXX-S Power Line	4.7mH - 47mH	2	Vertical - THT			
COJ-16-XXX	24µH - 5.0mH	16	"J" Lead SMD	40 x 1.27	16.2 x 28.0 x 6.0	21
CUJ-XXX-16E	24µH - 4.7mH	4		16 x 1.27	9.6 x 12.8 x 6.0	22 - 23
CUJ-XXX-16C		6				
CUJ-XXX-16D		6	"J" Lead SMD			
CUJ-XXX-16A		8				
CUJ-XXX-16B		8				
Data Line Filters			2 to 16			
<b>Tube and Tape &amp; Reel Packaging and Dimensions</b>						26 - 28
<b>Talema Manufacturing Locations and Authorized Sales Representatives</b>						29

Visit our web site for detailed electrical and mechanical specifications for Talema's extensive line of LAN Magnetic Components for Ethernet & Telecom Applications - [www.talema-nuvotem.com](http://www.talema-nuvotem.com)

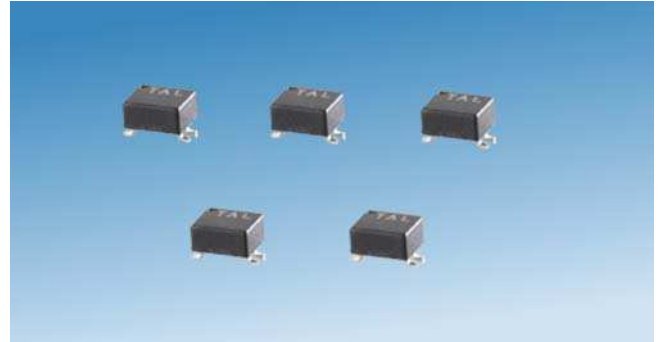
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(Feb-08)

# CTJ-2 Series • Miniature SMD Common Mode Double Chokes

## Features

- Miniature, low cost SMD for pick and place compatibility while providing consistent and reliable coplanarity
- Extended Operating Temperature Range: -40° to +125°C
- Other inductance values and special types for operation at 150°C ambient are available upon request
- High attenuation over a wide frequency range - CAN bus types to 500MHz
- Available in Bifilar and Sector winding (Suffix SE)
- Materials: UL94-VO
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C



## Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -40° to +125°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 40/125/56

Test voltage between windings: 500 Vrms

## Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms

Leakage Inductance: measured @ 100kHz, 100mVrms

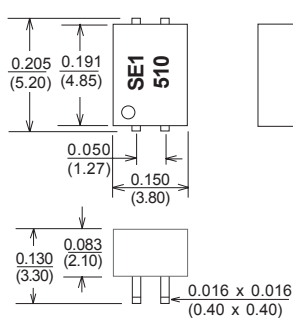
Test Equipment: HP4192A

Weight: ~ 0.1 gram

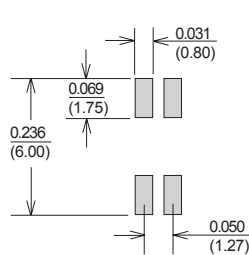
Packaging: Tape & Reel

Part Number	$L_N$ ( $\mu$ H)	$I_N$ (mA)	$R_{CU}$ (mOhms)	$V_T$ (Vrms)	Number of Data Lines
<b>Sector Winding for CAN bus and similar applications</b>					
CTJ-2-110SE	11	250	160	500	2
CTJ-2-220SE	22	250	195	500	2
CTJ-2-330SE	33	200	260	500	2
CTJ-2-510SE	51	200	300	500	2
<b>Bifilar Winding for Data and Signal Lines</b>					
CTJ-2-110	11	300	160	500	2
CTJ-2-101	100	300	180	500	2
CTJ-2-221	220	200	250	500	2
CTJ-2-471	470	200	380	500	2
CTJ-2-102	1000	150	660	500	2
CTJ-2-222	2200	150	840	500	2
CTJ-2-332	3300	150	1500	500	2
CTJ-2-472	4700	150	1800	500	2

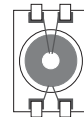
## Dimensions



## Suggested Pad Layout



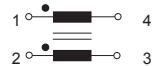
## Bifilar (BE) Winding



## Sector (SE) Winding



## Schematic



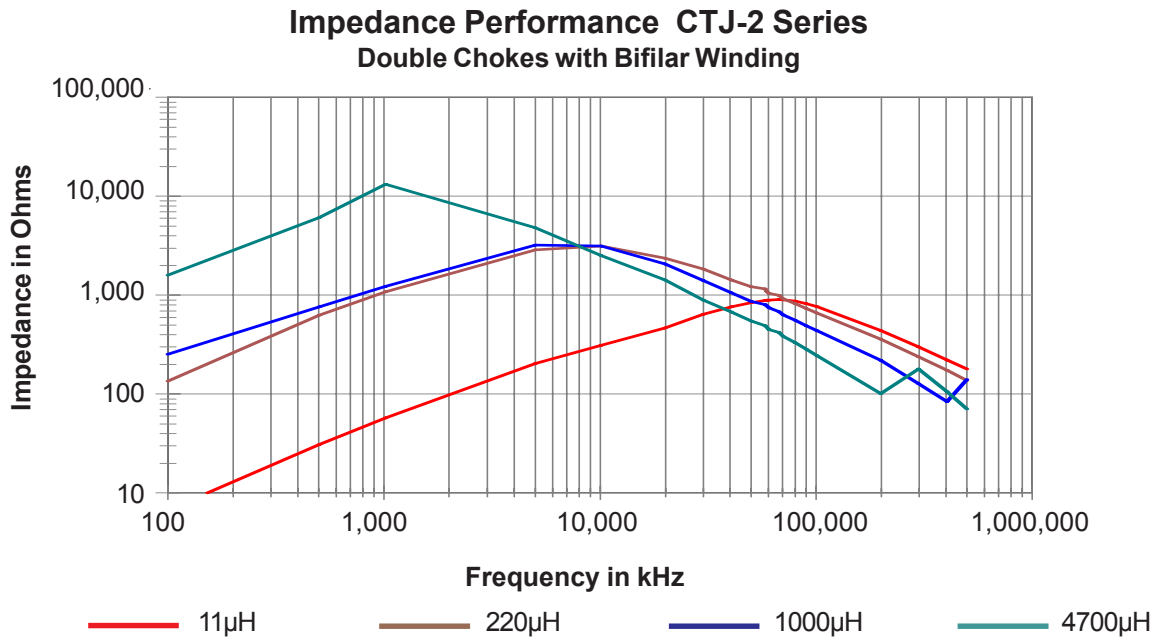
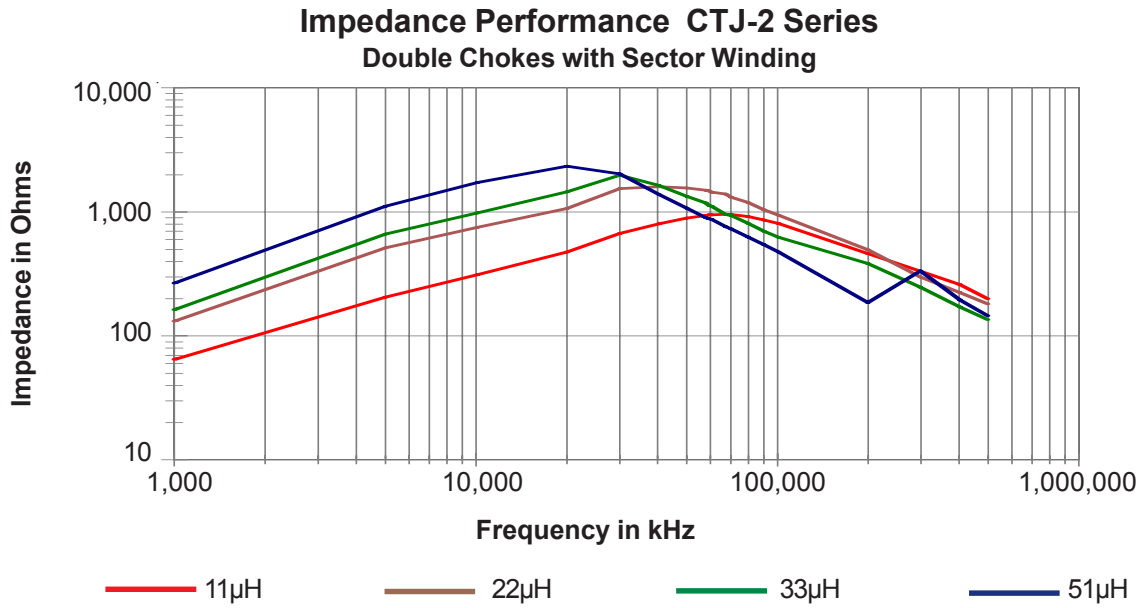
Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)

Tolerance:  $\pm 0.010$  (0.25) unless specified otherwise

See following page for typical impedance curves

## CTJ-2 Impedance Performance





## CLJ-2 Series • Miniature SMD Common Mode Double Chokes

### Features

- Miniature, low cost SMD for pick and place compatibility while providing consistent and reliable coplanarity
- Other inductance values, higher current ratings and special types for operation at 150°C ambient are available upon request
- High attenuation over a wide frequency range - CAN bus types to 500MHz
- Available in Bifilar and Sector (Suffix S) winding
- Materials: UL94-VO
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

### Electrical Specifications @ 25°C

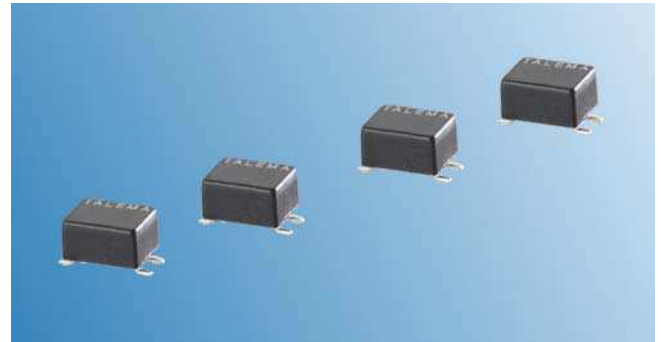
Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -25° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 25/85/56

Test voltage between windings: 500 Vrms



### Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms

Leakage Inductance: measured @ 100kHz, 100mVrms

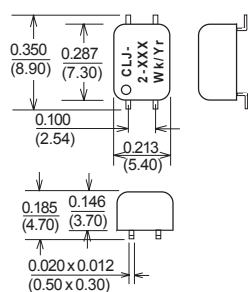
Test Equipment: HP4192A

Weight: ~ 0.3 gram

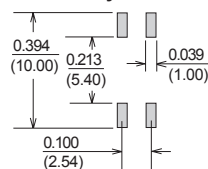
Packaging: Tape & Reel

Part Number	OCL (µH) +50/-30%	I <sub>N</sub> (mA)	L <sub>L</sub> (µH)	R <sub>CU</sub> (mOhms)	V <sub>T</sub> (Vrms)	Number of Data Lines
<b>Sector Winding for CAN bus and similar applications</b>						
CLJ-2-060S	6	2500	0.40	70	500	2
CLJ-2-250S	25	800	0.95	110	500	2
CLJ-2-510S	51	800	2.00	160	500	2
<b>Bifilar Winding for Data and Signal Lines</b>						
CLJ-2-050	5	1200	0.05	56	500	2
CLJ-2-110	11	500	0.05	80	500	2
CLJ-2-250	25	500	0.08	110	500	2
CLJ-2-510	51	500	0.10	148	500	2
CLJ-2-101	100	500	0.11	315	500	2
CLJ-2-471	470	500	0.10	290	500	2
CLJ-2-102	1000	500	0.16	275	500	2
CLJ-2-222	2200	400	0.12	345	500	2
CLJ-2-472	4700	200	0.19	940	500	2
CLJ-2-103	10000	200	0.36	1400	500	2
CLJ-2-203	20000	140	1.00	1800	500	2
CLJ-2-473	47000	100	1.00	3900	500	2

### Dimensions



### Suggested Pad Layout



### Bifilar Winding



### Sector (CLJ-2-XXS) Winding



### Schematic



Surface Coplanarity will be 0.004(0.10) maximum

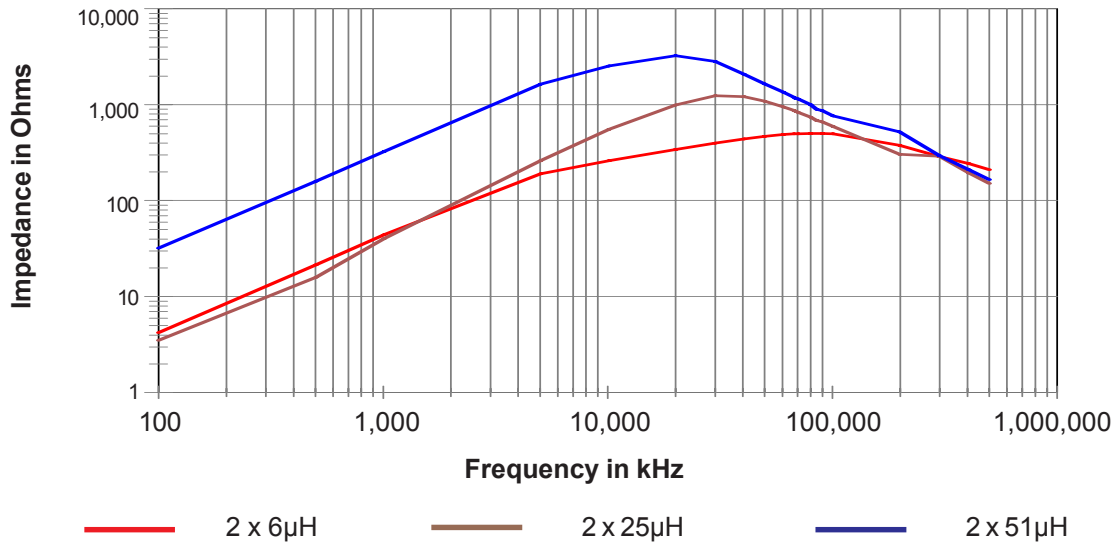
Dimensions: Inches (Millimeters)

