

## *Data Sheet*

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

Product: Wire Wound Power Inductor (Shielded) – CSM Series \_\_\_\_\_

Size : 2012/2410/2412/3010/3012/4010/4012/4018/5010/5012/  
\_\_\_\_\_ 5020/5040/6010/6012/6020/6028/6045/8040 \_\_\_\_\_

Issued Date: 14-Apr.-2023 \_\_\_\_\_

Edition: Ver. 3 \_\_\_\_\_

### Record of change

Date	Ver.	Description	Page
7-Aug.-2015	1		
12-May-2016	2	Add soldering profile	28
14-Apr.-2023	3	Revised CSMH3012 type	10

### **HITANO ENTERPRISE CORP.**

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Prepared by	Checked by	Approved by	Accepted by (customer)
7-Aug.-2015	7-Aug.-2015	7-Aug.-2015	
<i>Andy Hsu</i>	<i>Hwa Wu</i>	<i>Hwa Wu</i>	

# WIRE WOUND POWER INDUCTOR CSM SERIES

## ■ Features

- \* The CSM□ series are characterized by low profile, low DC resistance, and high current handling capacities.
- \* Because they are magnetically shielded, these parts can be used in high-density mounting configurations.
- \* Flat bottom surface ensures secure, reliable mounting.
- \* Provided in embossed carrier tape packaging for use with automatic mounting machines.

## ■ Application

- \* Personal Digital Assistant.
- \* LCD Display etc.
- \* DC/DC Converters, etc.
- \* Other Various Electronic Appliance.

## ■ Part Numbering

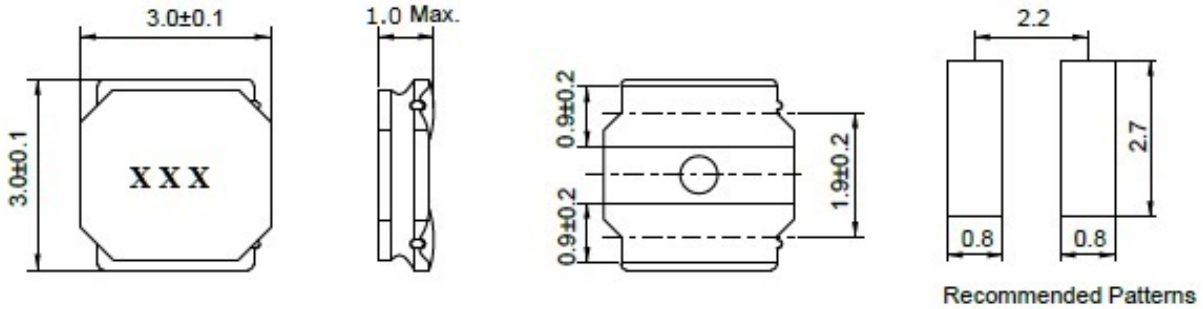
CSM SERIES	□ TYPE	2012 SIZE	T PACKAGE	4R7 INDUCTANCE	M TOLERANCE	□□ INTERNAL CODE
	□:Standard	2012	T= Tape&Reel	4R7= 3.3uH	M= ±20%	
	V: V Type	2410		101= 100uH	N= ±30%	
	S: S Type	2412		152= 1500uH		
	H: H Type	3010				
		3012				
		4010				
		4012				
		4018				
		5010				
		5020				
		5040				
		6010				
		6012				
		6020				
		6028				
		6045				
		8040				

**POWER INDUCTORS CSM SERIES**

**CSM3010**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>
CSM3010T-1R0N	1R0	1.0	0.078	1700	1525
CSM3010T-1R5N	1R5	1.5	0.096	1400	1470
CSM3010T-2R2M	2R2	2.2	0.114	1250	1270
CSM3010T-3R3M	3R3	3.3	0.192	900	1130
CSM3010T-4R7M	4R7	4.7	0.228	850	925
CSM3010T-6R8M	6R8	6.8	0.360	660	710
CSM3010T-100M	100	10	0.540	530	630
CSM3010T-150M	150	15	0.888	420	475
CSM3010T-220M	220	22	1.176	360	430
CSM3010T-330M	330	33	1.860	280	345
CSM3010T-470M	470	47	2.400	240	270

