

## *Data Sheet*

Customer: \_\_\_\_\_

Product: Wire Wound Power Inductor (Unshielded) – CSN Series

Size : 0302D/0403D/0604D/0703D,F/0705D,F/1040D/1054D  
1303F/1305F

Issued Date: 30-Sep-2015

Edition: Ver. 1

### Record of change

Date	Ver	Description	Page
30-Sep.-2015	1		

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30-Sep.-2015	30-Sep.-2015	30-Sep.-2015	
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# WIRE WOUND POWER INDUCTOR CSN SERIES

## ■ Features

- \* The CSN series are characterized by miniature surface mount design with high power and high saturation current.
- \* Very low resistance in high-density mounting configurations.
- \* Ideal inductors for DC-DC converters
- \* Provided in embossed carrier tape packaging for use with automatic mounting machines.

## ■ Application

- \* Notebook Computers.
- \* Handheld Communication.
- \* DC/DC Converters, etc.
- \* Power Supply, LCD TV and etc.

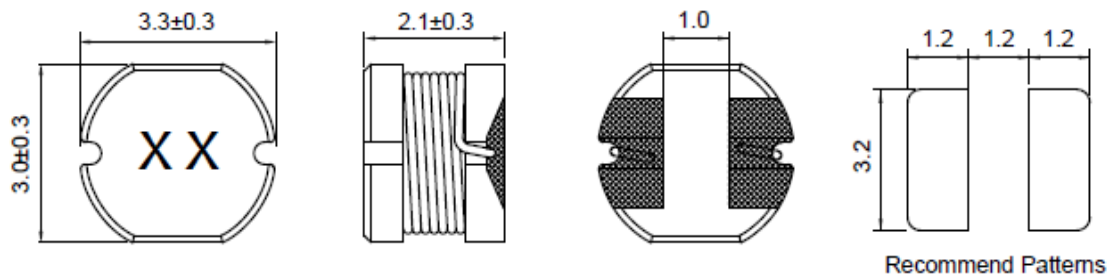
## ■ Part Numbering

CSN	0703	D	4R7	M	□□
SERIES	SIZE	Shape	INDUCTANCE	TOLERANCE	INTERNAL CODE
	0302	D : Round	4R7= 3.3uH	L= ±15%	
	0403	F: Oval	101= 100uH	M= ±20%	
	0604		102= 1000uH	N= ±30%	
	0703				
	0705				
	1040				
	1054				
	1303				
	1305				

## POWER INDUCTORS CSN SERIES

### CSN0302D

#### 1. MECHANICAL DIMENSION



#### 2. ELECTRICAL

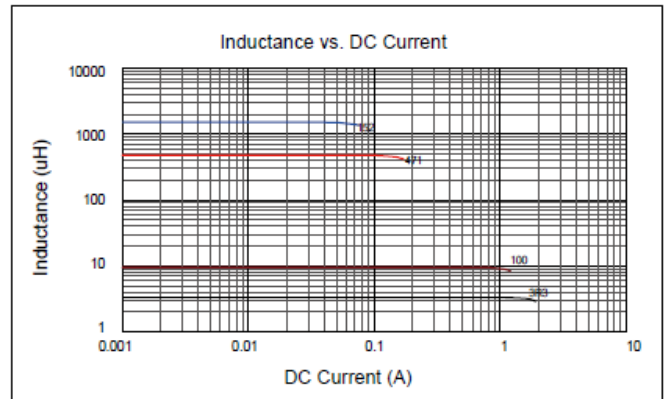
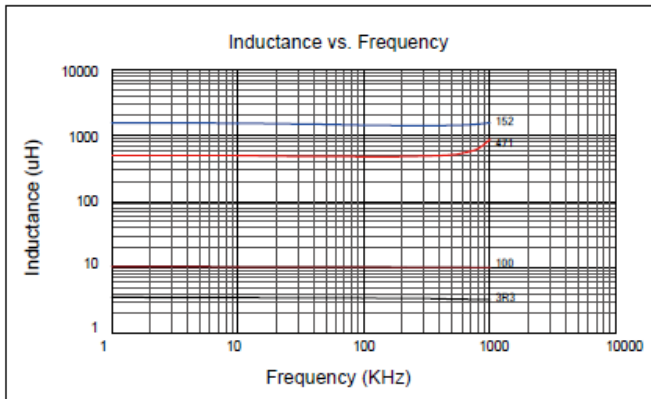
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0302D-1R0M-□□	BA	1.0	100	0.07	2.080
CSN0302D-1R4M-□□	BE	1.4	100	0.09	1.860
CSN0302D-1R8M-□□	BI	1.8	100	0.11	1.800
CSN0302D-2R2M-□□	CC	2.2	100	0.13	1.390
CSN0302D-2R7M-□□	CH	2.7	100	0.14	1.320
CSN0302D-3R3M-□□	DD	3.3	100	0.20	1.250
CSN0302D-3R9M-□□	DJ	3.9	100	0.21	1.200
CSN0302D-4R7M-□□	EH	4.7	100	0.33	1.030
CSN0302D-5R6M-□□	FG	5.6	100	0.35	0.910
CSN0302D-6R8M-□□	GI	6.8	100	0.38	0.850
CSN0302D-8R2M-□□	IC	8.2	100	0.43	0.820
CSN0302D-100M-□□	KA	10	100	0.50	0.740
CSN0302D-120M-□□	QA	12	100	0.65	0.640
CSN0302D-150M-□□	MA	15	100	0.82	0.600
CSN0302D-180M-□□	RA	18	100	0.90	0.540
CSN0302D-220M-□□	LA	22	100	1.14	0.500
CSN0302D-270M-□□	SA	27	100	1.39	0.430
CSN0302D-330M-□□	NA	33	100	1.55	0.400
CSN0302D-390M-□□	PA	39	100	2.15	0.370
CSN0302D-470M-□□	OA	47	100	2.44	0.360

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0302D-560M-□□	UA	56	100	2.68	0.310
CSN0302D-680M-□□	VA	68	100	3.05	0.300
CSN0302D-820M-□□	XA	82	100	3.48	0.280
CSN0302D-221M-□□	LB	220	100	6.30	0.200
CSN0302D-471M-□□	OB	470	100	14.00	0.090