Tolerance: ±0.010 (0.25) unless specified otherwise

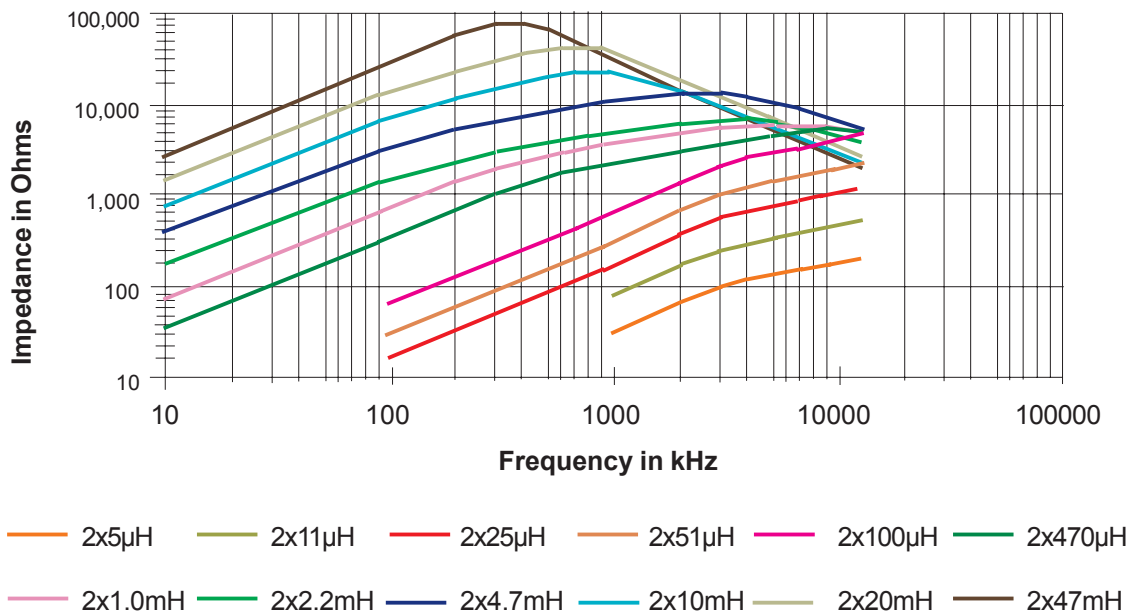
See following page for typical impedance curves

## CLJ-2 Series • Impedance Performance

### Impedance Performance CLJ-2 Series Double Chokes with Sector Winding



### Impedance Performance CLJ-2 Series Double Chokes with Bifilar Winding

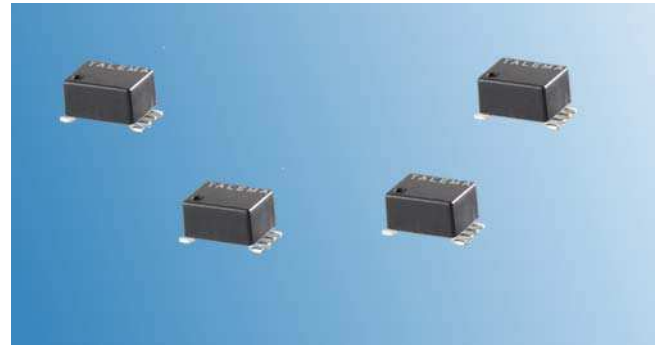




## CLJ-4 Series • Miniature SMD Common Mode Quad Chokes

### Features

- Miniature, low cost SMD for pick and place compatibility while providing consistent and reliable coplanarity
- Other inductance values, higher current ratings and special types for operation at 150°C ambient are available upon request
- High attenuation over a wide frequency range
- Materials: UL94-VO
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C



### Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +85°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/85/56  
 Test voltage between windings: 500 Vrms

### Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms  
 Leakage Inductance: measured @ 100kHz, 100mVrms  
 Test Equipment: HP4192A

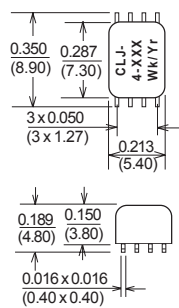
Weight: ~ 0.3 gram

Packaging: Tape & Reel

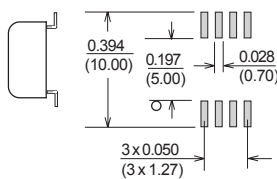
### Miniature Common Mode Quad Chokes for Data and Signal Lines

Part Number	OCL (µH)	I <sub>N</sub> (mA)	L <sub>L</sub> (µH)	R <sub>CU</sub> (mOhms)	V <sub>T</sub> (Vrms)	Number of Data Lines
CLJ-4-110	11	600	0.05	80	500	4
CLJ-4-470	47	500	0.01	200	500	4
CLJ-4-101	100	500	0.10	360	500	4
CLJ-4-471	470	500	0.15	280	500	4
CLJ-4-102	1000	500	0.09	350	500	4
CLJ-4-222	2200	400	0.06	650	500	4
CLJ-4-472	4700	300	0.09	910	500	4
CLJ-4-123	12000	130	0.36	2200	500	4

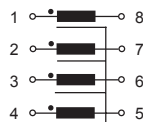
### Dimensions



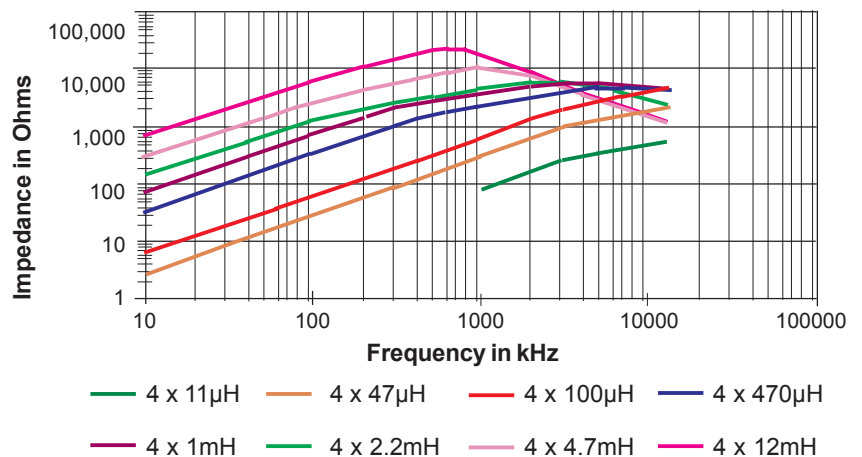
### Suggested Pad Layout



### Schematic



### Impedance Performance CLJ-4 Series Quad Chokes



Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)

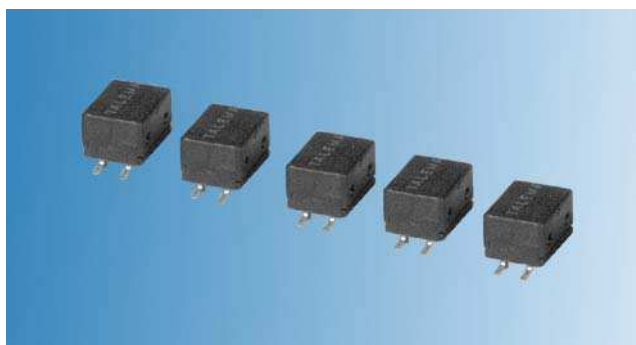
Tolerance: ±0.010 (0.25) unless specified otherwise



## CMJ-2 Series • Miniature SMD Common Mode Double Chokes

### Features

- Miniature, low cost SMD for pick and place compatibility while providing consistent and reliable coplanarity
- Other inductance values and special types for operation at 150°C ambient are available upon request
- High attenuation over a wide frequency range - CAN bus types to 500MHz
- Available in Bifilar and Sector winding (Suffix S)
- Materials: UL94-VO
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C



### Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -25° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 25/85/56

Test voltage between windings: 500 Vrms

### Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms

Leakage Inductance: measured @ 100kHz, 100mVrms

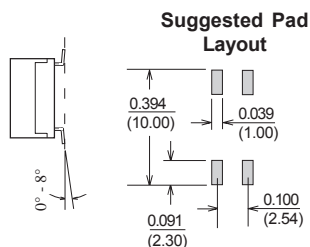
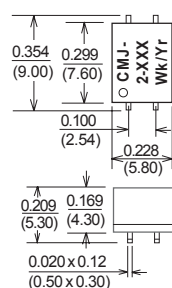
Test Equipment: HP4192A

Weight: ~ 0.3 gram

Packaging: Tape & Reel

Part Number	OCL (μH) +50/-30%	I <sub>N</sub> (mA)	L <sub>L</sub> (μH)	R <sub>CU</sub> (mOhms)	V <sub>T</sub> (Vrms)	Number of Data Lines
<b>Sector Winding for CAN bus and similar applications</b>						
CMJ-2-060S	6	2500	0.40	22	500	2
CMJ-2-250S	25	800	1.50	112	500	2
CMJ-2-510S	51	800	2.00	148	500	2
<b>Bifilar Winding for Data and Signal Lines</b>						
CMJ-2-050	5	1200	0.05	100	500	2
CMJ-2-110	11	500	0.05	120	500	2
CMJ-2-250	25	500	0.10	96	500	2
CMJ-2-510	51	500	0.10	148	500	2
CMJ-2-101	100	500	0.25	260	500	2
CMJ-2-471	470	500	0.20	248	500	2
CMJ-2-102	1000	500	0.25	250	500	2
CMJ-2-222	2200	400	0.15	280	500	2
CMJ-2-472	4700	200	0.30	845	500	2
CMJ-2-103	10000	200	0.40	1200	500	2
CMJ-2-203	20000	140	0.70	1800	500	2
CMJ-2-473	47000	100	1.50	3450	500	2

### Dimensions



### Bifilar Winding



### Sector CMJ-2-XXXS Winding



### Schematic



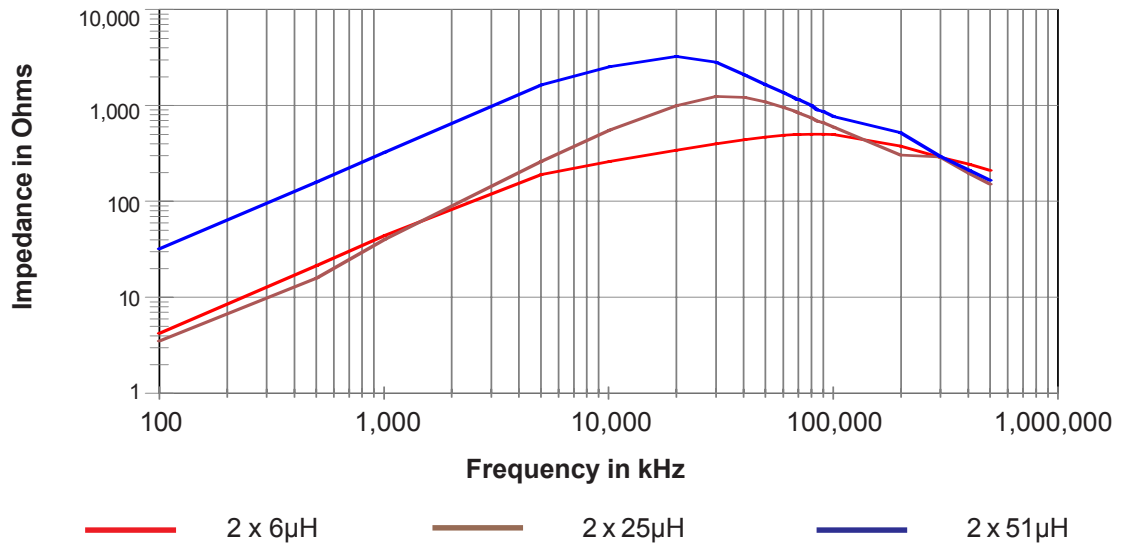
Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)

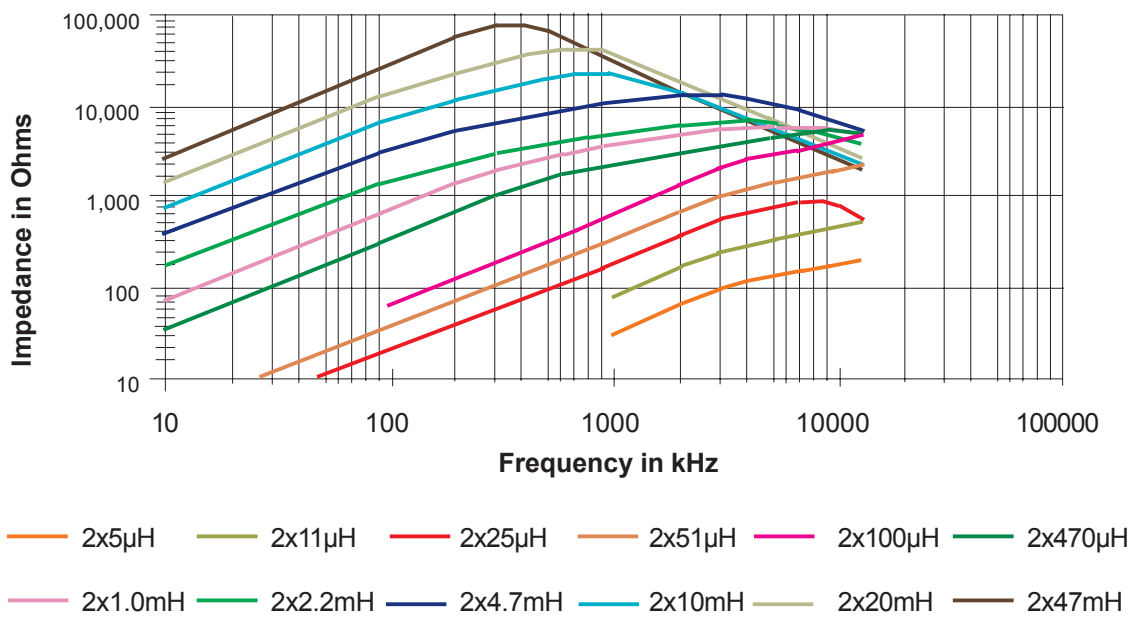
Tolerance: ±0.010 (0.25) unless specified otherwise

## CMJ-2 Series • Impedance Performance

### Impedance Performance CMJ-2 Series Double Chokes with Sector Winding



### Impedance Performance CMJ-2 Series Double Chokes with Bifilar Winding





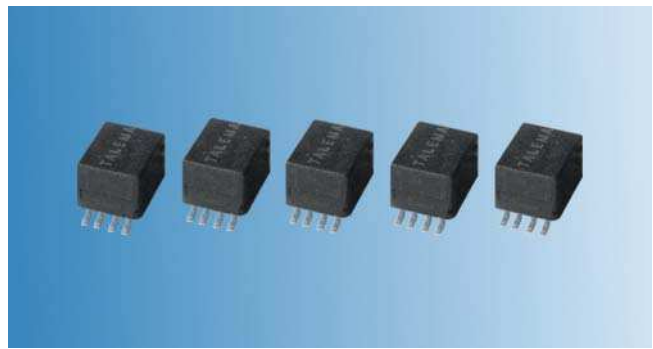
## CMJ-4 Series • Miniature SMD Common Mode Quad Chokes