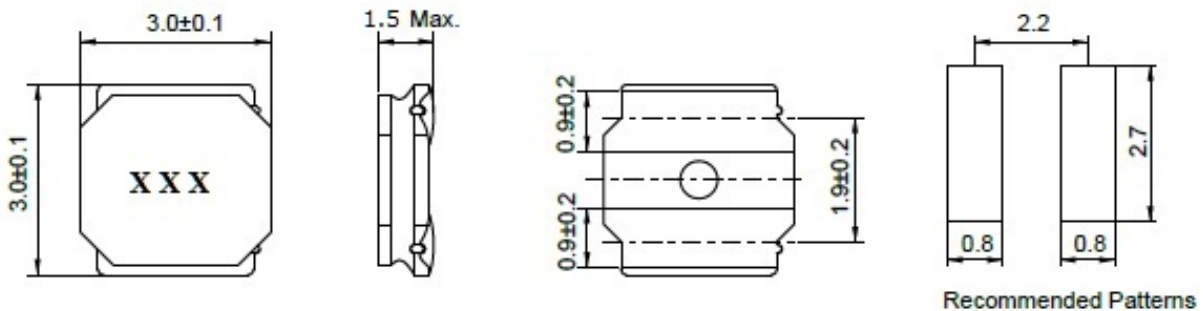
- Operating Temp : -25 to +120°C (including self-generated heat)
- Storage Temp : -40 to +85°C
- Rated current (mA): smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
 I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value. (at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 I<sub>dc2</sub>: The value of current causes a 40°C temperature rise. (at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4286A at 1MHz
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

**POWER INDUCTORS CSM SERIES**

**CSM3015**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

PART NO.	Marking	L(uH)	DCR(Ω) ±20%	RDC(mA) Idc1	RDC(mA) Idc2
CSM3015T-1R0N	1R0	1.0	0.048	2100	2100
CSM3015T-1R5N	1R5	1.5	0.066	1800	1900
CSM3015T-2R2M	2R2	2.2	0.072	1480	1600
CSM3015T-3R3M	3R3	3.3	0.112	1210	1450
CSM3015T-4R7M	4R7	4.7	0.136	1080	1250
CSM3015T-6R8M	6R8	6.8	0.211	900	900
CSM3015T-100M	100	10	0.276	750	870
CSM3015T-120M	120	12	0.416	700	680
CSM3015T-150M	150	15	0.422	580	650
CSM3015T-220M	220	22	0.622	470	550
CSM3015T-330M	330	33	0.959	390	450
CSM3015T-470M	470	47	1.406	320	400
CSM3015T-101M	101	47	2.920	230	250

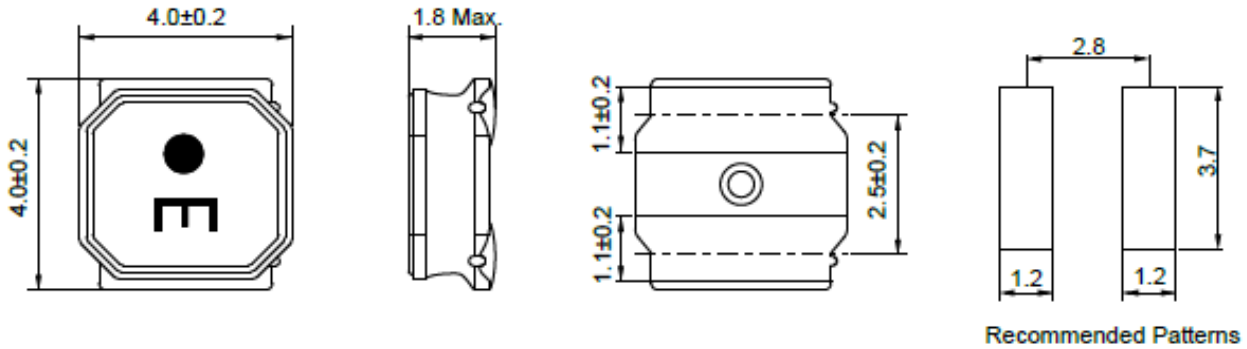
- Operating Temp : -25 to +120°C (including self-generated heat)
- Storage Temp : -40 to +85°C
- Rated current (mA): smaller value of either Idc1 or Idc2.  
 Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4286A at 1MHz
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