### 3. CHARACTERISTIC CURVE

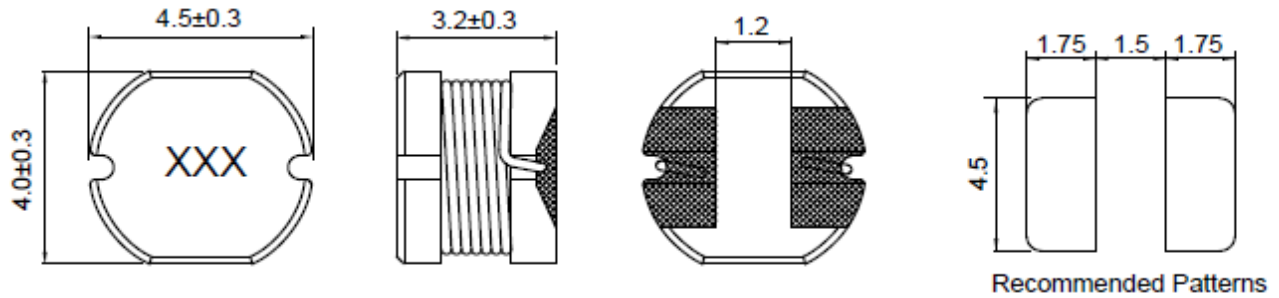


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

**POWER INDUCTORS CSN SERIES**

**CSN0403D**

**1. MECHANICAL DIMENSION**



**2. ELECTRICAL**

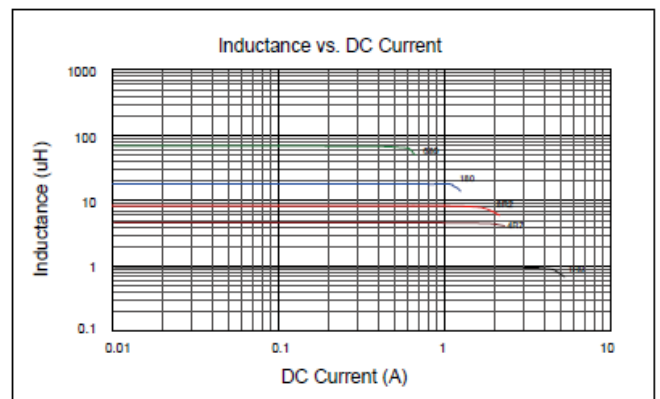
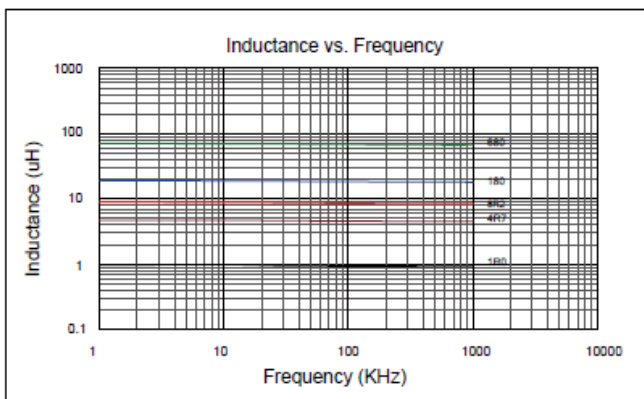
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR (Ω) max	RDC (A)
CSN0403D-1R0M-□□	1R0	1.0	100	0.0487	2.56
CSN0403D-1R4M-□□	1R4	1.4	100	0.0562	2.52
CSN0403D-1R8M-□□	1R8	1.8	100	0.0637	1.95
CSN0403D-2R2M-□□	2R2	2.2	100	0.0712	1.75
CSN0403D-2R7M-□□	2R7	2.7	100	0.0787	1.58
CSN0403D-3R3M-□□	3R3	3.3	100	0.0862	1.44
CSN0403D-3R9M-□□	3R9	3.9	100	0.0937	1.33
CSN0403D-4R7M-□□	4R7	4.7	100	0.1087	1.15
CSN0403D-5R6M-□□	5R6	5.6	100	0.1257	0.99
CSN0403D-6R8M-□□	6R8	6.8	100	0.1312	0.95
CSN0403D-8R2M-□□	8R2	8.2	100	0.1462	0.84
CSN0403D-100M-□□	100	10	100	0.182	1.04
CSN0403D-120M-□□	120	12	100	0.210	0.97
CSN0403D-150M-□□	150	15	100	0.235	0.85
CSN0403D-180M-□□	180	18	100	0.338	0.74
CSN0403D-220M-□□	220	22	100	0.378	0.68
CSN0403D-270M-□□	270	27	100	0.522	0.62
CSN0403D-330K-□□	330	33	100	0.540	0.56
CSN0403D-390K-□□	390	39	100	0.587	0.52
CSN0403D-470K-□□	470	47	100	0.844	0.44

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0403D-560K-□□	560	56	100	0.937	0.42
CSN0403D-680K-□□	680	68	100	1.117	0.37
CSN0403D-331K-□□	331	330	10	3.350	0.10

### 3. CHARACTERISTIC CURVE

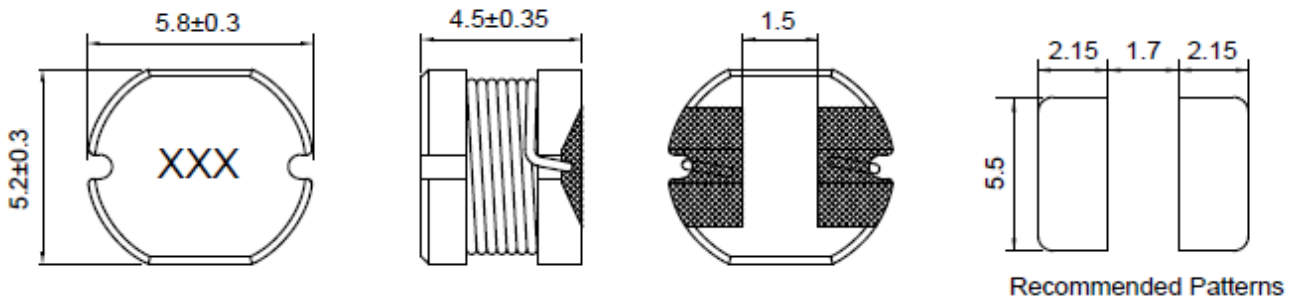


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN0604D

#### 1. MECHANICAL DIMENSION



#### 2. ELECTRICAL

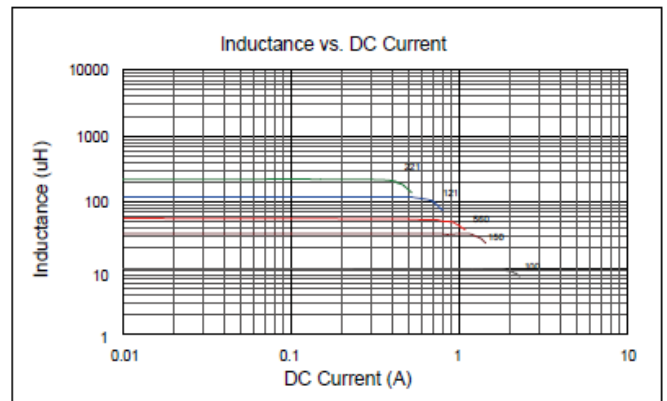
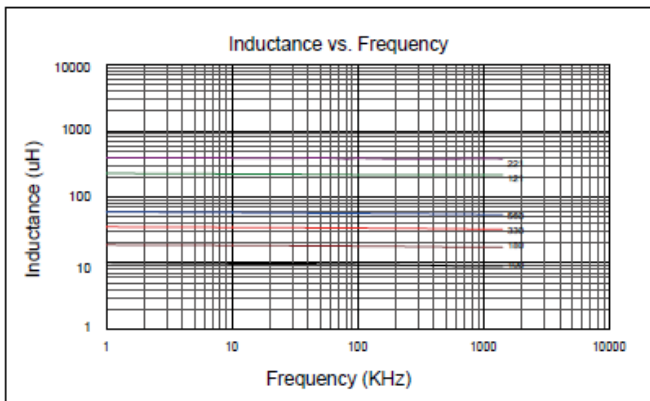
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0604D-1R0M-□□	1R0	1.0	100	0.015	4.00
CSN0604D-1R9M-□□	1R9	1.9	100	0.039	3.00
CSN0604D-2R2M-□□	2R2	2.2	100	0.020	4.00
CSN0604D-3R3M-□□	3R3	3.3	100	0.021	3.00
CSN0604D-4R7M-□□	4R7	4.7	100	0.028	2.00
CSN0604D-6R8M-□□	6R8	6.8	100	0.042	2.00
CSN0604D-100M-□□	100	10	100	0.10	1.44
CSN0604D-120M-□□	120	12	100	0.12	1.40
CSN0604D-150M-□□	150	15	100	0.14	1.30
CSN0604D-180M-□□	180	18	100	0.15	1.23
CSN0604D-220M-□□	220	22	100	0.18	1.11
CSN0604D-270M-□□	270	27	100	0.20	0.97
CSN0604D-330L-□□	330	33	100	0.23	0.90
CSN0604D-390L-□□	390	39	100	0.32	0.80
CSN0604D-470L-□□	470	47	100	0.37	0.72
CSN0604D-560K-□□	560	56	100	0.42	0.68
CSN0604D-680K-□□	680	68	100	0.46	0.61
CSN0604D-820K-□□	820	82	100	0.60	0.58
CSN0604D-101K-□□	101	100	10	0.70	0.52
CSN0604D-121K-□□	121	120	10	0.93	0.48

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0604D-151K-□□	151	150	10	1.10	0.40
CSN0604D-181K-□□	181	180	10	1.38	0.38
CSN0604D-221K-□□	221	220	10	1.57	0.35
CSN0604D-271K-□□	271	270	10	1.85	0.30

### 3. CHARACTERISTIC CURVE



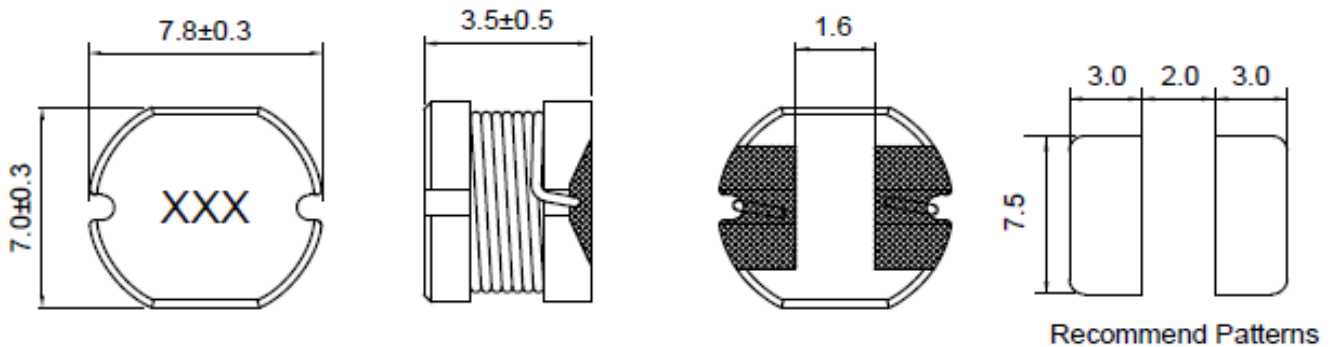
- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1