### Features

- Miniature, low cost SMD for pick and place compatibility while providing consistent and reliable coplanarity
- Other inductance values and special types for operation at 150°C ambient are available upon request
- High attenuation over a wide frequency range
- Materials: UL94-VO
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

### Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +85°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/85/56  
 Test voltage between windings: 500 Vrms



### Test frequency

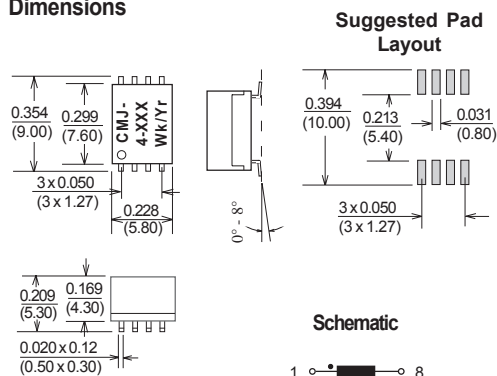
Nominal Inductance: measured @ 100kHz/20 mVrms  
 Leakage Inductance: measured @ 100kHz, 100mVrms  
 Test Equipment: HP4192A

Weight: ~ 0.3 gram  
 Packaging: Tape & Reel

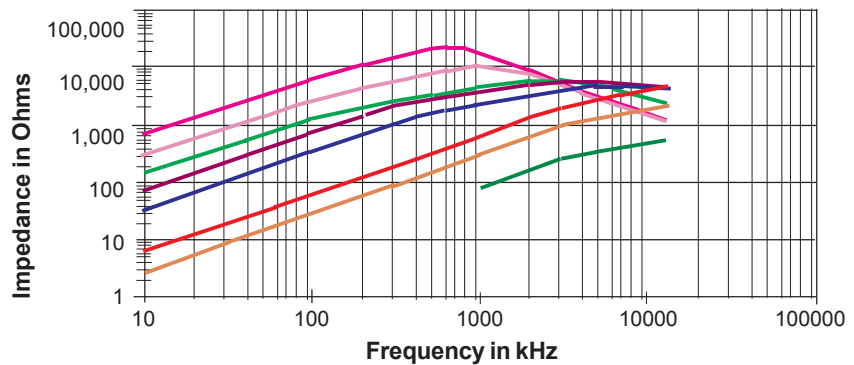
### Miniature Common Mode Quad Chokes for Data and Signal Lines

Part Number	OCL (µH)	I <sub>N</sub> (mA)	L <sub>L</sub> (µH)	R <sub>CU</sub> (mOhms)	V <sub>T</sub> (Vrms)	Number of Data Lines
CMJ-4-110	11	600	0.10	130	500	4
CMJ-4-240	24	500	0.15	210	500	4
CMJ-4-470	47	500	0.25	260	500	4
CMJ-4-101	100	500	0.30	330	500	4
CMJ-4-471	470	500	0.15	255	500	4
CMJ-4-102	1000	500	0.25	310	500	4
CMJ-4-222	2200	400	0.40	570	500	4
CMJ-4-472	4700	300	0.45	850	500	4
CMJ-4-123	12000	130	0.60	2100	500	4

### Dimensions



### Impedance Performance CMJ-4 Series Quad Chokes



Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)  
 Tolerance: ±0.010 (0.25) unless specified otherwise

# CFJ Series • Common Mode Interface Chokes for Data and Signal Lines

## Features

- Low cost, compact SMD for pick and place compatibility while providing consistent and reliable coplanarity
- High attenuation over a wide frequency range
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Other inductance values available upon request
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

## Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -25° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 25/85/56

Test voltage between windings: 500 Vrms



## Test frequency

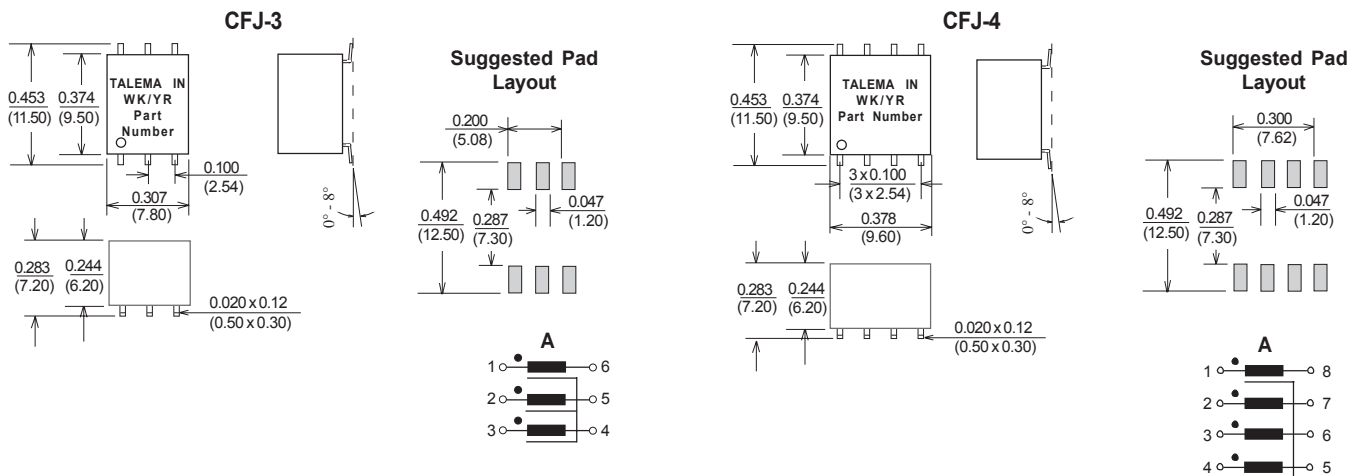
Nominal Inductance: measured @ 100kHz / 20 mVrms

Leakage Inductance: measured @ 100kHz / 100mVrms

Test Equipment: HP4192A

## Common Mode Chokes for Data and Signal Line EMI Noise Suppression

Part Number	Number of Data Lines	OCL (µH ±30%)	I <sub>N</sub> (mA)	DCR (mOhms Typ)	Number of Coils	Windings per Core	Schematic
<b>Tri Chokes • 3 windings per core</b>							
CFJ-3-240	3	24	1000	45	1	3	A
CFJ-3-101	3	100	700	110	1	3	A
CFJ-3-471	3	470	700	50	1	3	A
CFJ-3-681	3	681	700	55	1	3	A
CFJ-3-102	3	1000	700	70	1	3	A
CFJ-3-152	3	1500	650	105	1	3	A
CFJ-3-222	3	2200	600	125	1	3	A
CFJ-3-332	3	3300	400	215	1	3	A
CFJ-3-472	3	4700	350	340	1	3	A
<b>Quad chokes • 4 windings per core</b>							
CFJ-4-330	4	33	550	65	1	4	A
CFJ-4-470	4	47	540	80	1	4	A
CFJ-4-101	4	100	360	160	1	4	A
CFJ-4-471	4	471	450	65	1	4	A
CFJ-4-102	4	1000	450	85	1	4	A
CFJ-4-472	4	4700	220	430	1	4	A



Surface Coplanarity will be 0.004(0.10) maximum

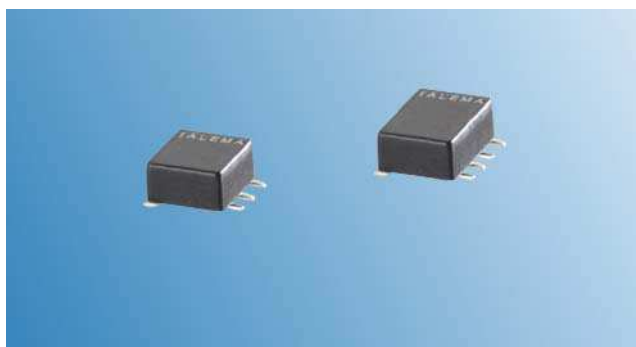
Dimensions: Inches (Millimeters)

Tolerance: ±0.010 (0.25)



**Features**

- Low cost, compact SMD for pick and place compatability while providing consistent and reliable coplanarity
- High attenuation over a wide frequency range - to 500MHz
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Other inductance values available upon request
- Fully RoHS compliant and meets lead free reflow level J-STD-020C



**Electrical Specifications @ 25°C**

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +125°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/125/56  
 Test voltage between windings: 500 Vrms

**Test frequency**

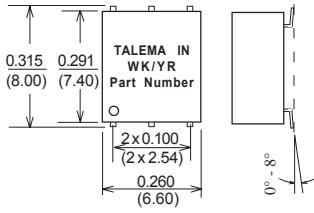
Nominal Inductance: measured @ 100kHz / 20 mVrms  
 Leakage Inductance: measured @ 100kHz / 100mVrms  
 Test Equipment: HP4192A

**Common Mode Chokes for Data and Signal Line EMI Noise Suppression**

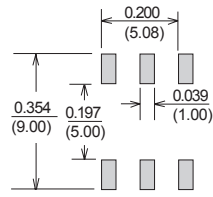
Part Number	OCL ( $\mu\text{H} \pm 30\%$ )	$I_N$ (mA)	$L_L$ ( $\mu\text{H}$ )	DCR (mOhms Typ)	$V_T$ (Vrms)	Number of Data Lines
<b>Double chokes • 2 windings per core</b>						
CSJ-2-110	11	600	0.05	80	500	2
CSJ-2-470	47	500	0.10	148	500	2
CSJ-2-101	100	500	0.11	320	500	2
CSJ-2-471	471	500	0.15	290	500	2
CSJ-2-102	1000	500	0.16	275	500	2
CSJ-2-222	2200	400	0.12	345	500	2
CSJ-2-472	4700	300	0.19	940	500	2
CSJ-2-103	10000	200	0.36	1400	500	2
CSJ-2-203	20000	140	1.00	1800	500	2
CSJ-2-473	47000	100	1.00	3900	500	2
<b>Tri chokes • 3 windings per core</b>						
CSJ-3-110	11	600	0.05	80	500	3
CSJ-3-470	47	500	0.10	148	500	3
CSJ-3-101	100	500	0.11	320	500	3
CSJ-3-471	471	500	0.15	290	500	3
CSJ-3-102	1000	500	0.16	320	500	3
CSJ-3-222	2200	400	0.12	590	500	3
CSJ-3-472	4700	300	0.19	940	500	3
CSJ-3-123	12000	130	0.40	1800	500	3
<b>Quad chokes • 4 windings per core</b>						
CSJ-4-110	11	600	0.05	80	500	4
CSJ-4-470	47	500	0.10	200	500	4
CSJ-4-101	100	500	0.10	360	500	4
CSJ-4-471	471	500	0.15	280	500	4
CSJ-4-102	1000	500	0.09	350	500	4
CSJ-4-222	2200	400	0.06	650	500	4
CSJ-4-472	4700	300	0.09	910	500	4
CSJ-4-123	12000	130	0.36	2200	500	4

# CSJ Series • Dimensions & Impedance Performance

## CSJ-2 & 3



## Suggested Pad Layout

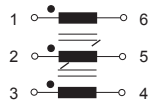


## Schematic

### 2 Data Lines



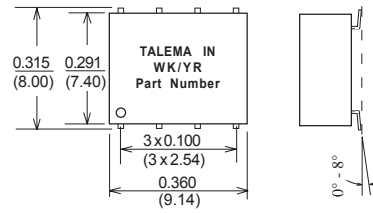
### 3 Data Lines



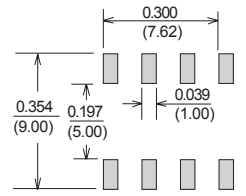
Surface Coplanarity will be 0.004(0.10)

Dimensions: Inches (Millimeters)  
Tolerance:  $\pm 0.010$  (0.25)

## CSJ-4

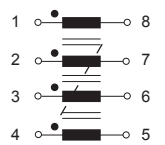


## Suggested Pad Layout



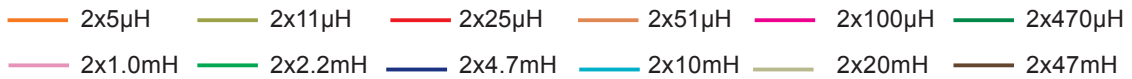
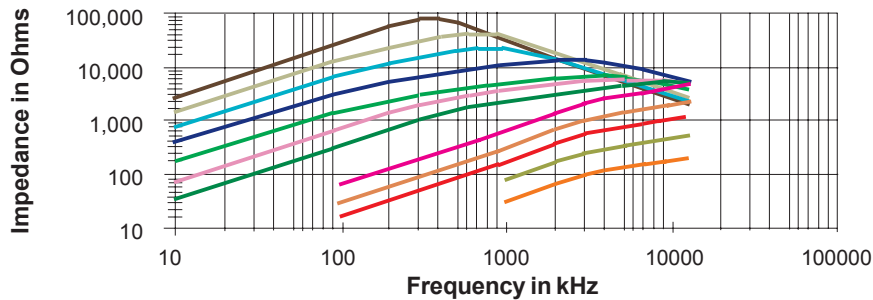
## Schematic

### 4 Data Lines

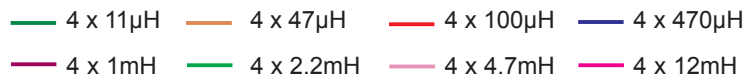
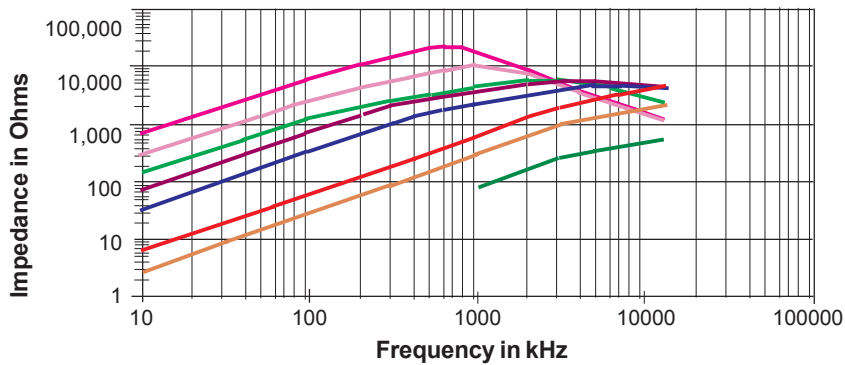