**POWER INDUCTORS CSM SERIES**

**CSM4018**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

PART NO.	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSM4018T-470M	47	0.65	570	420	10.0
CSM4018T-680M	68	1.00	470	320	8.30
CSM4018T-101M	100	1.50	400	270	6.50
CSM4018T-151M	150	2.50	310	220	5.50
CSM4018T-221M	220	4.00	270	170	4.00

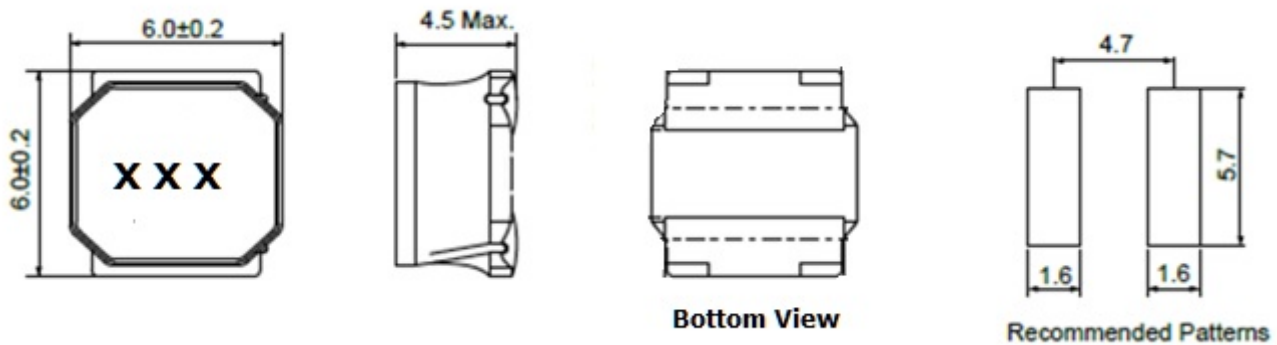
- Operating Temp : -25 to +125°C (including self-generated heat)
- Storage Temp : -40 to +85°C
- Rated current (mA): smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value. (at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise. (at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSM SERIES

### CSM6045

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR(mΩ) ±20%	RDC(mA) Idc1	RDC(mA) Idc2
CSM6045T-1R0N	1R0	1.0	18.20	8500	6000
CSM6045T-1R3N	1R3	1.3	20.80	8000	5200
CSM6045T-1R8N	1R8	1.8	23.40	7000	5000
CSM6045T-2R3N	2R3	2.3	27.30	6000	4500
CSM6045T-3R0N	3R0	3.0	31.20	5000	4000
CSM6045T-4R5N	4R5	4.5	40.30	4000	3700
CSM6045T-6R3N	6R3	6.3	49.40	3800	3500
CSM6045T-100M	100	10	61.10	3000	2800
CSM6045T-150M	150	15	100.1	2300	2300
CSM6045T-220M	220	22	149.5	1900	1700
CSM6045T-330M	330	33	188.5	1500	1500
CSM6045T-470M	470	47	286.0	1300	1300
CSM6045T-680M	680	68	429.0	1000	1000
CSM6045T-820M	820	82	533.0	900	900
CSM6045T-101M	101	100	650.0	800	800