## POWER INDUCTORS CSN SERIES

### CSN0703D

#### 1. MECHANICAL DIMENSION



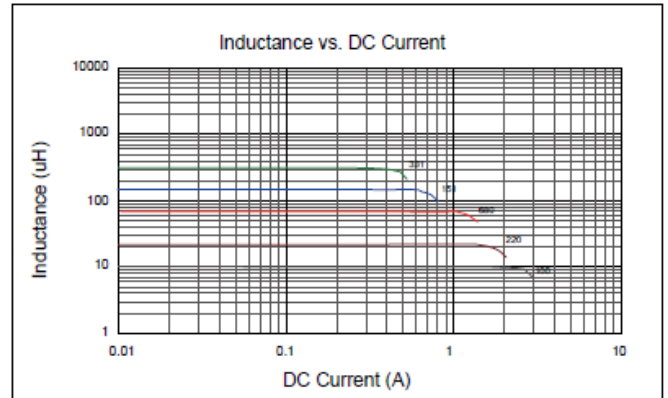
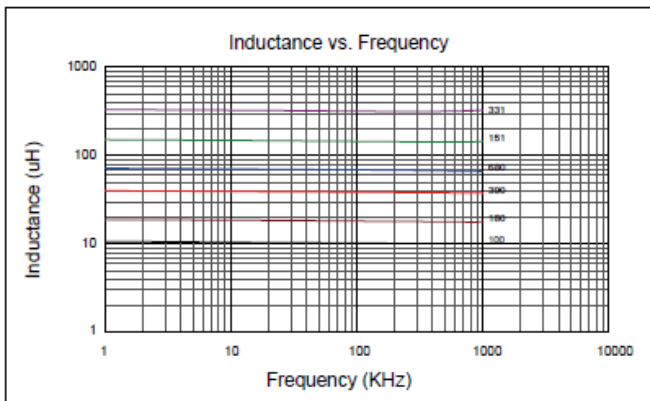
#### 2. ELECTRICAL

unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0703D-100M-□□	100	10	100	0.0803	1.44
CSN0703D-120M-□□	120	12	100	0.0897	1.39
CSN0703D-150M-□□	150	15	100	0.104	1.24
CSN0703D-180M-□□	180	18	100	0.111	1.12
CSN0703D-220M-□□	220	22	100	0.129	1.07
CSN0703D-270M-□□	270	27	100	0.153	0.94
CSN0703D-330M-□□	330	33	100	0.170	0.85
CSN0703D-390M-□□	390	39	100	0.217	0.74
CSN0703D-470M-□□	470	47	100	0.252	0.68
CSN0703D-560K-□□	560	56	100	0.282	0.64
CSN0703D-680K-□□	680	68	100	0.332	0.59
CSN0703D-820K-□□	820	82	100	0.406	0.54
CSN0703D-101K-□□	101	100	10	0.481	0.51
CSN0703D-121K-□□	121	120	10	0.536	0.49
CSN0703D-151K-□□	151	150	10	0.755	0.40
CSN0703D-181K-□□	181	180	10	1.022	0.36
CSN0703D-221K-□□	221	220	10	1.200	0.31
CSN0703D-271K-□□	271	270	10	1.306	0.29
CSN0703D-331K-□□	331	330	10	1.495	0.28

## POWER INDUCTORS CSN SERIES

### 3. CHARACTERISTIC CURVE

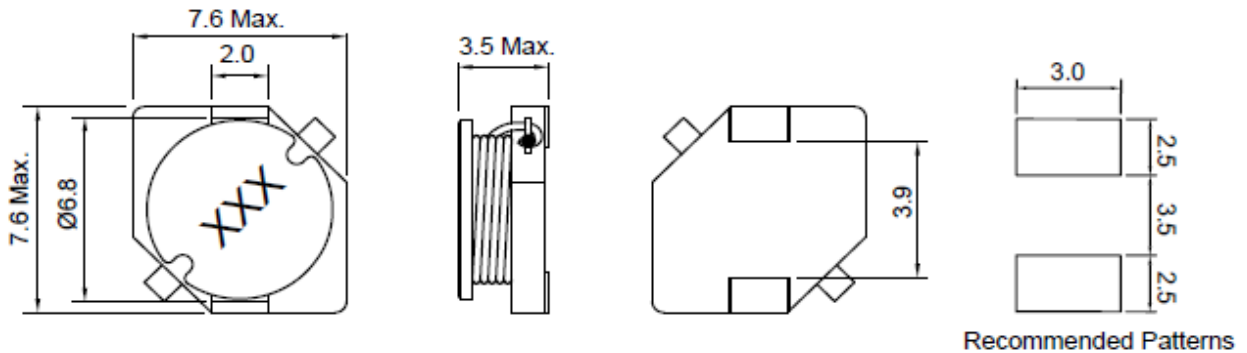


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN0703F

#### 1. MECHANICAL DIMENSION



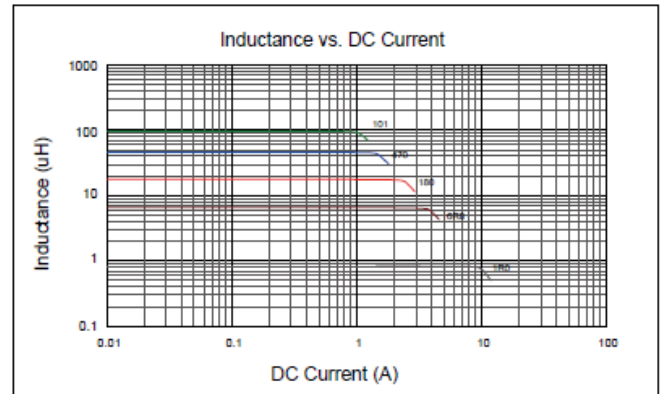
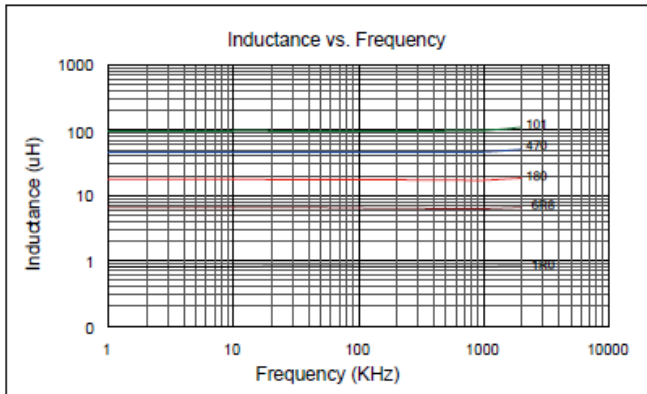
#### 2. ELECTRICAL

unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0703F-1R0M-□□	102	1.0	100	0.022	2.88
CSN0703F-1R5M-□□	152	1.5	100	0.026	2.67
CSN0703F-1R8M-□□	182	1.8	100	0.056	2.50
CSN0703F-2R2M-□□	222	2.2	100	0.032	2.40
CSN0703F-3R3M-□□	332	3.3	100	0.041	2.08
CSN0703F-4R7M-□□	472	4.7	100	0.049	1.92
CSN0703F-6R8M-□□	682	6.8	100	0.067	1.60
CSN0703F-100M-□□	103	10.0	100	0.085	1.41
CSN0703F-120M-□□	123	12.0	100	0.100	1.28
CSN0703F-150M-□□	153	15.0	100	0.130	1.12
CSN0703F-180M-□□	183	18.0	100	0.160	1.00
CSN0703F-220M-□□	223	22.0	100	0.180	0.93
CSN0703F-270M-□□	273	27.0	100	0.240	0.80
CSN0703F-330M-□□	333	33.0	100	0.290	0.72
CSN0703F-390M-□□	393	39.0	100	0.340	0.66
CSN0703F-470M-□□	473	47.0	100	0.410	0.59
CSN0703F-560M-□□	563	56.0	100	0.480	0.55
CSN0703F-680M-□□	683	68.0	100	0.600	0.49
CSN0703F-820M-□□	823	82.0	100	0.710	0.44
CSN0703F-101M-□□	104	100.0	100	0.950	0.38