## Impedance Performance

### CSJ-2 Series Double Chokes with Bifilar Winding



### CSJ-4 Series Quad Chokes





# CCJ Series • Common Mode Interface Chokes for Data and Signal Lines

## Features

- Low cost, compact SMD for pick and place compatibility while providing consistent and reliable coplanarity
- High attenuation over a wide frequency range
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Other inductance values available upon request
- fully RoHS compliant and meets lead free reflow level J-STD-020C

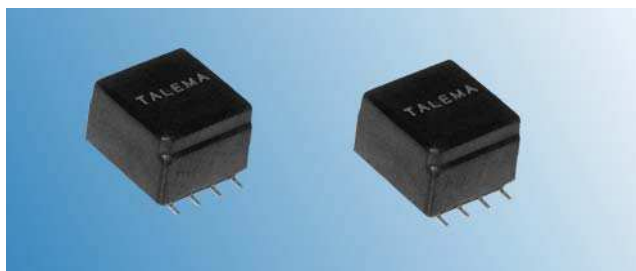
## Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -25° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 25/85/56



Test voltage between windings: 500 Vrms

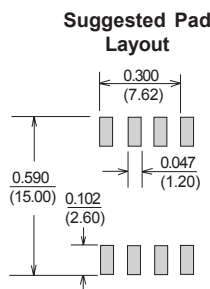
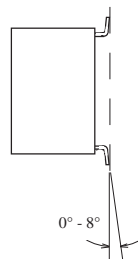
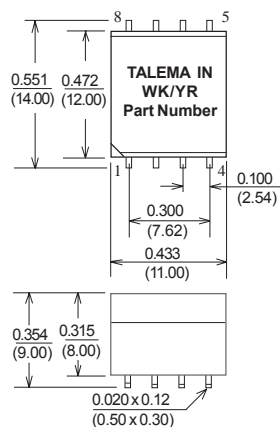
Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms

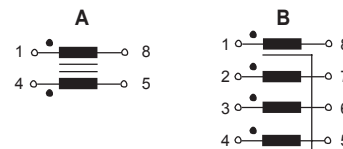
Leakage Inductance: measured @ 100kHz, 100mVrms

Test Equipment: HP4192A

Part Number	Number of Data Lines	OCL (µH ±30%)	I <sub>N</sub> (mA)	DCR (mOhms Typ.)	Number of Coils	Windings per Core	Schematic
<b>Double Chokes</b>							
CCJ-2-260	2	26	900	55	1	2	A
CCJ-2-102	2	1000	550	140	1	2	A
CCJ-2-152	2	1500	550	100	1	2	A
CCJ-2-222	2	2200	550	115	1	2	A
CCJ-2-332	2	3300	550	140	1	2	A
CCJ-2-502	2	5000	500	180	1	2	A
CCJ-2-682	2	6800	450	200	1	2	A
CCJ-2-103	2	10000	400	270	1	2	A
CCJ-2-123	2	12000	400	280	1	2	A
CCJ-2-203	2	20000	300	480	1	2	A
CCJ-2-283	2	28000	270	520	1	2	A
CCJ-2-503	2	50000	200	1020	1	2	A
CCJ-2-703	2	70000	170	1540	1	2	A
<b>Quad Chokes • 4 windings per core</b>							
CCJ-4-260	4	26	600	65	1	4	B
CCJ-4-470	4	47	500	100	1	4	B
CCJ-4-101	4	100	400	130	1	4	B
CCJ-4-221	4	220	400	190	1	4	B
CCJ-4-471	4	470	400	130	1	4	B
CCJ-4-681	4	680	400	140	1	4	B
CCJ-4-102	4	1000	350	190	1	4	B
CCJ-4-152	4	1500	350	120	1	4	B
CCJ-4-222	4	2200	350	140	1	4	B
CCJ-4-332	4	3300	350	180	1	4	B
CCJ-4-502	4	5000	330	230	1	4	B
CCJ-4-103	4	10000	230	430	1	4	B
CCJ-4-123	4	12000	170	790	1	4	B
CCJ-4-583	4	58000	90	2350	1	4	B



## Schematics



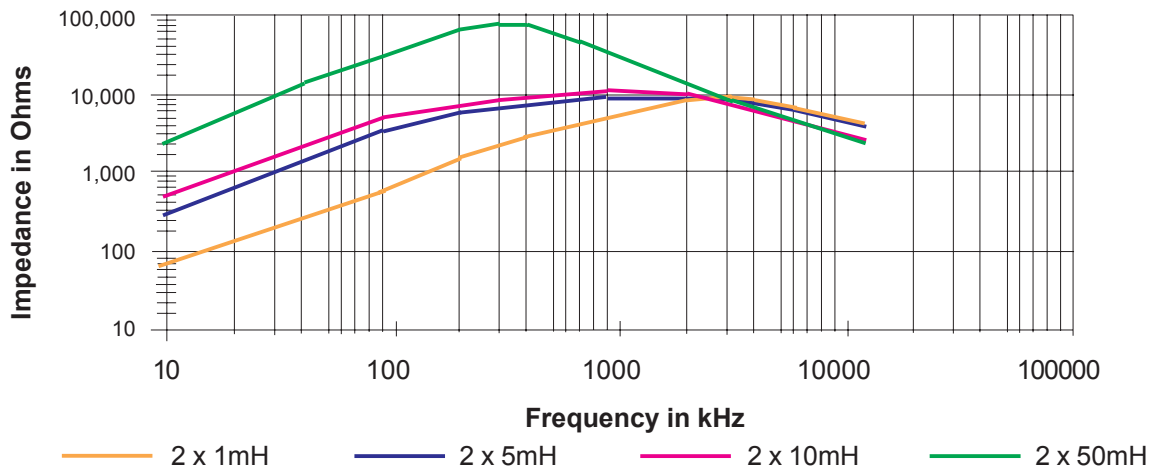
Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)

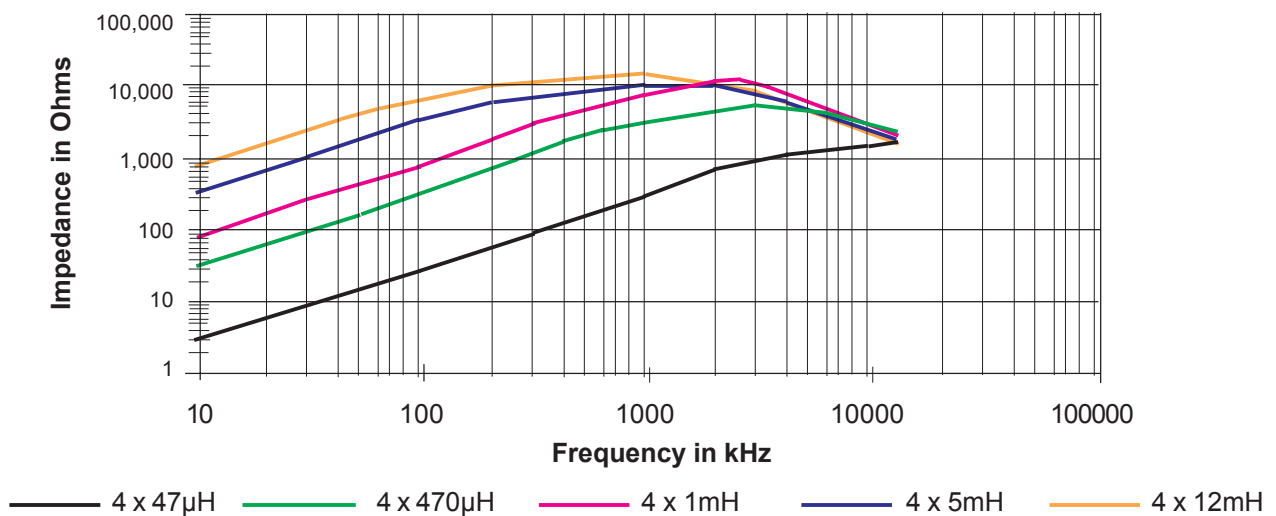
Tolerance: ±0.010 (0.25) unless specified otherwise

## CCJ Series • Impedance Performance

### Impedance Performance CCJ-2 Series Double Chokes



### Impedance Performance CCJ-4 Series Quad Chokes



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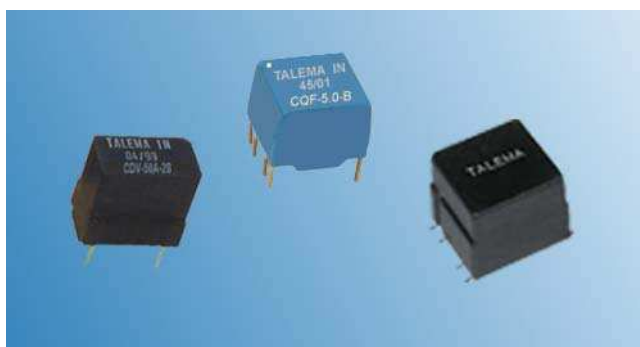
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TALEMA ELECTRONIC PVT. LTD.  
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E-mail: [talema@talemaindia.com](mailto:talema@talemaindia.com)  
Web Site: [www.talemaindia.com](http://www.talemaindia.com)



## CD & CQ Series Common Mode Interface Chokes for Data and Signal Lines

### Features

- high attenuation over a wide frequency range
- low interwinding and coupling capacitance
- wide inductance range
- excellent quality at extremely competitive price due to high volume production
- manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- other inductance values available upon request
- fully RoHS compliant and meets lead free reflow level J-STD-020C



### Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +85°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/85/56  
 Test voltage between windings: 500 Vrms

Test frequency  
 Nominal Inductance: measured @ 100kHz/20 mVrms  
 Leakage Inductance: measured @ 100kHz, 100mVrms  
 Test Equipment: HP4192A

Part Number	$L_N$ ( $\mu$ H) $\pm 30\%$	$I_N$ (mA)	$L_L$ ( $\mu$ H)	$R_{CU}$ (mOhms)	$V_P$ (Vrms)	Windings per Core	Package	Schematic
<b>CD Series - Double Chokes for EMI noise suppression</b>								
CD_-1.0-A	1000	600	0.25	190	500	2	F / V	A
CD_-1.7-A	1700	550	0.42	200	500	2	F / V	A
CD_-2.2-A	2200	350	0.45	300	500	2	F / V	A
CD_-3.3-A	3300	350	0.50	370	500	2	F / V	A
CD_-4.7-A	4700	350	0.40	600	500	2	F / V	A
CD_-6.8-A	6800	350	0.55	510	500	2	F / V	A
CD_-10-A	10000	350	0.65	620	500	2	F / V	A
CD_-12-A	12000	300	0.70	680	500	2	F / V	A
CD_-15-A	15000	300	0.55	720	500	2	F / V	A
CD_-22-A	22000	300	0.85	920	500	2	F / V	A
CD_-28-A	28000	300	0.95	1020	500	2	F / V	A
CD_-33-A	33000	300	1.90	1120	500	2	F / V	A
CD_-50-A	50000	300	1.35	1800	500	2	F / V	A
CD_-70-A	70000	300	2.50	2100	500	2	F / V	A
<b>CQ Series - Quad Chokes for EMI noise suppression</b>								
CQ_-1.0-B	1000	400	0.20	200	500	4	F / V	B
CQ_-1.7-B	1700	350	0.40	260	500	4	F / V	B
CQ_-2.2-B	2200	300	0.45	310	500	4	F / V	B
CQ_-3.3-B	3300	300	0.50	380	500	4	F / V	B
CQ_-5.0-B	5000	300	0.30	430	500	4	F / V	B
CQ_-6.8-B	6800	300	0.55	850	500	4	F / V	B
CQ_-10-B	10000	300	0.65	1060	500	4	F / V	B
CQ_-12-B	12000	250	0.65	1120	500	4	F / V	B
CQ_-58-B	58000	200	1.40	2400	500	4	F / V	B
CQ_-90-B	90000	150	2.00	4150	500	4	F / V	B

When ordering Series CD or CQ, use suffix "F", "V" or "J" to designate desired package style.

CDF / CQF = Flat package, THT  
 CDV / CQV = Vertical package, THT  
 CDJ / CQJ = Flat package, SMD

Dimensions, Schematics and Impedance Curves on following two pages

Germany: Int.+4989-841 00-0 • Ireland: Int.+35 374-954 8666 • Czech Rep: Int.+420 377 - 338 351 • India: Int.+91 427-244 1325  
<http://www.talema-nuvotem.com>

# Packaging Style

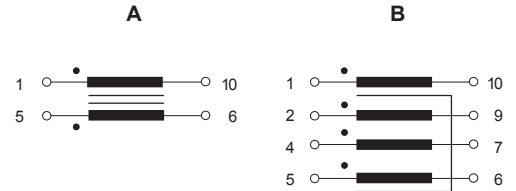
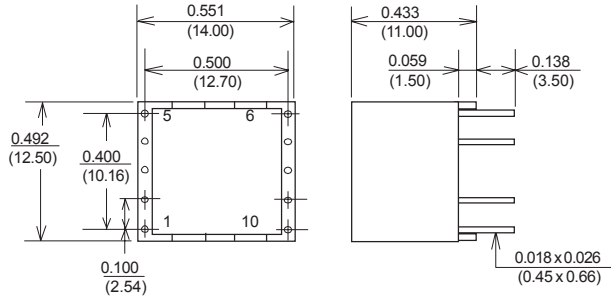
Dimensions: Inches (Millimeters)

Tolerance:  $\pm 0.010$  (0.25) unless specified otherwise

## Package Style

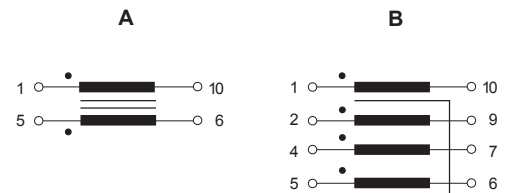
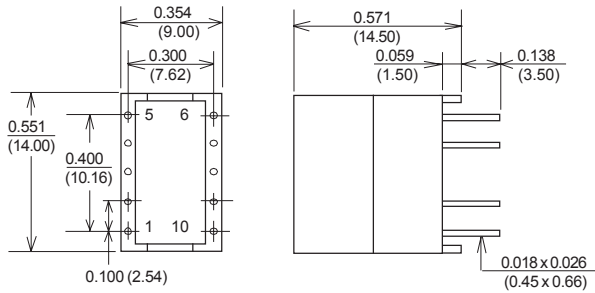
## Schematics