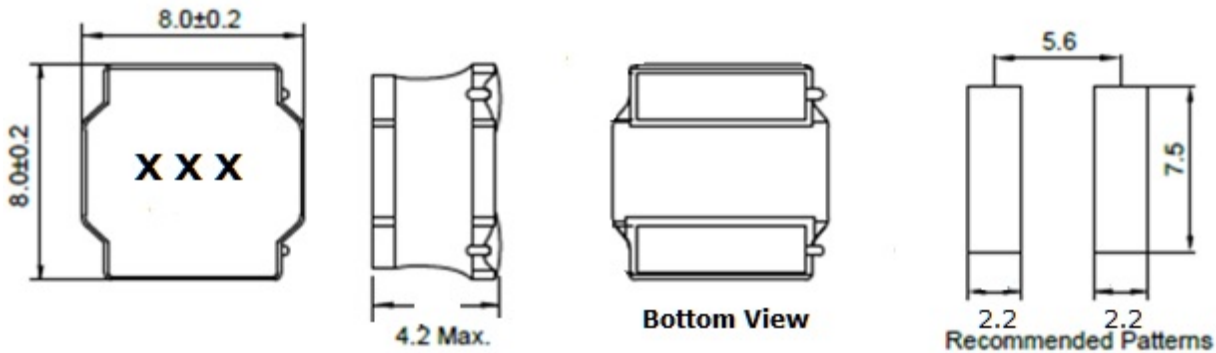
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either Idc1 or Idc2.  
 Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

**POWER INDUCTORS CSM SERIES**

**CSM8040**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

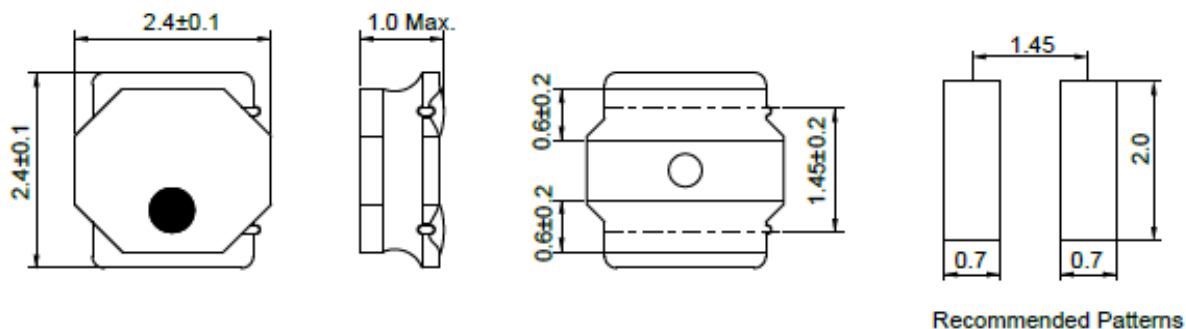
PART NO.	Marking	L(uH)	DCR(mΩ) ±20%	RDC(mA) Idc1	RDC(mA) Idc2
CSM8040T-R90N	0R9	0.9	8.50	12000	8000
CSM8040T-1R4N	1R4	1.4	11.0	10800	7800
CSM8040T-2R0N	2R0	2.0	13.2	9000	7400
CSM8040T-2R2N	2R2	2.2	15.6	7500	6000
CSM8040T-3R3N	3R3	3.3	19.5	7000	5100
CSM8040T-3R6N	3R6	3.6	19.5	6000	4900
CSM8040T-4R7N	4R7	4.7	23.4	5500	4600
CSM8040T-6R8N	6R8	6.8	31.2	5000	4400
CSM8040T-100M	100	10	45.0	4000	3800
CSM8040T-150M	150	15	61.1	3000	2800
CSM8040T-220M	220	22	85.8	2800	2600
CSM8040T-330M	330	33	120.0	2000	1700
CSM8040T-470M	470	47	176.8	1900	1750
CSM8040T-680M	680	68	246.0	1700	1450
CSM8040T-101M	101	100	377.0	1100	1100

- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either Idc1 or Idc2.  
 Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMH SERIES

### CSMH2410

#### 1. MECHANICAL DIMENSION



unit : mm

#### 2. ELECTRICAL

PART NO.	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) Idc1	RDC(mA) Idc2	SRF MHz min
CSMH2410T-R68N	0.68	0.06	2200	1570	120
CSMH2410T-1R0N	1.0	0.07	1800	1410	106
CSMH2410T-1R5M	1.5	0.11	1550	160	94
CSMH2410T-2R2M	2.2	0.15	1290	970	77
CSMH2410T-3R3M	3.3	0.22	1000	770	56
CSMH2410T-4R7M	4.7	0.29	880	670	50
CSMH2410T-6R8M	6.8	0.41	750	570	43
CSMH2410T-100M	10	0.69	550	450	32
CSMH2410T-150M	15	1.02	470	370	27
CSMH2410T-220M	22	1.47	390	300	22