## POWER INDUCTORS CSN SERIES

### 3. CHARACTERISTIC CURVE

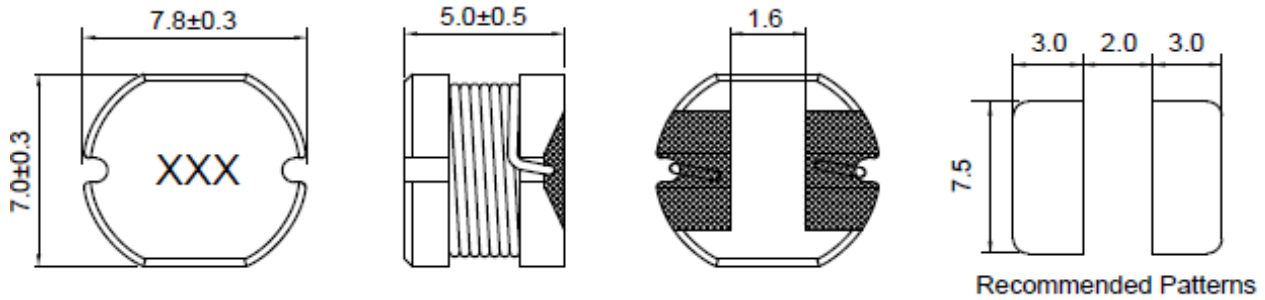


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

**POWER INDUCTORS CSN SERIES**

**CSN0705D**

**1. MECHANICAL DIMENSION**



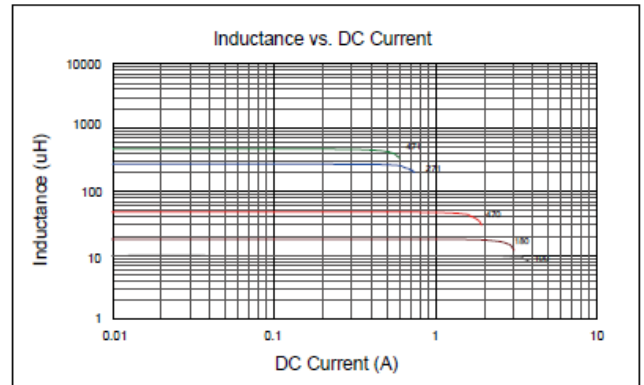
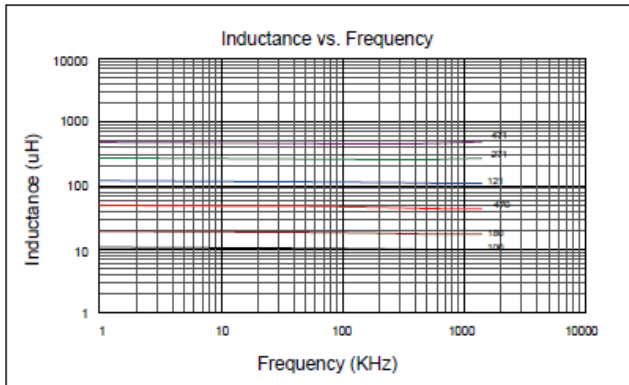
**2. ELECTRICAL**

unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0705D-6R8K-□□	6R8	6.8	100	0.058	3.00
CSN0705D-8R2K-□□	8R2	8.2	100	0.06	2.40
CSN0705D-100K-□□	100	10	100	0.07	2.30
CSN0705D-120K-□□	120	12	100	0.08	2.00
CSN0705D-150K-□□	150	15	100	0.09	1.80
CSN0705D-180K-□□	180	18	100	0.10	1.60
CSN0705D-220K-□□	220	22	100	0.11	1.50
CSN0705D-270K-□□	270	27	100	0.12	1.30
CSN0705D-330K-□□	330	33	100	0.13	1.20
CSN0705D-390K-□□	390	39	100	0.16	1.10
CSN0705D-470K-□□	470	47	100	0.18	1.10
CSN0705D-560K-□□	560	56	100	0.24	0.94
CSN0705D-680K-□□	680	68	100	0.28	0.85
CSN0705D-820K-□□	820	82	100	0.37	0.78
CSN0705D-101K-□□	101	100	10	0.43	0.72
CSN0705D-121K-□□	121	120	10	0.47	0.66
CSN0705D-151K-□□	151	150	10	0.64	0.58
CSN0705D-181K-□□	181	180	10	0.71	0.51
CSN0705D-221K-□□	221	220	10	0.96	0.49
CSN0705D-271K-□□	271	270	10	1.11	0.42
CSN0705D-331K-□□	331	330	10	1.26	0.40
CSN0705D-391K-□□	391	390	10	1.77	0.36
CSN0705D-471K-□□	471	470	10	1.96	0.34

## POWER INDUCTORS CSN SERIES

### 3. CHARACTERISTIC CURVE

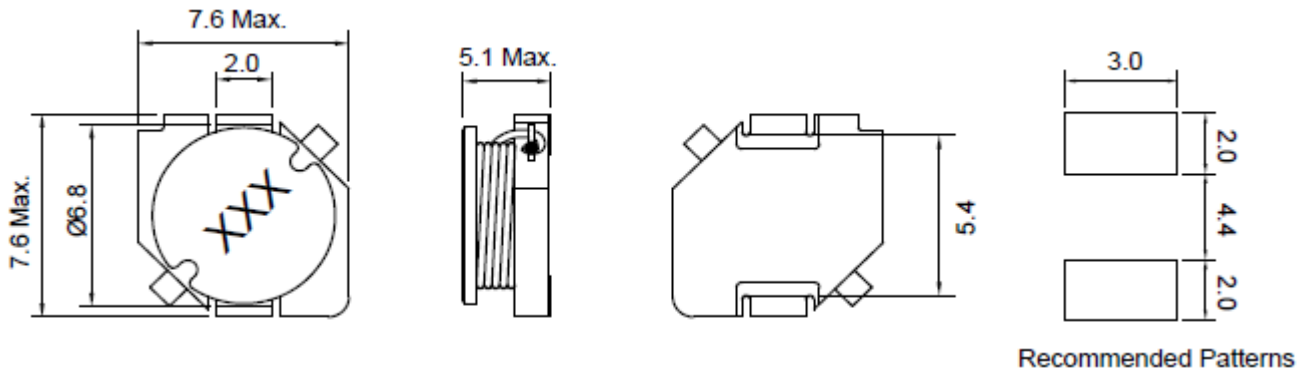


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^{\circ}\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN0705F

#### 1. MECHANICAL DIMENSION



#### 2. ELECTRICAL

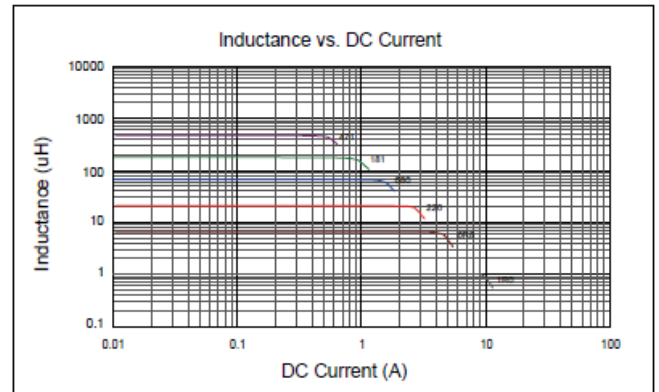
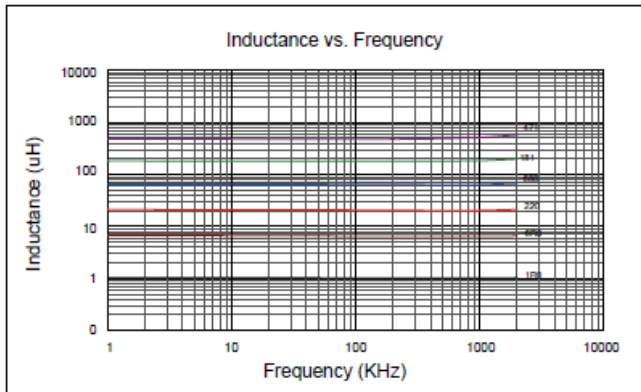
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0705F-1R0M-□□	102	1.0	100	0.023	2.88
CSN0705F-1R5M-□□	152	1.5	100	0.028	2.56
CSN0705F-2R2M-□□	222	2.2	100	0.032	2.36
CSN0705F-3R3M-□□	332	3.3	100	0.038	2.16
CSN0705F-4R7M-□□	472	4.7	100	0.049	1.88
CSN0705F-6R8M-□□	682	6.8	100	0.060	1.68
CSN0705F-100M-□□	103	10	100	0.070	1.56
CSN0705F-120M-□□	123	12	100	0.080	1.44
CSN0705F-150M-□□	153	15	100	0.090	1.36
CSN0705F-180M-□□	183	18	100	0.100	1.28
CSN0705F-220M-□□	223	22	100	0.120	1.17
CSN0705F-270M-□□	273	27	100	0.140	1.07
CSN0705F-330M-□□	333	33	100	0.160	1.00
CSN0705F-390M-□□	393	39	100	0.190	0.91
CSN0705F-470M-□□	473	47	100	0.220	0.84
CSN0705F-560M-□□	563	56	100	0.290	0.72
CSN0705F-680M-□□	683	68	100	0.340	0.66
CSN0705F-820M-□□	823	82	100	0.460	0.58
CSN0705F-101M-□□	104	100	100	0.550	0.51
CSN0705F-121K-□□	124	120	100	0.670	0.42