### CDF / CQF



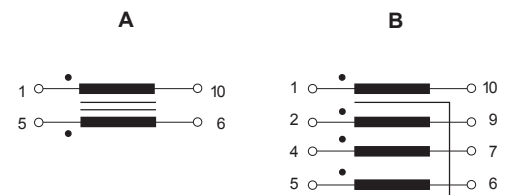
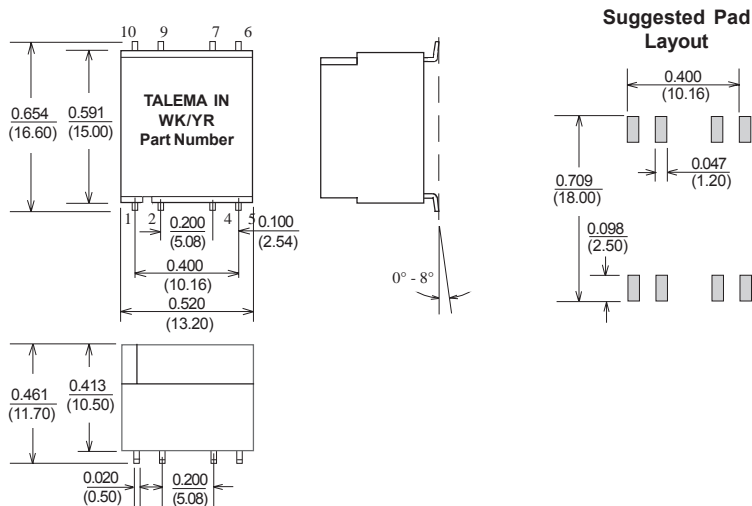
Note: Parts will be supplied with only the pins shown on schematics A (CDF style) and B (CQF style)

### CDV / CQV



Note: Parts will be supplied with only the pins shown on schematics A (CDV style) and B (CQV style)

### CDJ / CQJ

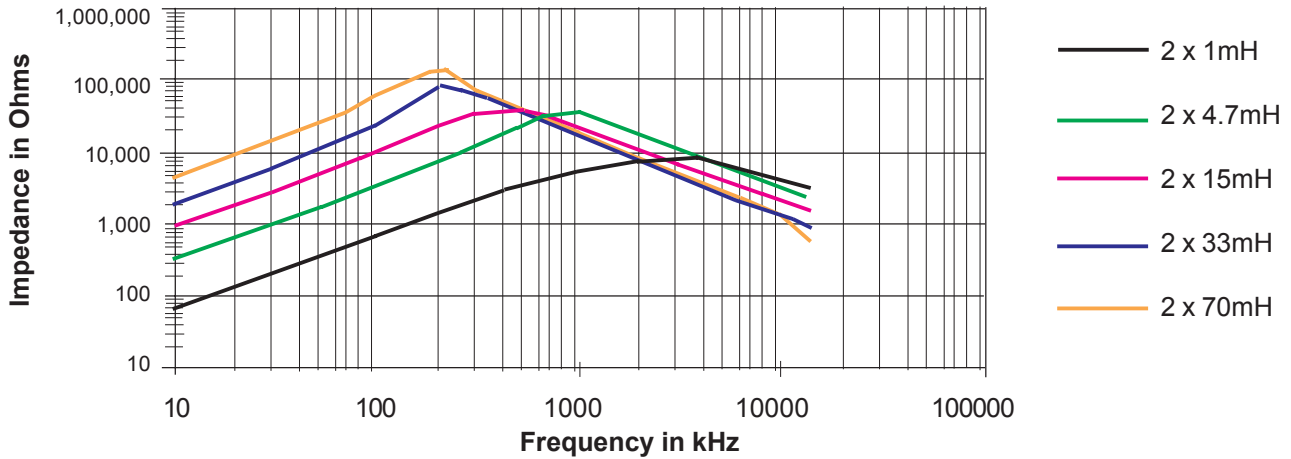


Surface Coplanarity will be 0.004(0.10) maximum

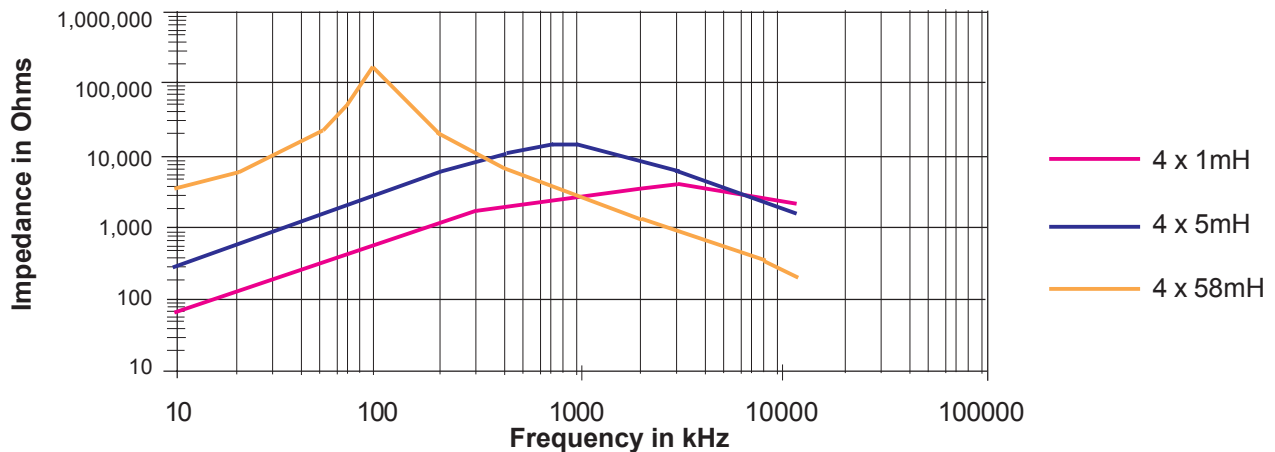
Note: Parts will be supplied with only the pins shown on schematics A (CDJ style), and B (CQJ style)

## Impedance Performance

### Impedance Performance CD Series Double Chokes



### CQ Series Quad Chokes



## Sales & Marketing, Design and Manufacturing Facilities

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Web Site: [www.ntmagnetics.cz](http://www.ntmagnetics.cz)

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Salem - 636 004, Tamil Nadu  
Tel: Int. + 91 427 - 244 1325  
Fax: Int. + 91 427 - 243 0034  
E-mail: [talema@talemaindia.com](mailto:talema@talemaindia.com)  
Web Site: [www.talemaindia.com](http://www.talemaindia.com)



**Features**

- High attenuation over a wide frequency range
- Low interwinding and coupling capacitance
- Wide inductance range
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Other inductance values available upon request
- fully RoHS compliant



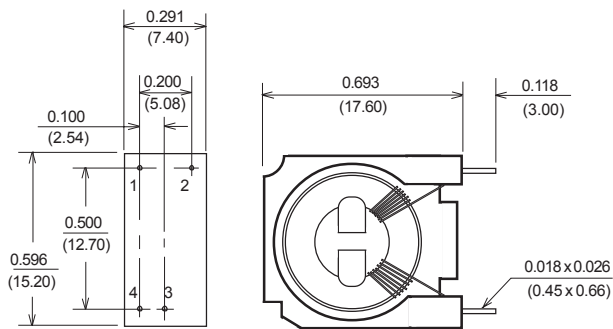
**Electrical Specifications @ 25°C**

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +85°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/85/56  
 Test voltage between windings: 500 Vrms

Test frequency:  
 Nominal Inductance: measured @ 100kHz, 100mVrms  
 Leakage Inductance: measured @ 100kHz, 100mVrms  
 Test Equipment: HP4192A

**CKV Series - Double Chokes for EMI noise suppression**

Part Number	L <sub>N</sub> (µH) ±30%	I <sub>N</sub> (mA)	L <sub>L</sub> (µH)	R <sub>CU</sub> (mOhms)	V <sub>P</sub> (Vrms)	Windings per Core	Schematic
CKV-0.12	120	100	0.35	120	500	2	A
CKV-4.7	4700	100	1.00	900	500	2	A
CKV-10	10000	100	1.15	1300	500	2	A
CKV-16	16000	100	1.20	1600	500	2	A
CKV-38	38000	100	3.00	2100	500	2	A
CKV-68	68000	100	2.30	4630	500	2	A



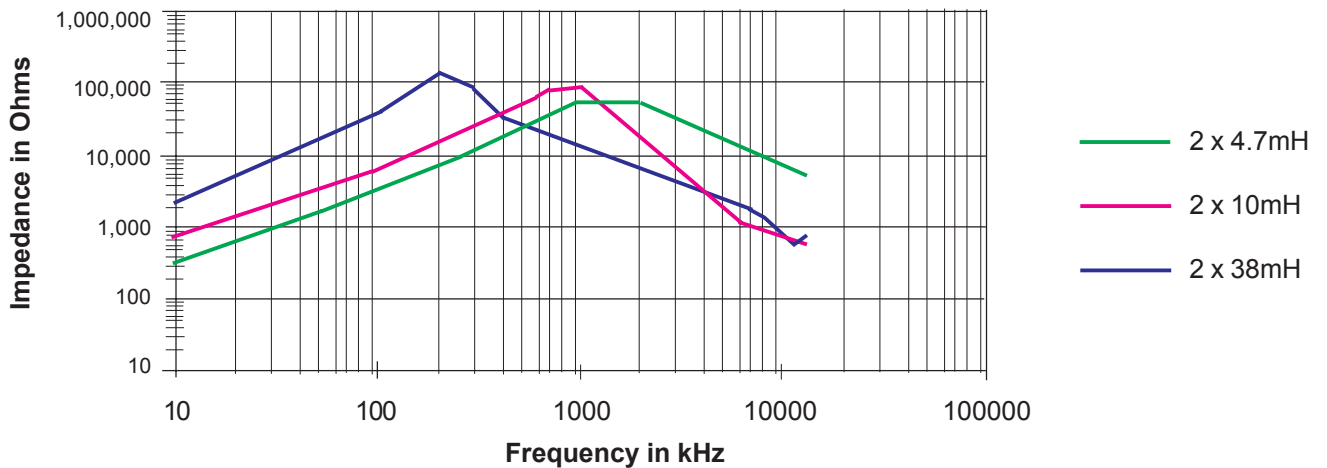
TALEMA IN  
 Part Nr.  
 Wk/Yr

Dimensions: Inches (Millimeters)  
 Tolerance: ±0.010 (0.25) unless specified otherwise

**Schematic**



**Impedance Performance  
 Bifilar Winding**





# CKV Series • Current Compensated Double Chokes for Power Lines

## Features

- High attenuation over a wide frequency range
- Low interwinding and coupling capacitance
- Sector Winding
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Flame retardant case per UL94V-O
- Other inductance values available upon request
- fully RoHS compliant

## Electrical Specifications @ 25°C

Rated Voltage: 250Vac

Rated current @ 50/60Hz and 40°C ambient

Operating Temperature: -40° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 40/85/56

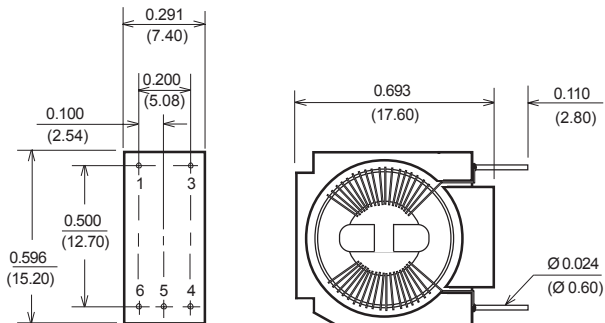


Test voltage: 1500 Vac, 2s line to line  
Test Equipment: HP4192A

Weight: ~ 3 grams

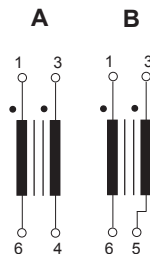
## CKV Series - Current Compensated Double Chokes for Power Lines

Part Number	$L_N$ ( $\mu$ H) -30/+50%	$I_N$ (mA)	$L_L$ ( $\mu$ H)	$R_{CU}$ (mOhms)	$V_P$ (Vrms)	Windings per Core	Schematic
CKV-4.7-S	4700	700	70	440	1500	2	A or B
CKV-6.8-S	6800	600	100	630	1500	2	A or B
CKV-10-S	10000	500	150	1000	1500	2	A or B
CKV-15-S	15000	400	225	1350	1500	2	A or B
CKV-30-S	30000	300	400	2200	1500	2	A or B
CKV-47-S	47000	250	750	2400	1500	2	A or B



TALEMA IN  
Part Nr.  
Wk/Yr

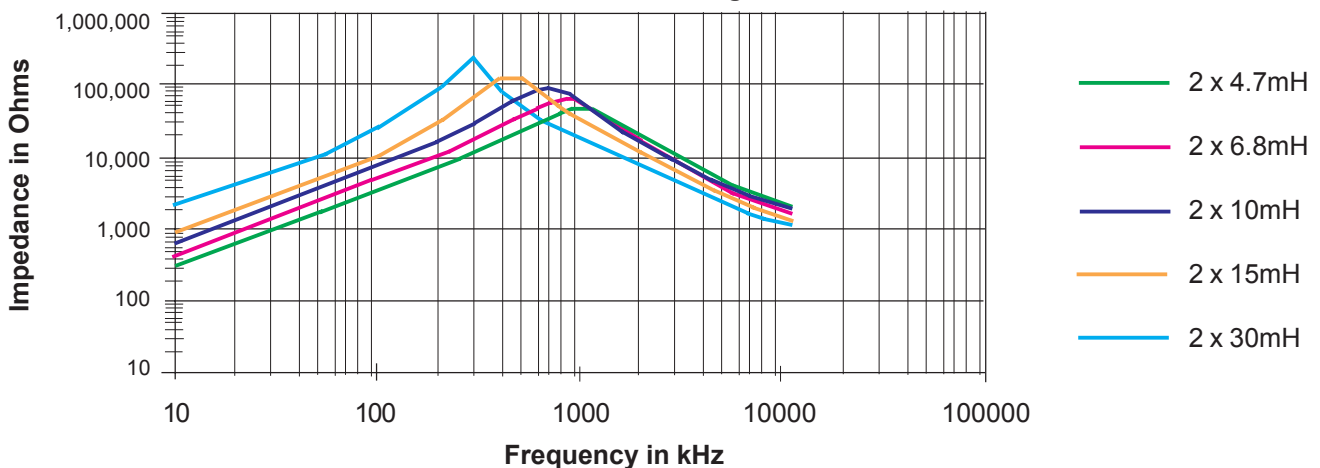
## Schematic



**Note:** Normal pinning will be 1-3-4-6 Schematic A. If pinning 1-3-5-6 is required, Schematic B should be specified when ordering.