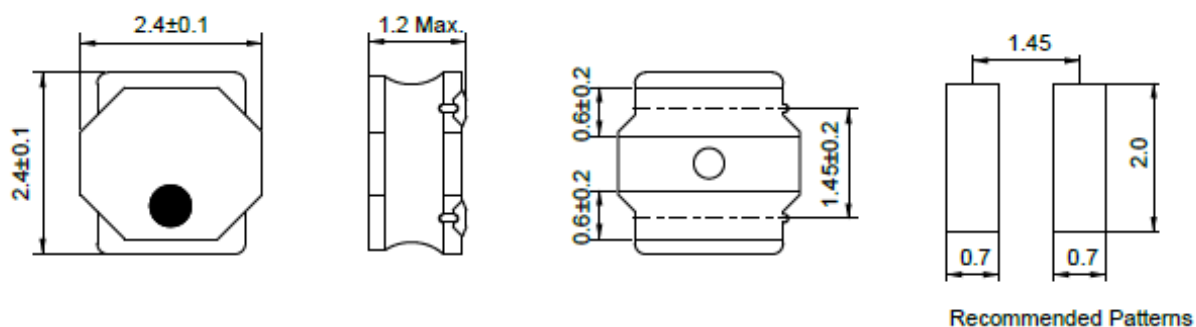
- Operating Temp : -25 to +120°C
- Storage Temp : -40 to +85°C
- Rated current (mA): smaller value of either Idc1 or Idc2
- Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C
- Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1



## POWER INDUCTORS CSMH SERIES

### CSMH2412

#### 1. MECHANICAL DIMENSION



unit : mm

#### 2. ELECTRICAL

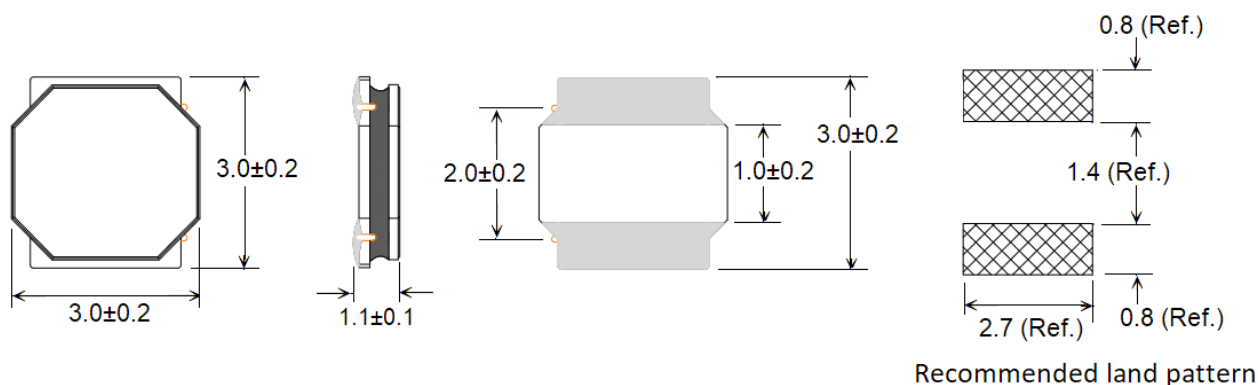
PART NO.	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) Idc1	RDC(mA) Idc2	SRF MHz min
CSMH2412T-R47N	0.47	0.050	2900	2100	180
CSMH2412T-1R0N	1.0	0.077	2350	1300	101
CSMH2412T-1R5M	1.5	0.100	2100	1150	89
CSMH2412T-2R2N	2.2	0.140	1700	1000	72
CSMH2412T-3R3M	3.3	0.225	1400	750	56
CSMH2412T-4R7M	4.7	0.300	1150	650	45
CSMH2412T-6R8M	6.8	0.420	950	550	34
CSMH2412T-100M	10	0.600	810	450	29

- Operating Temp : -25 to +120°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either Idc1 or Idc2
- Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C
- Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMH SERIES