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN0705F-151K-□□	154	150	100	0.900	0.37
CSN0705F-181K-□□	184	180	100	1.050	0.35
CSN0705F-221K-□□	224	220	100	1.350	0.29
CSN0705F-271K-□□	274	270	100	1.550	0.28
CSN0705F-331K-□□	334	330	100	2.050	0.23
CSN0705F-391K-□□	394	390	100	2.300	0.215
CSN0705F-471K-□□	474	470	100	2.600	0.195

### 3. CHARACTERISTIC CURVE



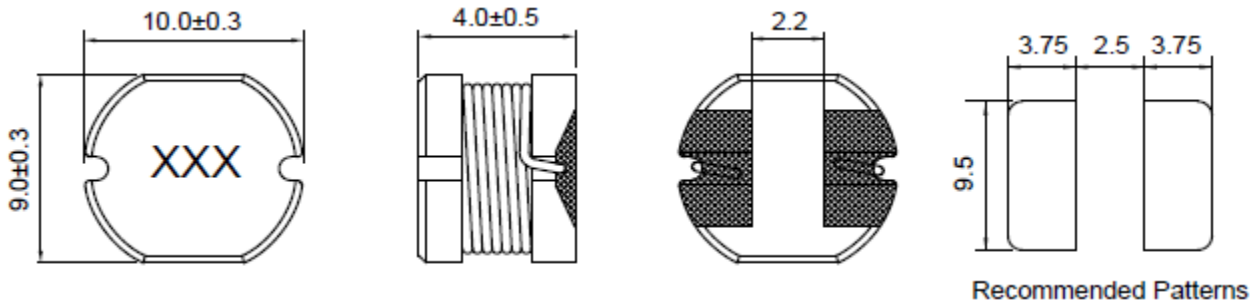
- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1



## POWER INDUCTORS CSN SERIES

### CSN1040D

#### 1. MECHANICAL DIMENSION



#### 2. ELECTRICAL

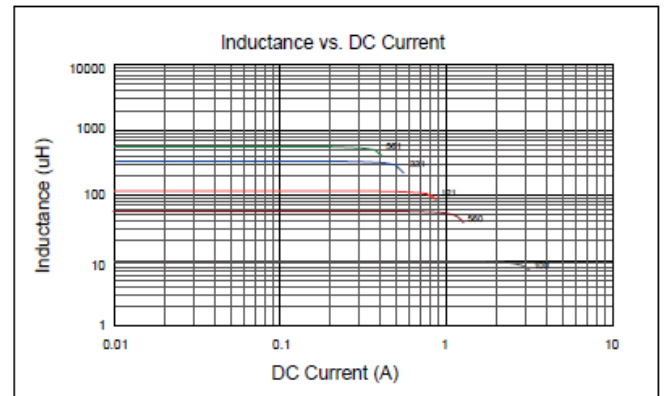
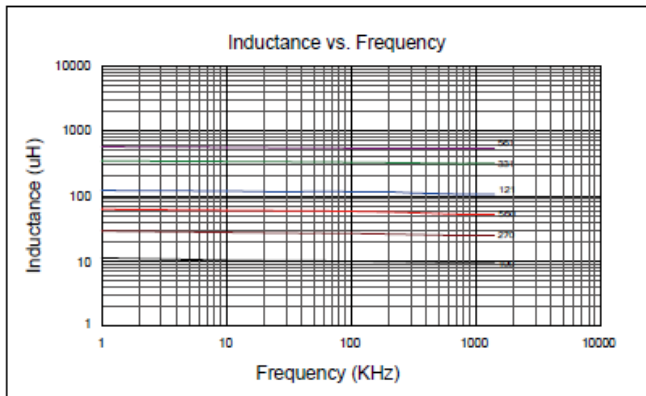
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) <sub>max</sub>	RDC (A)
CSN1040D-100M-□□	100	10	100	0.053	2.38
CSN1040D-120M-□□	120	12	100	0.061	2.13
CSN1040D-150M-□□	150	15	100	0.070	1.87
CSN1040D-180M-□□	180	18	100	0.081	1.73
CSN1040D-220M-□□	220	22	100	0.088	1.60
CSN1040D-270M-□□	270	27	100	0.100	1.44
CSN1040D-330M-□□	330	33	100	0.120	1.26
CSN1040D-390M-□□	390	39	100	0.151	1.20
CSN1040D-470M-□□	470	47	100	0.170	1.10
CSN1040D-560K-□□	560	56	100	0.199	1.01
CSN1040D-680K-□□	680	68	100	0.223	0.91
CSN1040D-820K-□□	820	82	100	0.252	0.85
CSN1040D-101K-□□	101	100	10	0.344	0.74
CSN1040D-121K-□□	121	120	10	0.396	0.69
CSN1040D-151K-□□	151	150	10	0.544	0.61
CSN1040D-181K-□□	181	180	10	0.621	0.56
CSN1040D-221K-□□	221	220	10	0.721	0.53
CSN1040D-271K-□□	271	270	10	0.949	0.45
CSN1040D-331K-□□	331	330	10	1.100	0.42
CSN1040D-391K-□□	391	390	10	1.245	0.38
CSN1040D-471K-□□	471	470	10	1.526	0.35

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN1040D-561K-□□	561	560	10	1.904	0.32
CSN1040D-102K-□□	102	1000	1	3.800	0.16

### 3. CHARACTERISTIC CURVE

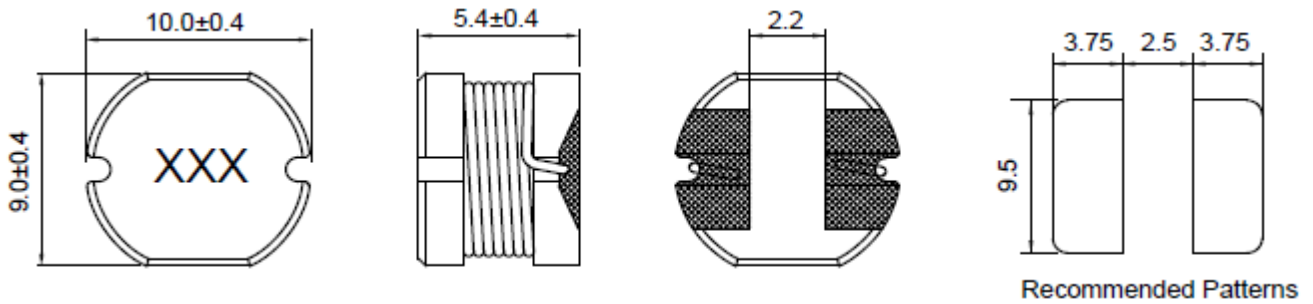


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN1054D

#### 1. MECHANICAL DIMENSION



#### 2. ELECTRICAL

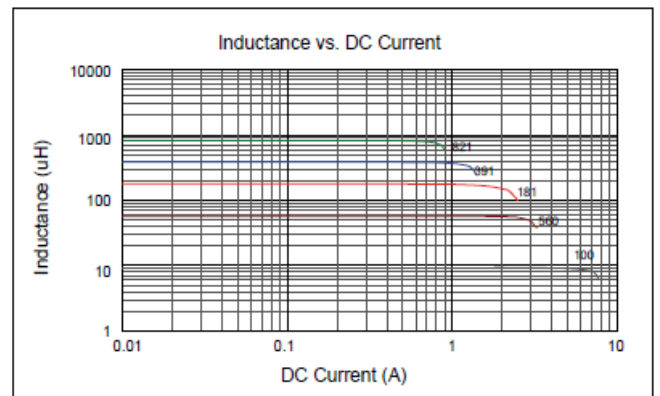
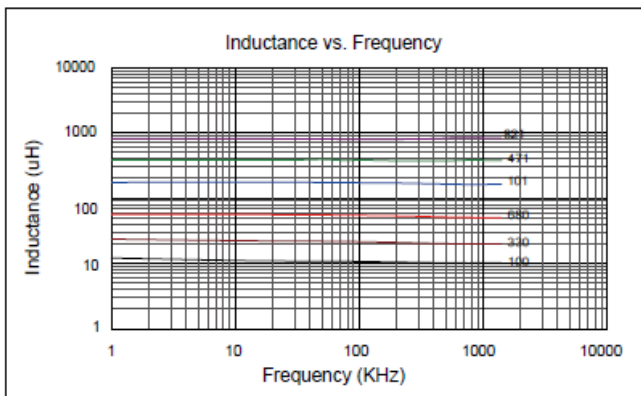
unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN1054D-100M-□□	100	10	100	0.06	2.60
CSN1054D-120M-□□	120	12	100	0.07	2.45
CSN1054D-150M-□□	150	15	100	0.08	2.27
CSN1054D-180M-□□	180	18	100	0.09	2.15
CSN1054D-220M-□□	220	22	100	0.10	1.95
CSN1054D-270M-□□	270	27	100	0.11	1.76
CSN1054D-330M-□□	330	33	100	0.12	1.50
CSN1054D-390M-□□	390	39	100	0.14	1.37
CSN1054D-470K-□□	470	47	100	0.17	1.28
CSN1054D-560K-□□	560	56	100	0.19	1.17
CSN1054D-680K-□□	680	68	100	0.22	1.11
CSN1054D-820K-□□	820	82	100	0.25	1.00
CSN1054D-101K-□□	101	100	10	0.35	0.97
CSN1054D-121K-□□	121	120	10	0.40	0.89
CSN1054D-151K-□□	151	150	10	0.47	0.78
CSN1054D-181K-□□	181	180	10	0.63	0.72
CSN1054D-221K-□□	221	220	10	0.73	0.66
CSN1054D-271K-□□	271	270	10	0.97	0.57
CSN1054D-331K-□□	331	330	10	1.15	0.52
CSN1054D-391K-□□	391	390	10	1.30	0.48
CSN1054D-471K-□□	471	470	10	1.48	0.42