Dimensions: Inches (Millimeters)  
Tolerance:  $\pm 0.010$  (0.25) unless specified otherwise

## Impedance Performance Sector Winding



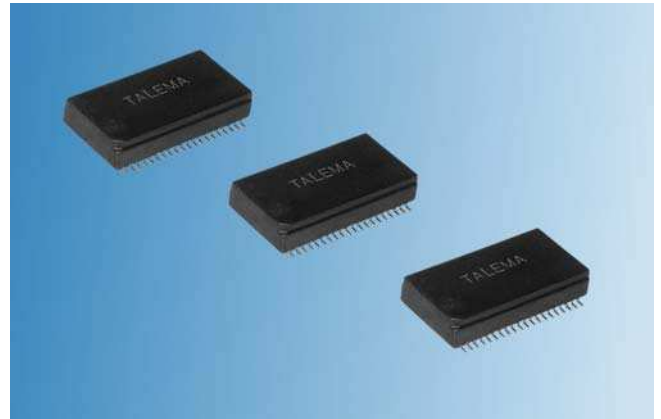
# COJ Series - Common Mode Octal Chokes for Quad Port T1/E1

## Features

- Low profile (6.0mm) and light weight (4.0 g), Talema common mode choke modules provide excellent EMI reduction in Quad Port T1/E1 applications
- High density board placement with modular design
- SMD package facilitates pick and place compatability while ensuring consistent and reliable coplanarity
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

## Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc  
 Operating Temperature: -25° to +85°C  
 Storage Temperature: -40° to +125°C  
 Climatic category: according to IEC68-1 25/85/56  
 Test voltage between windings: 500 Vrms  
 Test Frequency: Inductance measured @ 100kHz/20mVrms



Standard packing: Tape and reel  
 Weight: ~ 4 grams

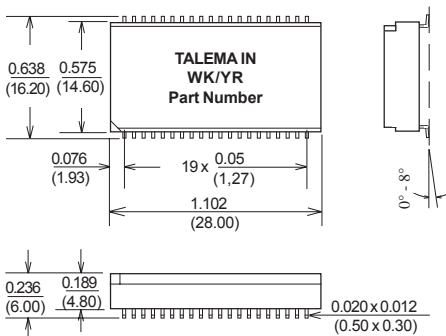
## Application

The 16 data line common mode choke module has been designed for T1/E1 applications and provides excellent EMI suppression for data and signal line filtering

## COJ Octal Common Mode Chokes for Data and Signal Line EMI Noise Suppression

Part Number	No. of Data Lines	OCL (µH Min.)	DCR (mOhms Typ.)	Common Mode Attenuation (dB Typ.)						
				100kHz	1MHz	10MHz	30MHz	50MHz	100MHz	300MHz
COJ-16-470	16	47	200	13	27	40	44	42	36	26
				100kHz	300kHz	1MHz	3MHz	5MHz	10MHz	30MHz
COJ-16-502	16	5000	1900	26	38	40	32	26	21	16

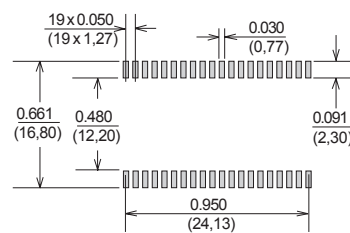
## Package



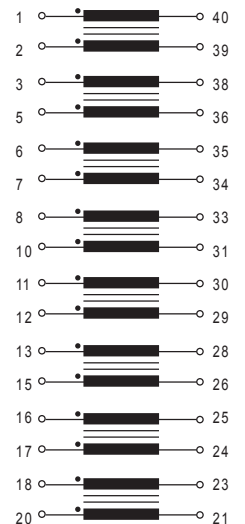
Surface coplanarity will be <math><0.004 (0.10)</math>

Dimensions: Inches (Millimeters)  
 Tolerance:  $\pm 0.010 (0.25)$  unless specified otherwise

## Suggested Pad layout



## Schematic





## CUJ-16 • Miniature Chip Style SMD Common Mode Filter Chokes

### Features

- EMI noise suppression for data and signal line filtering
- Low cost SMD common mode chokes are designed for pick and place compatibility while providing consistent and reliable coplanarity
- High attenuation over a wide frequency range
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

### Electrical Specifications @ 25°C

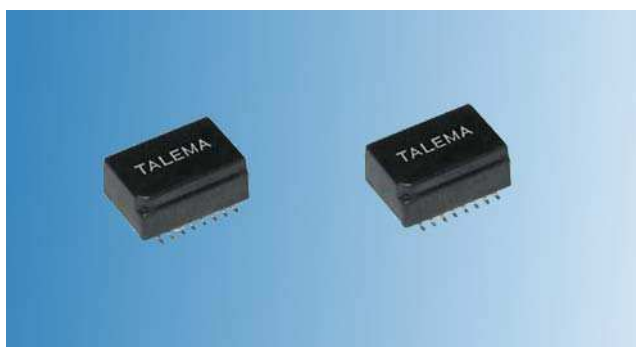
Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating Temperature: -25° to +85°C

Storage Temperature: -40° to +125°C

Climatic category: according to IEC68-1 25/85/56

Test voltage between windings: 500 Vrms



### Test frequency

Nominal Inductance: measured @ 100kHz/20 mVrms

Leakage Inductance: measured @ 100kHz, 100mVrms

Test Equipment: HP4192A

### Common Mode Chokes for Data and Signal Line EMI Noise Suppression

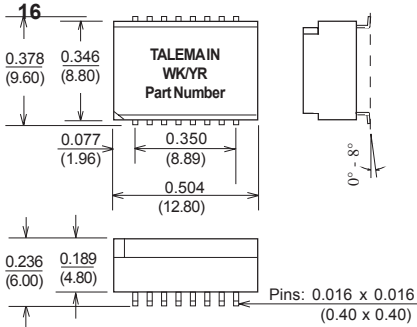
Part Number	Number of Data Lines	OCL ( $\mu\text{H}$ ) $\pm 30\%$	$I_N$ (mA)	DCR (mOhms)	Number of Coils	Windings per Coil	Schematic
CUJ-240-16E	4	24	800	45	2	2	E
CUJ-340-16E	4	34	700	55	2	2	E
CUJ-101-16E	4	100	450	135	2	2	E
CUJ-471-16E	4	470	450	95	2	2	E
CUJ-102-16E	4	1000	450	135	2	2	E
CUJ-472-16E	4	4700	300	310	2	2	E
CUJ-240-16C	6	24	650	45	2	3	C
CUJ-470-16C	6	47	450	90	2	3	C
CUJ-101-16C	6	100	350	170	2	3	C
CUJ-471-16C	6	470	350	95	2	3	C
CUJ-102-16C	6	1000	330	170	2	3	C
CUJ-472-16C	6	4700	200	430	2	3	C
CUJ-240-16D	6	24	600	75	3	2	D
CUJ-470-16D	6	47	500	110	3	2	D
CUJ-680-16D	6	68	450	135	3	2	D
CUJ-471-16D	6	470	350	220	3	2	D
CUJ-102-16D	6	1000	350	220	3	2	D
CUJ-472-16D	6	4700	190	750	3	2	D
CUJ-240-16A	8	24	550	45	2	4	A
CUJ-470-16A	8	47	400	90	2	4	A
CUJ-101-16A	8	100	250	240	2	4	A
CUJ-471-16A	8	470	250	95	2	4	A
CUJ-102-16A	8	1000	250	240	2	4	A
CUJ-472-16A	8	4700	160	600	2	4	A
CUJ-240-16B	8	24	430	130	4	2	B
CUJ-470-16B	8	47	360	180	4	2	B
CUJ-101-16B	8	100	300	260	4	2	B
CUJ-471-16B	8	470	300	180	4	2	B
CUJ-102-16B	8	1000	300	240	4	2	B
CUJ-472-16B	8	4700	160	1180	4	2	B

# CUJ Packaging Style and Impedance Performance

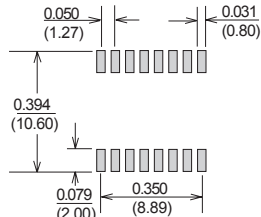
Dimensions: Inches (Millimeters)

Tolerance:  $\pm 0.010$  (0.25)

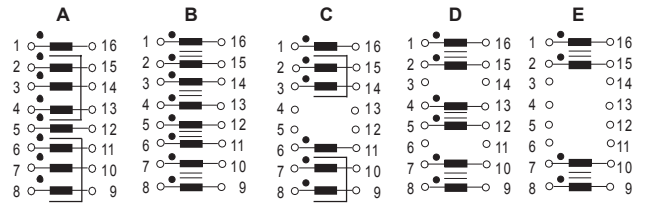
## CUJ-XXX-16



### Suggested Pad Layout

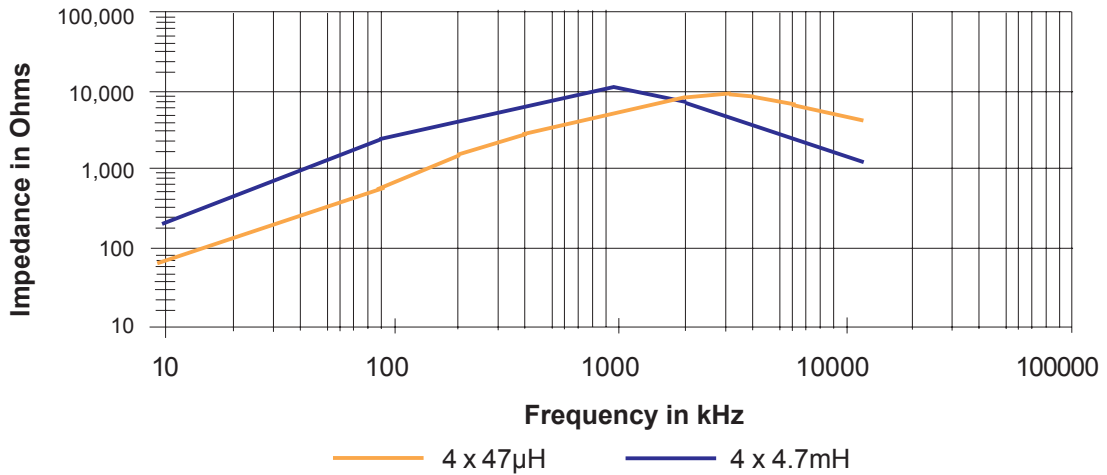


### Schematics

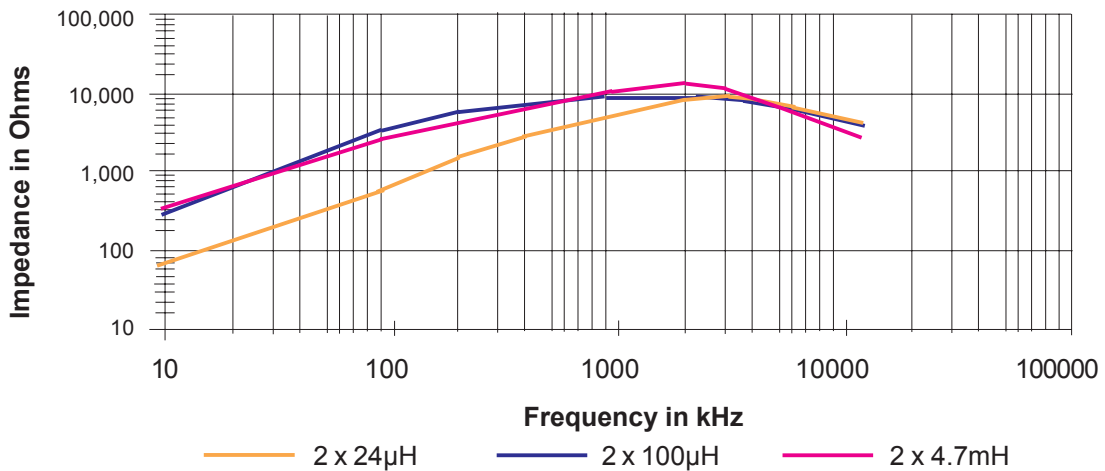


Surface Coplanarity will be 0.004(0.10) maximum

## Impedance Performance CUJ-XXX-16A Series Quadfilair Winding



## Impedance Performance CUJ-XXX-16B Series Bifilar Winding





## SMD Data and Signal Line Filter Chokes

### Features

- EMI noise suppression for data and signal line filtering
- Miniature, low cost SMD common mode chokes are designed for pick and place compatibility and provide reliable coplanarity
- High attenuation over a wide frequency range
- Manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Parts shown below meet all popular footprints
- Fully RoHS compliant and meets lead free reflow level J-STD-020C