## POWER INDUCTORS CSN SERIES

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ ) max	RDC (A)
CSN1054D-561K-□□	561	560	10	1.90	0.33
CSN1054D-681K-□□	681	680	10	2.25	0.28
CSN1054D-821K-□□	821	820	10	2.55	0.24

### 3. CHARACTERISTIC CURVE

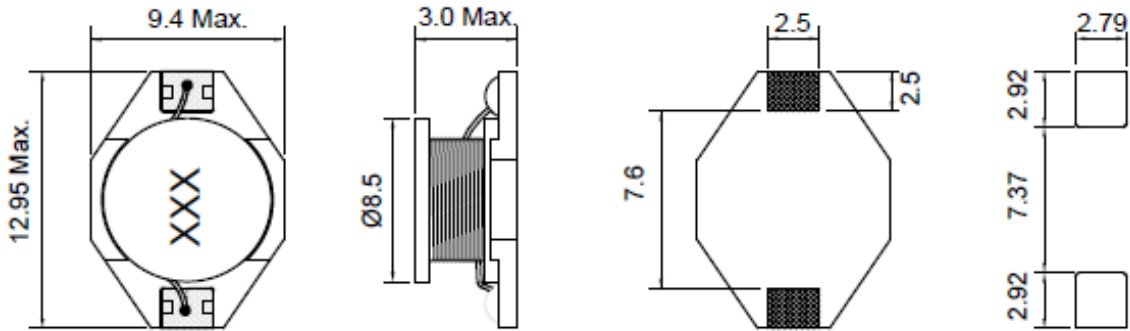


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN1303F

#### 1. MECHANICAL DIMENSION



Recommended Patterns

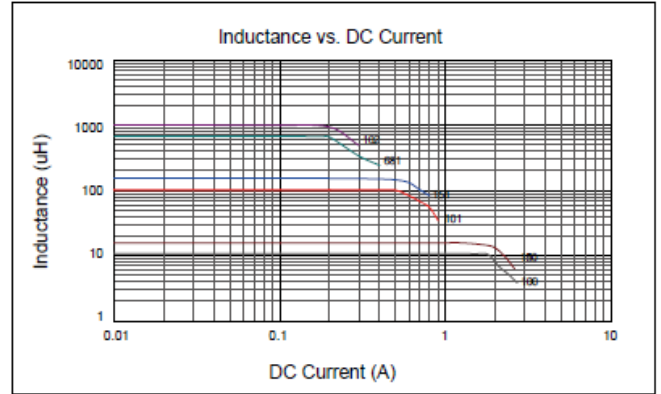
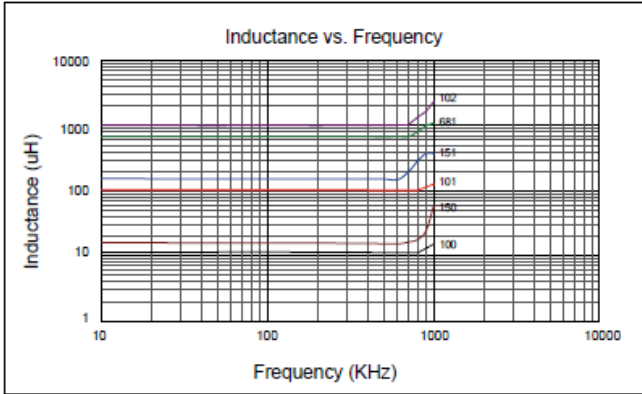
#### 2. ELECTRICAL

unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ )	RDC (A)
CSN1303F-100M-□□	103	10	100	0.11	2.0
CSN1303F-150M-□□	153	15	100	0.15	1.5
CSN1303F-220M-□□	223	22	100	0.23	1.3
CSN1303F-330M-□□	333	33	100	0.30	1.1
CSN1303F-470M-□□	473	47	100	0.39	0.8
CSN1303F-680M-□□	683	68	100	0.66	0.7
CSN1303F-101M-□□	104	100	100	0.84	0.6
CSN1303F-151M-□□	154	150	100	1.20	0.5
CSN1303F-221M-□□	224	220	100	1.90	0.4
CSN1303F-331M-□□	334	330	100	2.70	0.3
CSN1303F-471M-□□	474	470	100	4.00	0.2
CSN1303F-681M-□□	684	680	100	5.30	0.1
CSN1303F-102M-□□	105	1000	100	8.40	0.05

## POWER INDUCTORS CSN SERIES

### 3. CHARACTERISTIC CURVE

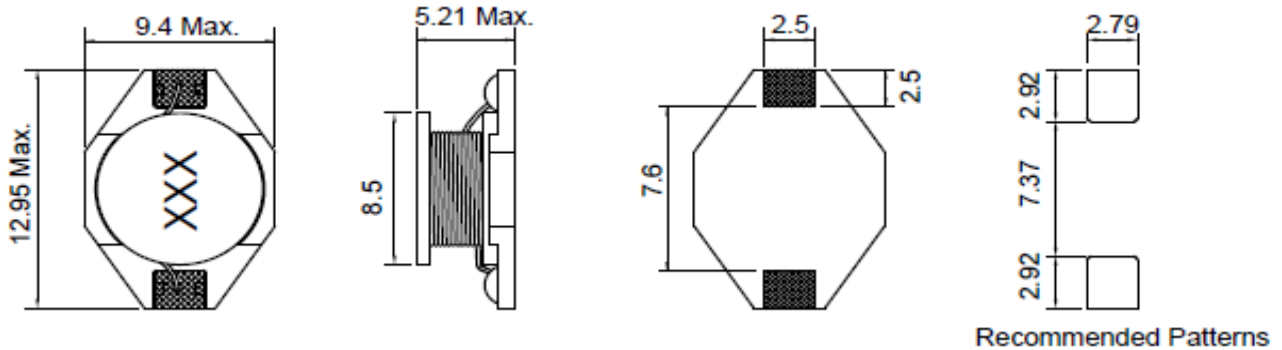


- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^{\circ}\text{C}$
- MSL : LEVEL 1

## POWER INDUCTORS CSN SERIES

### CSN1305F

#### 1. MECHANICAL DIMENSION



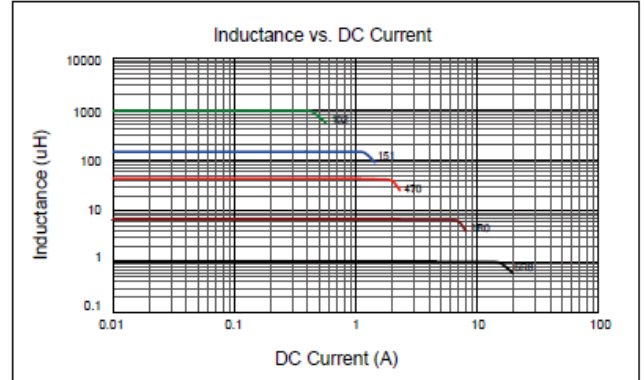
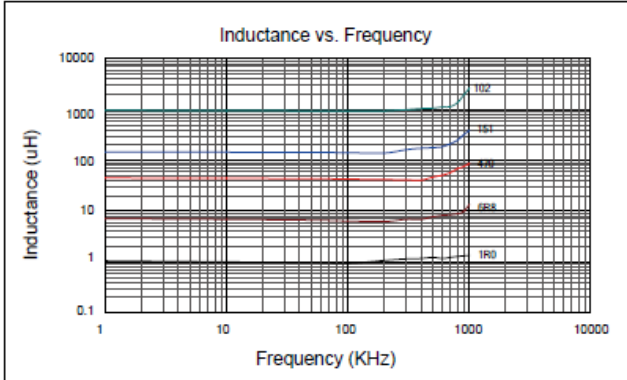
#### 2. ELECTRICAL

unit : mm

Part Number	Marking	Inductance (uH)	Test Freq.(KHz)	DCR ( $\Omega$ )	RDC (A)
CSN1305F-1R0M-□□	1R0	1.0	100	0.009	6.80
CSN1305F-1R5M-□□	1R5	1.5	100	0.010	6.40
CSN1305F-2R2M-□□	2R2	2.2	100	0.012	6.10
CSN1305F-3R3M-□□	3R3	3.3	100	0.015	5.40
CSN1305F-4R7M-□□	4R7	4.7	100	0.018	4.80
CSN1305F-6R8M-□□	6R8	6.8	100	0.027	4.40
CSN1305F-100M-□□	100	10	100	0.038	3.90
CSN1305F-150M-□□	150	15	100	0.046	3.10
CSN1305F-220M-□□	220	22	100	0.085	2.70
CSN1305F-330M-□□	330	33	100	0.100	2.10
CSN1305F-470M-□□	470	47	100	0.140	1.80
CSN1305F-680M-□□	680	68	100	0.200	1.50
CSN1305F-101M-□□	101	100	100	0.280	1.30
CSN1305F-151M-□□	151	150	100	0.400	1.00
CSN1305F-221M-□□	221	220	100	0.610	0.80
CSN1305F-331M-□□	331	330	100	1.020	0.60
CSN1305F-471M-□□	471	470	100	1.270	0.50
CSN1305F-681M-□□	681	680	100	2.020	0.40

## POWER INDUCTORS CSN SERIES

### 3. CHARACTERISTIC CURVE



- Tolerance: M=±20%, L=±15%, K=±10%
- Operating Temperature Range: -30°C to +100°C (Including self-generated heat)
- Storage Temp : -40 to +85°C
- Inductance measured using the HP4284A ; Chroma 3302+1320.
- DCR measured using the 16502 milli-ohm meter.
- Inductance drop no more than 10% of initial value at rated current, temperature rises  $\Delta t < 40^\circ\text{C}$
- MSL : LEVEL 1



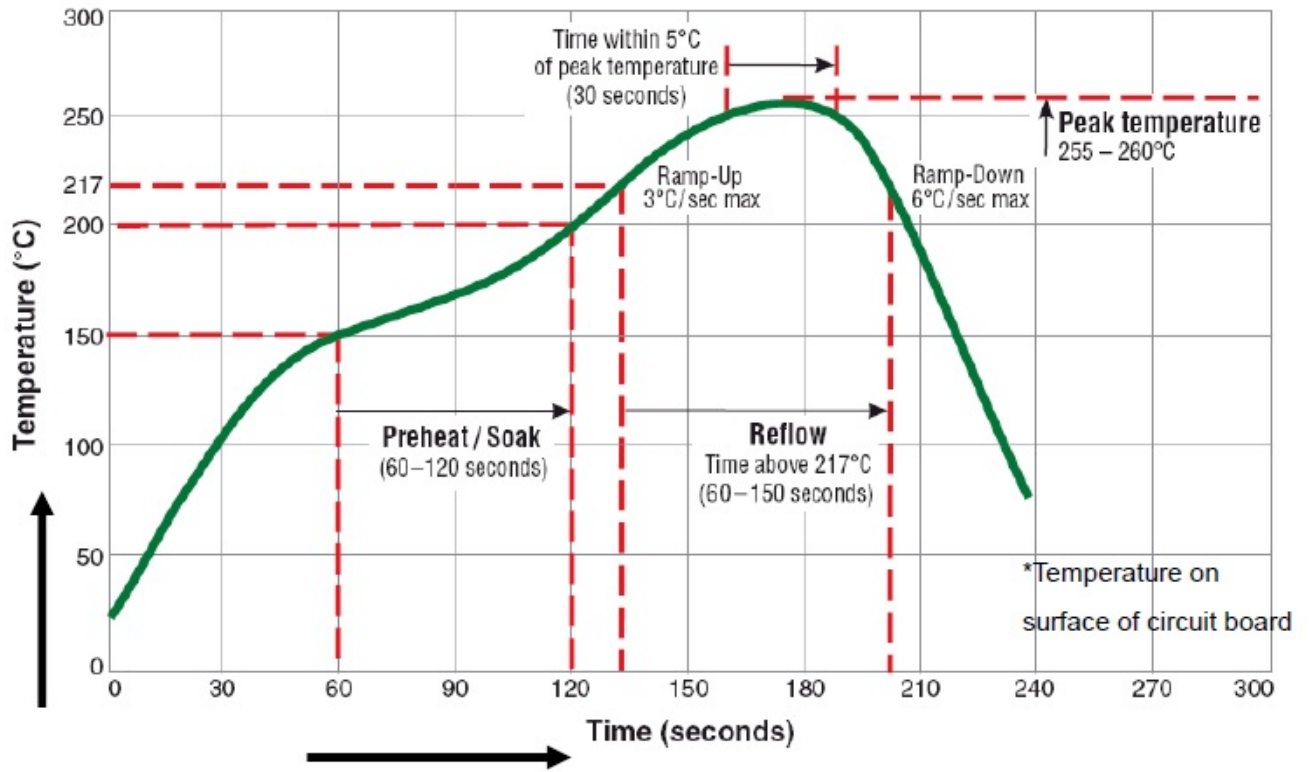
# WIRE WOUND POWER INDUCTOR CSN SERIES

## ■ Reliability Performance

Test Item	Test Condition	Standard
Salty Spray Test	Chamber temperature 35°C, the concentration of salt spray 5% (Total 24 hours)	MIL-STD-202G Method 101E Test Condition C
Humidity Test	+40°C ± 2°C, humidity of 90% ±5% (Total 96 hours)	MIL-STD-202G Method 103B Test Condition B
High Temperature Storage	1. Temperature : 125, 100, 85, 70, 55, 40, 30°C 2. Test time: 2, 16, 72, 96 hours	IEC 68-2 Test Condition B
Low Temperature Storage	1. Temperature : -40, -25, -10°C 2. Test time: 2, 16, 72, 96 hours	IEC 68-2 Test Condition A
Thermal Shock	+125°C ± 5°C (30 minutes) ~ -40°C ± 5°C (30 minutes), temperature switch time : 5 minutes (total 50 cycles)	MIL-STD-202G Method 107G Test Condition B-2
Life Test	+100°C ± 2°C ( 1000 hours)	MIL-STD-202G Method 108A Test Condition D
Vibration Test	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours)	MIL-STD-202G Method 201A
Solder Heat Resistance Test	DIP: Soak in 260°C solder pot, stay 10 sec. Reflow: Keep 250±5°C, 30 ± 5 sec in air, temperature ramp : +1~4 sec Above 83°C, must keep 90~120 sec.	MIL-STD-202G Method 201F
Terminal Pull Strength Test	1/2, 1, 2, 3, 5, 10 pound, as products terminal feature.	MIL-STD-202G Method 211A Test Condition A
Solder Ability Test	Soak in 245°C, solder pot of 3 sec., PAD must have at least 95% coverage.	J-STD-003B
Terminal Push Strength Test	No special requirements : 5N thrust to maintain 10 sec.	JIS C5321:1997