### Electrical Specifications @ 25°C

Nominal Voltage: 42Vac (50/60Hz), 80Vdc

Operating temperature: -25° to +85°C

Storage temperature: -40° to +125°C



Climatic category: according to IEC68-1 25/85/56

Test voltage between windings: 500 Vrms

Test frequency: Inductance measured @ 100kHz / 20 mVrms

Test Equipment: HP4192A

### Miniature Common Mode Chokes for Data and Signal Line EMI suppression

Part Number	OCL (µH) ±30%	I <sub>N</sub> (mA)	DCR (mOhms)	Number of Coils	Windings per Coil	Schematic	Part Number	OCL (µH) ±30%	I <sub>N</sub> (mA)	DCR (mOhms)	Number of Coils	Windings per Coil	Schematic
<b>Two Data Lines</b>							<b>Four Data Lines</b>						
CTJ-2-110	11	300	160	1	2	A	CFJ-4-330	33	550	65	1	4	A
CTJ-2-101	100	300	180	1	2	A	CFJ-4-470	47	540	80	1	4	A
CTJ-2-471	470	200	380	1	2	A	CFJ-4-101	100	360	160	1	4	A
CTJ-2-102	1000	150	660	1	2	A	CFJ-4-471	470	360	65	1	4	A
CTJ-2-472	4700	150	1800	1	2	A	CFJ-4-102	1000	300	85	1	4	A
CLJ/CMJ-2-110	11	500	120	1	2	A	CFJ-4-472	4700	220	430	1	4	A
CLJ/CMJ-2-470	47	500	150	1	2	A	CCJ-4-260	26	600	65	1	4	B
CLJ/CMJ-2-101	100	500	260	1	2	A	CCJ-4-470	47	500	100	1	4	B
CLJ/CMJ-2-471	470	500	250	1	2	A	CCJ-4-101	100	400	130	1	4	B
CLJ/CMJ-2-102	1000	500	250	1	2	A	CCJ-4-221	220	400	190	1	4	B
CLJ/CMJ-2-472	4700	200	845	1	2	A	CCJ-4-471	470	400	120	1	4	B
CLJ/CMJ-2-103	10000	200	1200	1	2	A	CCJ-4-102	1000	350	190	1	4	B
CLJ/CMJ-2-473	47000	100	3450	1	2	A	CCJ-4-152	1500	350	120	1	4	B
CCJ-2-102	1000	550	140	1	2	A	CCJ-4-502	5000	330	220	1	4	B
CCJ-2-152	1500	550	100	1	2	A	CCJ-4-123	12000	170	790	1	4	B
CCJ-2-502	5000	500	180	1	2	A	CCJ-4-583	58000	90	2350	1	4	B
CCJ-2-123	12000	400	280	1	2	A							
CCJ-2-283	28000	270	520	1	2	A	CQJ-1.0-B	1000	400	200	1	4	B
CCJ-2-503	50000	200	1020	1	2	A	CQJ-5.0-B	5000	300	450	1	4	B
CCJ-2-703	70000	170	1540	1	2	A	CQJ-10-B	10000	300	1060	1	4	B
CDJ-1.0-A	1000	600	190	1	2	A	CQJ-58-B	58000	200	2400	1	4	B
CDJ-4.7-A	4700	350	575	1	2	A	CQJ-90-B	90000	150	4150	1	4	B
CDJ-12-A	12000	300	680	1	2	A	CUJ-240-16E	24	800	45	2	2	E
CDJ-28-A	28000	300	1020	1	2	A	CUJ-101-16E	100	450	135	2	2	E
CDJ-50-A	50000	300	1800	1	2	A	CUJ-102-16E	1000	450	135	2	2	E
CDJ-70-A	70000	300	2150	1	2	A	CUJ-472-16E	4700	300	310	2	2	E
<b>Three Data Lines</b>							<b>Six Data Lines</b>						
CFJ-3-240	24	1000	45	1	3	A	CUJ-240-16C	24	650	45	2	3	C
CFJ-3-102	1000	700	70	1	3	A	CUJ-101-16C	100	350	110	2	3	C
CFJ-3-222	2200	600	125	1	3	A	CUJ-102-16C	1000	330	170	2	3	C
CFJ-3-472	4700	350	340	1	3	A	CUJ-472-16C	4700	200	430	3	2	D
<b>Four Data Lines</b>							<b>Eight Data Lines</b>						
CLJ/CMJ-4-110	11	600	130	1	4	A	CUJ-240-16A	24	550	45	2	4	A
CLJ/CMJ-4-470	47	500	180	1	4	A	CUJ-101-16A	100	250	240	2	4	A
CLJ/CMJ-4-101	100	500	330	1	4	A	CUJ-471-16A	470	250	95	2	4	A
CLJ/CMJ-4-471	470	500	240	1	4	A	CUJ-472-16A	4700	160	605	2	4	A
CLJ/CMJ-4-102	1000	500	310	1	4	A	<b>Sixteen Data Lines</b>						
CLJ/CMJ-4-472	4700	300	860	1	4	A	COJ-16-470	47	300	200	8	2	--
CLJ/CMJ-4-123	12000	130	2300	1	4	A	COJ-16-502	5000	150	1900	8	2	--

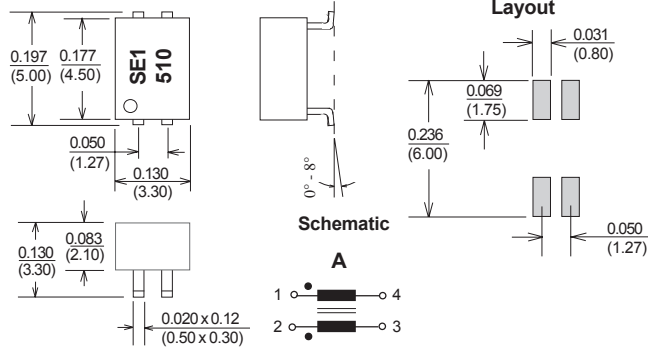
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# Packaging & Dimensions • SMD Data and Signal Line Filter Chokes

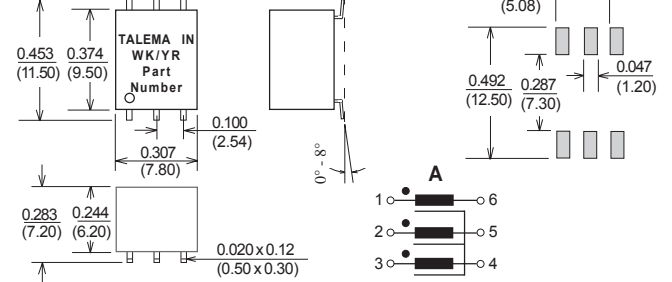
Dimensions: Inches (Millimeters)  
Surface Coplanarity will be 0.004 (0.10) maximum

Tolerance: ±0.010 (0.25) unless specified otherwise

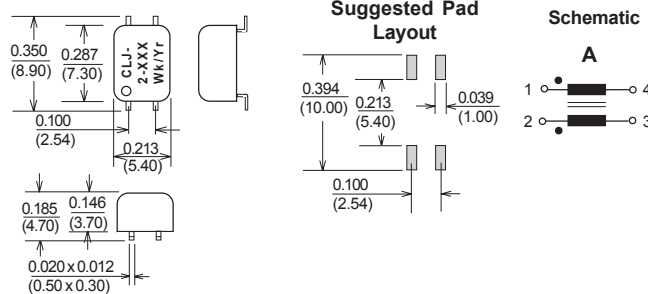
## CTJ-2



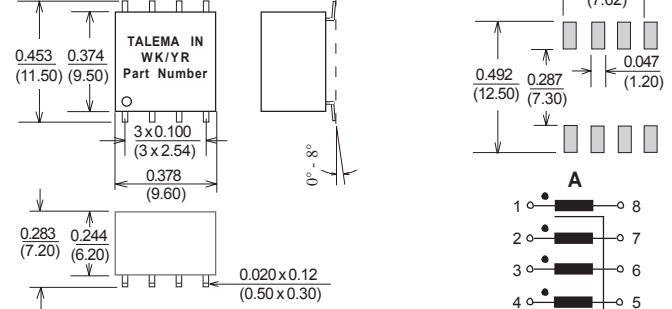
## CFJ-3



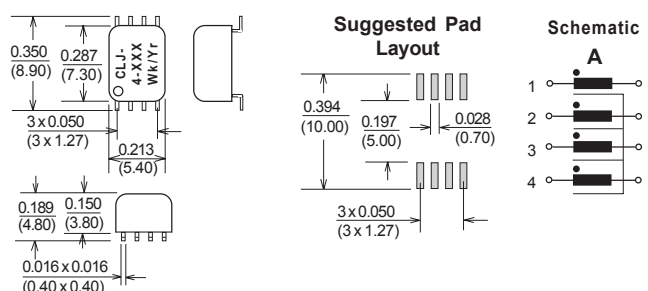
## CLJ-2



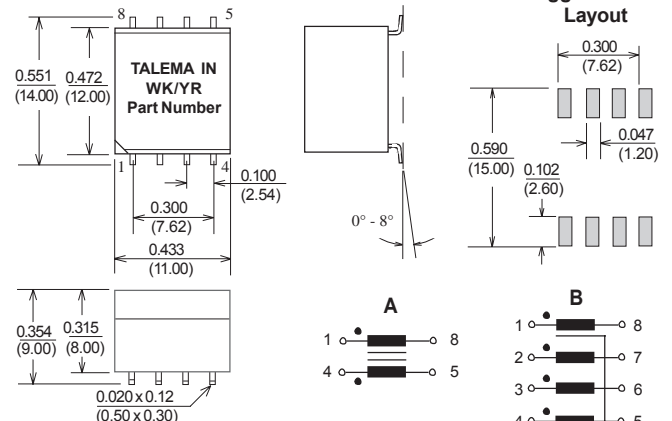
## CFJ-4



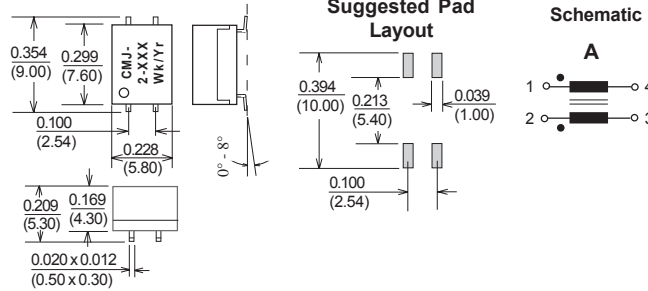
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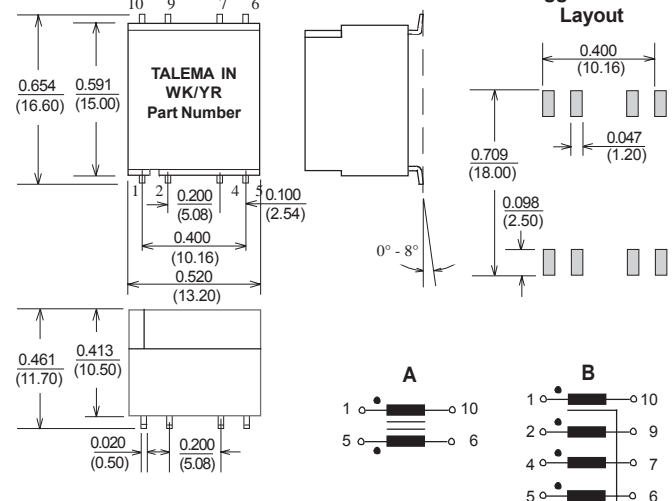
## CCJ-2 / 4



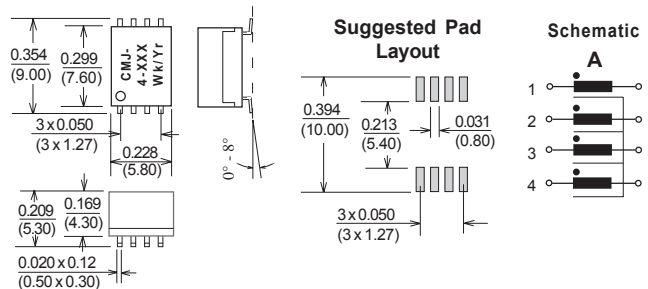
## CMJ-2



## CDJ / CQJ



## CMJ-4

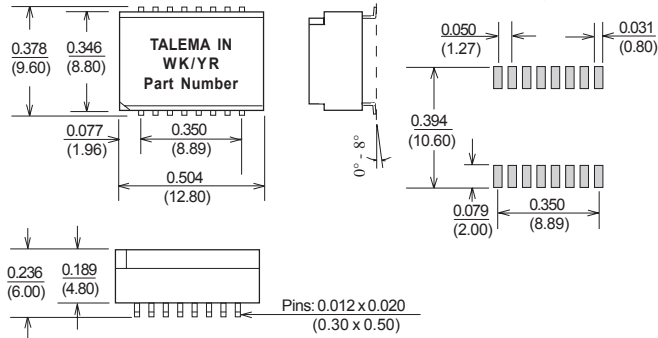


# Packaging & Dimensions • SMD Data and Signal Line Filter Chokes

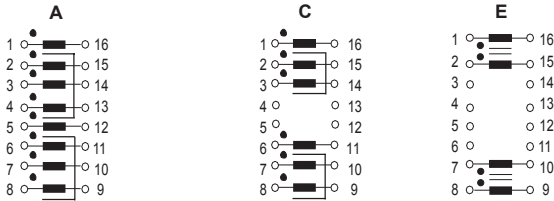
Dimensions: Inches (Millimeters)  
Surface Coplanarity will be 0.004 (0.10) maximum