# WIRE WOUND POWER INDUCTOR CSN SERIES

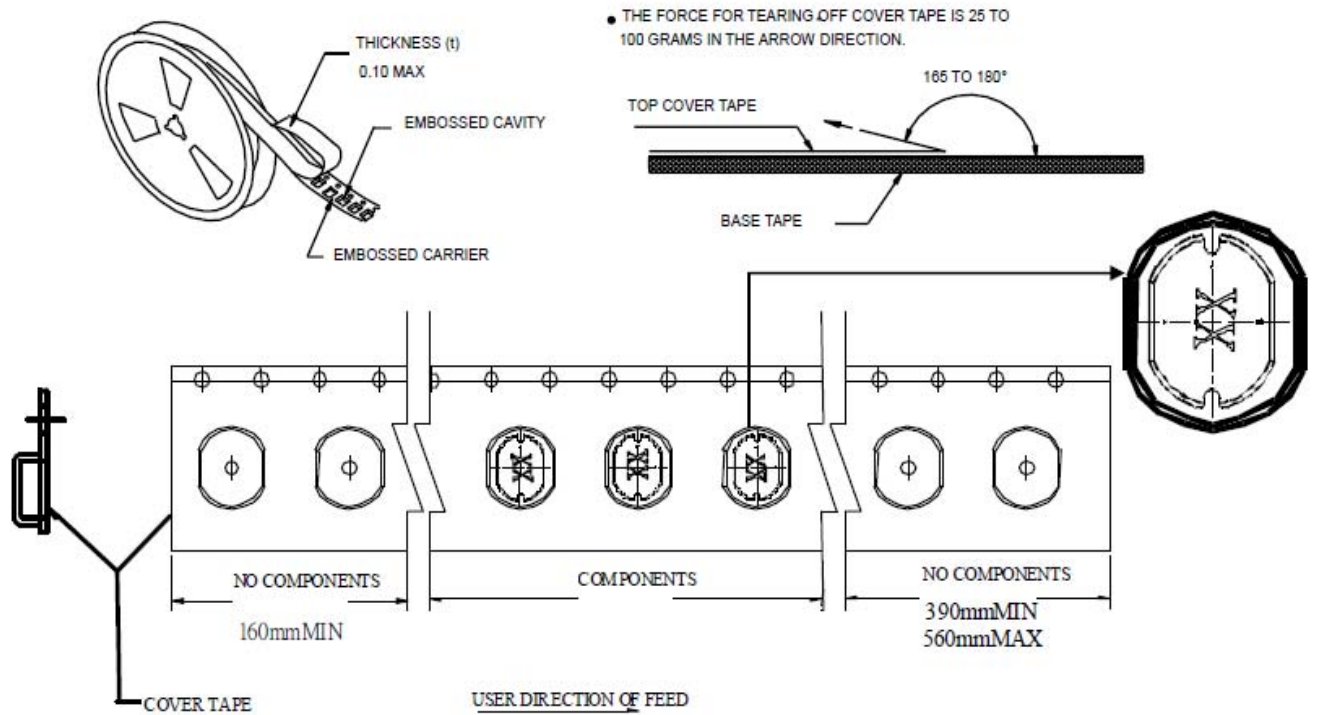
## ■ RoHS Reflow Soldering Profile



# WIRE WOUND POWER INDUCTOR CSN SERIES

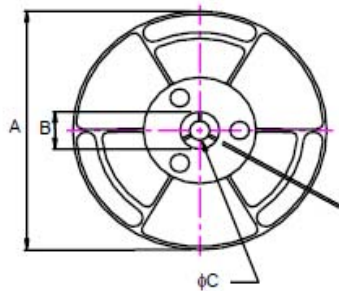
## ■ Tape & Reel Packaging Dimension

### D SHAPE

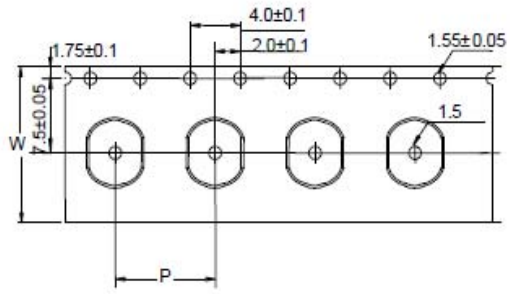
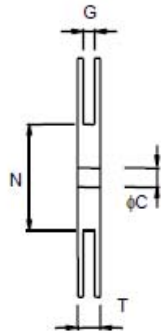


#### ■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

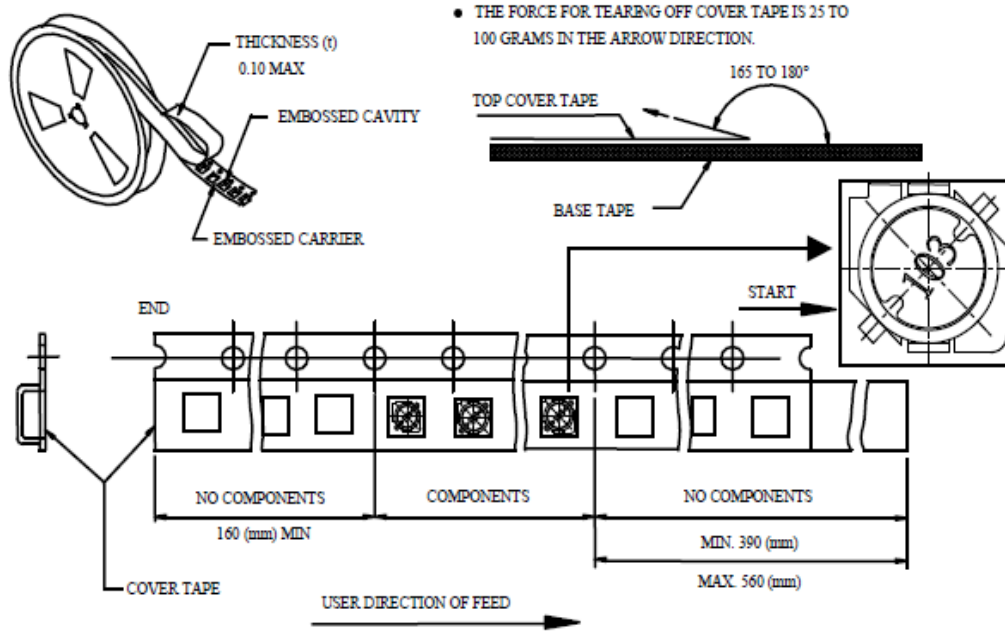


#### ■ DIMENSIONS OF CARRIER TAPE (mm)



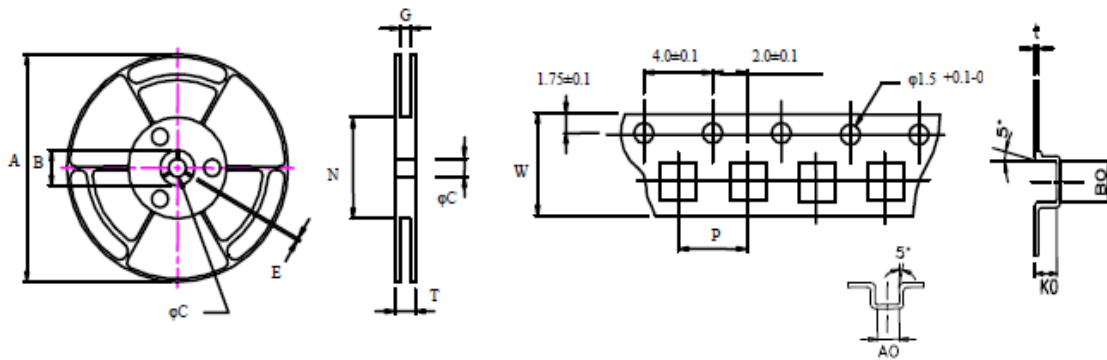
Size	A <sub>max</sub>	B <sub>±0.8</sub>	C <sub>±0.5</sub>	G <sub>+2-1</sub>	N <sub>min</sub>	P <sub>±0.1</sub>	T <sub>max</sub>	W <sub>±0.3</sub>	t <sub>±0.1</sub>	A <sub>0±0.1</sub>	B <sub>0±0.1</sub>	K <sub>0±0.1</sub>
0302D	180	50	13	12.5	80	8.0	18.5	12.0	0.35	3.3	3.7	2.5
0403D	360	21	13	12.4	80	8.0	18.4	12.0	0.35	4.2	4.6	3.6
0604D	360	21	13	12.4	80	12.0	18.4	12.0	0.35	5.4	6.3	5.0
0703D	340	21	13	16.4	80	12.0	22.4	16.0	0.35	7.2	8.0	4.3
0705D	340	21	13	16.4	80	12.0	22.4	16.0	0.35	7.2	8.0	5.5
1040D	360	21	13	24.4	100	16.0	30.4	24.0	0.35	10.2	9.3	4.5
1054D	360	21	13	24.4	100	16.0	30.4	24.0	0.35	10.2	9.3	5.8

# WIRE WOUND POWER INDUCTOR CSN SERIES



■ CARRIER TAPE REELS (mm)  
MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



## F SHAPE

Size	A <sub>max</sub>	B <sub>±0.8</sub>	C <sub>±0.5</sub>	G <sub>+2-1</sub>	N <sub>min</sub>	P <sub>±0.1</sub>	T <sub>max</sub>	W <sub>±0.3</sub>	t <sub>±0.1</sub>	A <sub>0±0.1</sub>	B <sub>0±0.1</sub>	K <sub>0±0.1</sub>
0703F	340	21	13	16.5	80	12.0	22.4	16.0	0.35	7.6	7.6	3.7
0705F	340	21	13	16.5	80	12.0	22.4	16.0	0.35	7.6	7.6	5.3
1303F	340	21	13	24.5	100	16.0	30.4	24.0	0.35	9.7	13.4	3.2
1305F	340	21	13	24.5	100	16.0	30.4	24.0	0.35	9.7	13.4	5.5