Tolerance:  $\pm 0.010$  (0.25) unless specified otherwise

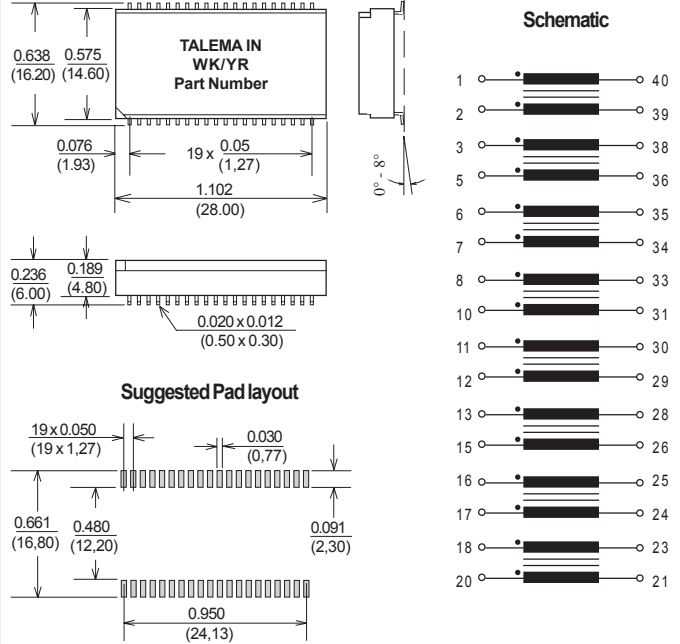
## CUJ-XXX-16



### Schematics



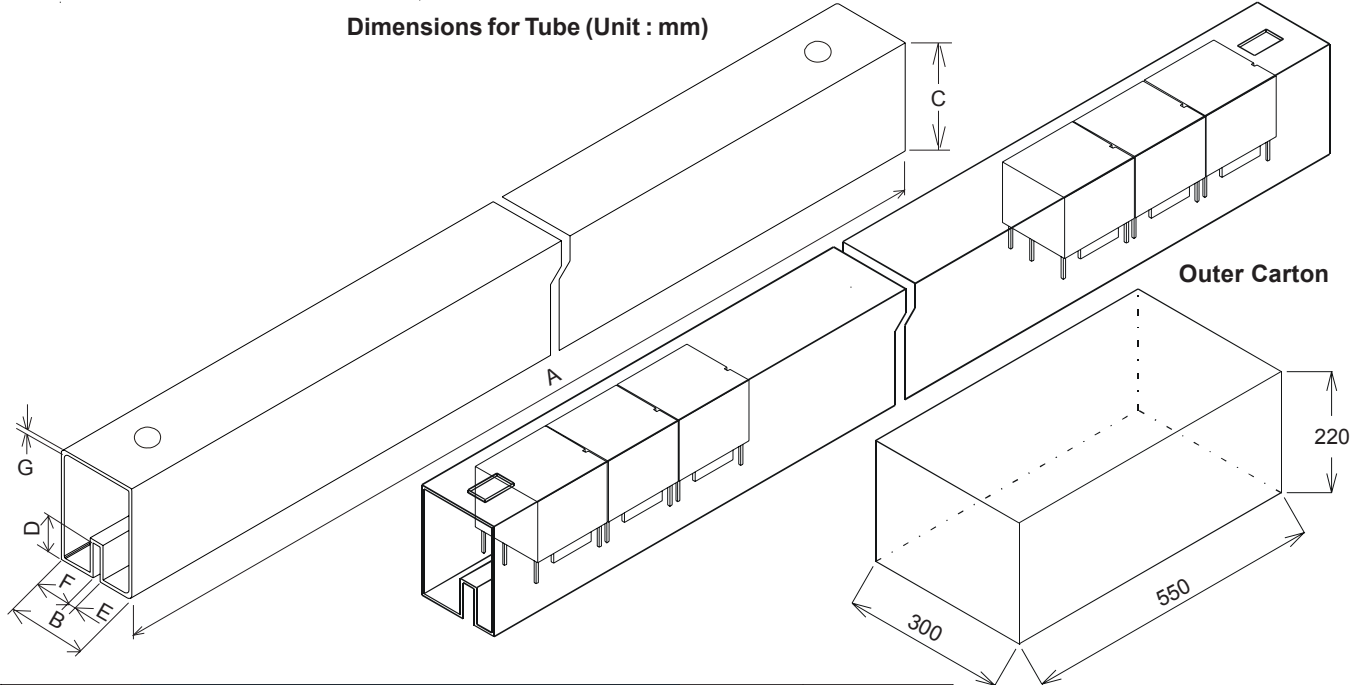
## COJ Module



### Suggested Pad layout

## Tube Packaging and Dimensions

Dimensions for Tube (Unit : mm)



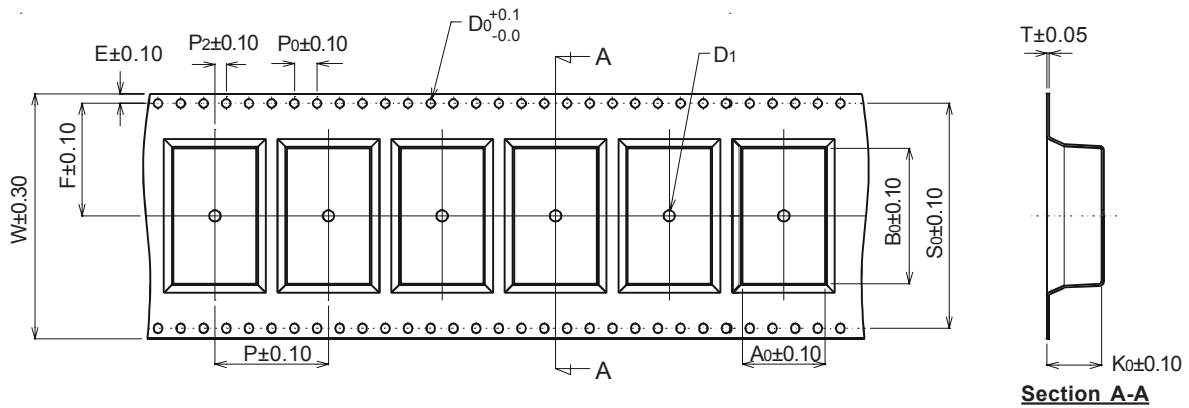
Type	Packing Tube Outer Dimensions (in mm)							Quantity (Pcs/Tube)	Quantity (Tube/Cased)
	A	B	C	D	E	F	G		
CDF / CQF	515.0	16.40	17.90	4.20	9.60	3.40	0.70	39	162/6318
CDV / CQV	515.0	16.40	22.40	7.00	1.60	7.40	0.70	54	103/5562
CKV	515.0	17.90	24.50	5.00	3.10	7.40	0.70	55	90/4950

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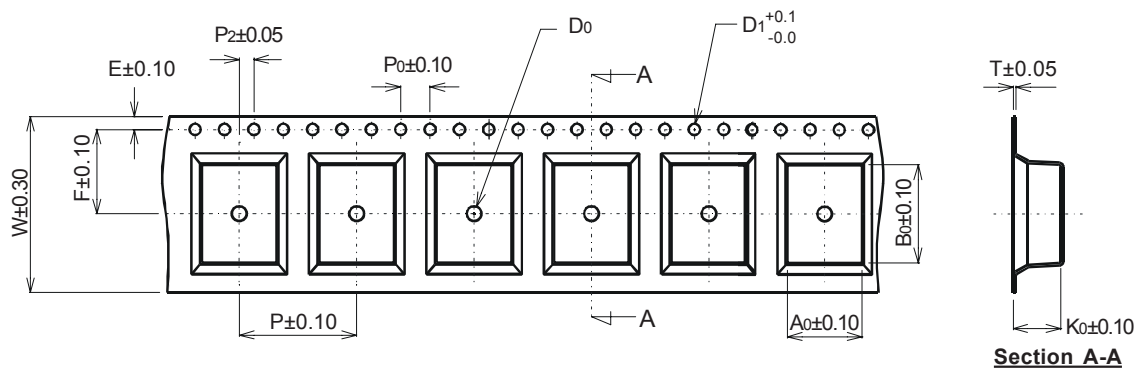


## Tape & Reel Packaging and Dimensions

### Dimensions for Carrier Tape (Unit : mm)



Type	Dimensions in mm													Reel Size	Quantity (Pcs/Reel)	Quantity (Reel/Cased)
	W	F	E	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	D <sub>1</sub>	P	A <sub>0</sub>	B <sub>0</sub>	S <sub>0</sub>	T	K <sub>0</sub>			
CDJ	32.00	14.20	1.75	2.00	4.00	Ø1.50	Ø2.00	24.00	13.55	16.95	28.40	0.40	12.30	330x32	200	5/1000
CQJ	32.00	14.20	1.75	2.00	4.00	Ø1.50	Ø2.00	24.00	13.55	16.95	28.40	0.40	12.30	330x32	200	5/1000
COJ	44.00	20.20	1.75	2.00	4.00	Ø1.50	Ø2.00	24.00	16.75	28.40	40.40	0.40	6.70	330x44	400	5/2000

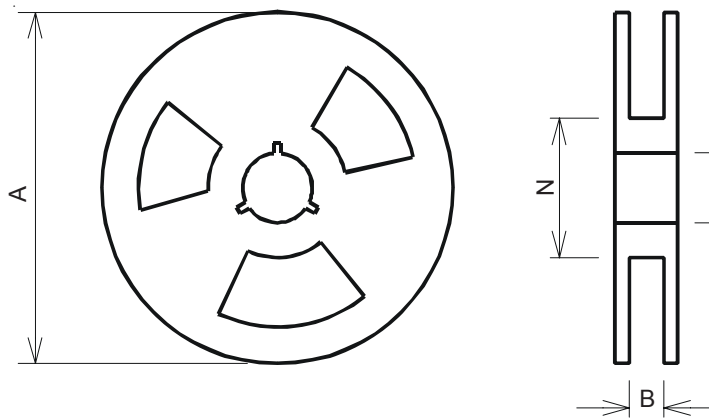


Type	Dimensions in mm													Reel Size	Quantity (Pcs/Reel)	Quantity (Reel/Cased)
	W	F	E	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	D <sub>1</sub>	P	A <sub>0</sub>	B <sub>0</sub>	T	K <sub>0</sub>				
CTJ	12.00	5.50	1.75	2.00	4.00	Ø1.50	Ø1.50	8.00	4.10	5.10	0.40	3.85	330x13	2000	5/10000	
CLJ	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	12.00	6.10	9.30	0.35	5.80	330/24	1000	5/10000	
CMJ	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	12.00	6.10	9.30	0.35	5.80	330/24	1000	5/10000	
CFJ-3	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	20.00	11.90	8.20	0.40	7.60	330x24	600	5/3000	
CFJ-4	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	16.00	10.10	12.10	0.40	7.60	330x24	600	5/3000	
CSJ-2&3	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	12.00	6.90	8.30	0.40	5.00	330x24	600	5/3000	
CSJ-4	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	16.00	9.45	8.30	0.40	5.00	330x24	600	5/3000	
CCJ	24.00	11.50	1.75	2.00	4.00	Ø1.50	Ø1.50	20.00	11.20	14.60	0.40	8.55	330x24	400	5/2000	
CUJ	24.00	11.50	1.75	2.00	4.00	Ø1.5	Ø1.50	16.00	10.20	13.35	0.35	6.55	330x24	600	5/3000	

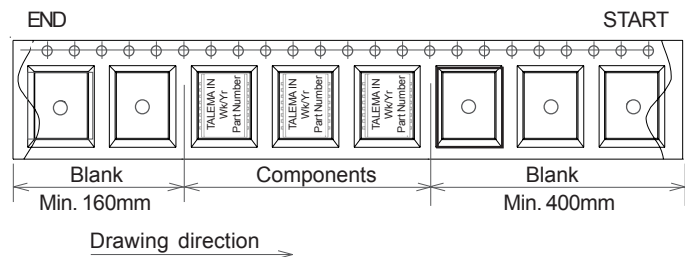


# Tape & Reel Packaging and Dimensions

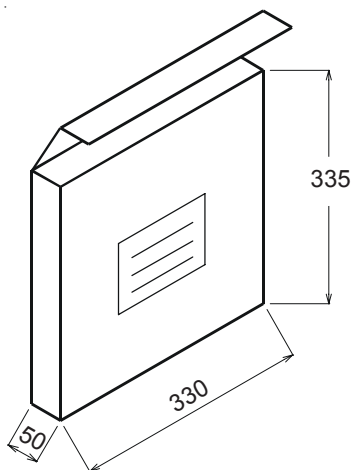
Reel Dimensions (Unit : mm)



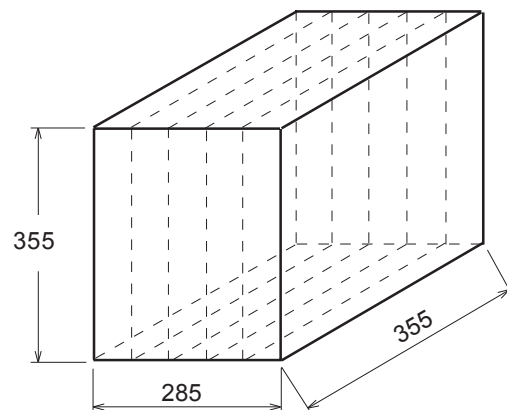
Reel Dimensions in mm				
Type	A	B	C	N
330 x 13	330	13	20.2	100
330 x 24	330	24	20.2	100
330 x 32	330	32	20.2	100
330 x 44	330	44	20.2	100



Inner Carton



Outer Carton



## Authorised Talema Sales Representatives and Distributors

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Fax: Int. + 44 1342 844 552  
sales@deltacomponents.com  
www.deltacomponents.com

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Fax: Int. +573 364 5390  
E-Mail: sales@alfamag.com  
Web Site: www.alfamag.com

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www.rs-components.com

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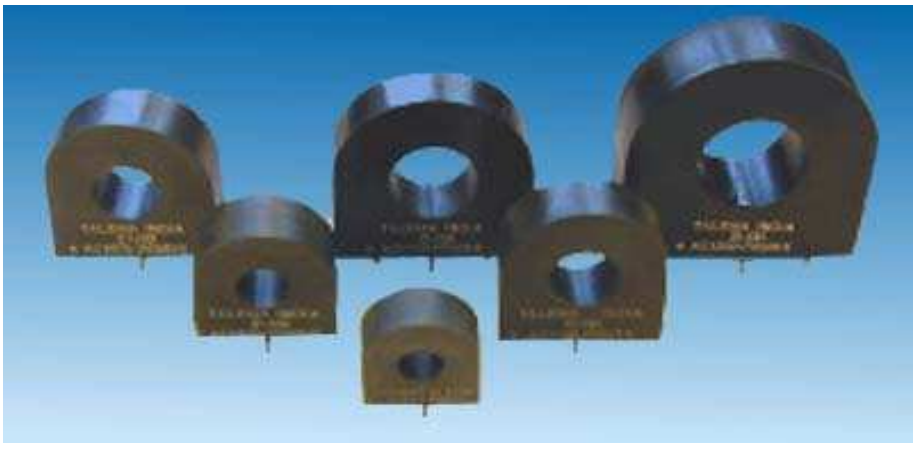
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**Summary**  
**TOTAL PROGRAM**

**SECTION 1**

- TOROIDAL 50/60Hz TRANSFORMERS

**SECTION 2**

- TOROIDAL PCB TRANSFORMERS

**SECTION 3**

- ELEVEN GOOD REASONS TO SELECT TALEMA TOROIDAL TRANSFORMERS

**SECTION 4**

- CHOKES, INDUCTORS AND TRANSFORMERS FOR POWER APPLICATIONS

**SECTION 5**

- COMPONENTS FOR TELECOMMUNICATIONS AND DATA LINE TECHNOLOGY

**SECTION 6**

- CURRENT COMPENSATED EMI NOISE SUPPRESSION CHOKES

**SECTION 7**

- CURRENT SENSE TRANSFORMERS AND INDUCTORS

**SECTION 8**

- LAN MAGNETIC COMPONENTS FOR ETHERNET APPLICATIONS

**SECTION 9**

- T1/E1/CEPT-PRI - T3/DS3/E3/STS-1 FOR TELECOMMUNICATION PRODUCTS

**SECTION 10**

- U INTERFACE TRANSFORMERS FOR COMMUNICATIONS AND DATA LINE TECHNOLOGY

**SECTION 11**

- TRANSFORMERS FOR BROADBAND ACCESS AND FIBRE CHANNEL INTERFACE