### CSMH3012

#### 1. MECHANICAL DIMENSION (Unit:mm)



#### 2. SPECIFICATION

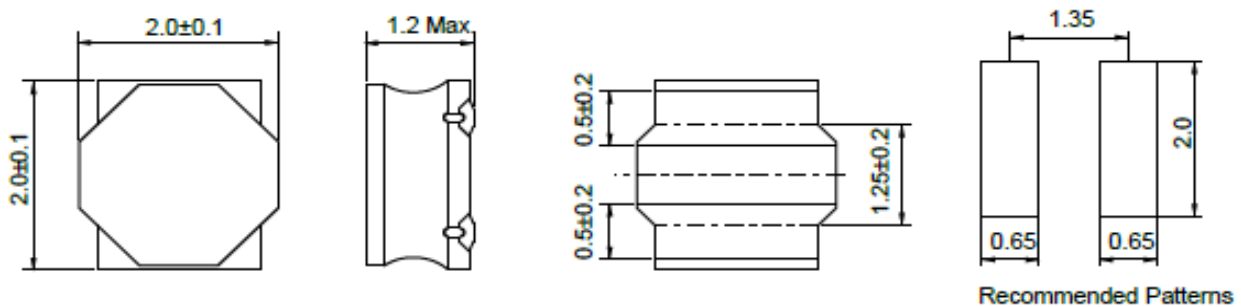
PART NO.	Inductance (uH)	Test Freq. (KHz)	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
CSMH3012T-1R0N	1.0	100	57.6	2.20	1.71
CSMH3012T-2R2N	2.2	100	90.0	1.50	1.37
CSMH3012T-3R3M	3.3	100	120.0	1.20	1.21
CSMH3012T-4R7M	4.7	100	156.0	1.00	1.06
CSMH3012T-6R8M	6.8	100	228.0	0.85	0.89
CSMH3012T-100M	10	100	324.0	0.73	0.72
CSMH3012T-150M	15	100	540.0	0.53	0.57
CSMH3012T-220M	22	100	756.0	0.50	0.50

- Inductance Tolerance : M:  $\pm 20\%$  , N:  $\pm 30\%$
- The Operating Temperature Range :  $-40 \sim +125^{\circ}\text{C}$  (Including self-temperature rise)
- Rated current :  
Isat: For Inductance drop 30% from its value without current.  
Irms: The value of D.C current when the temperature rise is  $\Delta T \leq 40^{\circ}\text{C}$  ( $T_a = 25^{\circ}\text{C}$ )
- Test Instrument : WAYNE KERR 3206B & 3265B LCR METER

## POWER INDUCTORS CSMS SERIES

### CSMS2012

#### 1. MECHANICAL DIMENSION



unit : mm

#### 2. ELECTRICAL

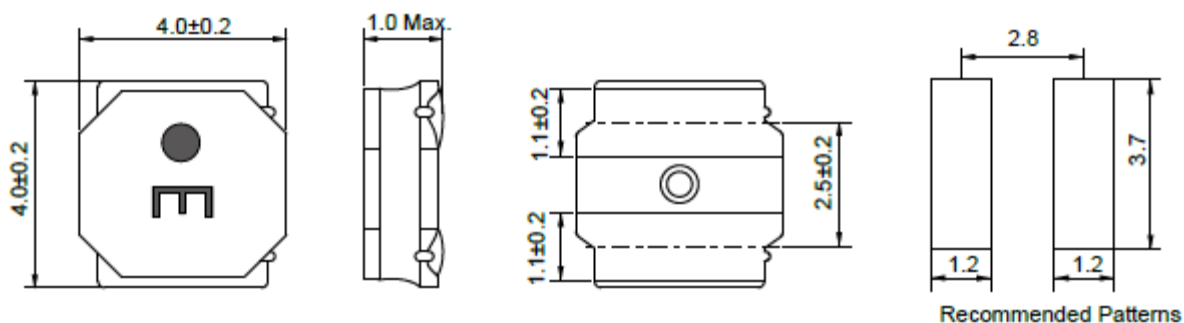
PART NO.	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>
CSMS2012T-1R0N	1.0	0.070	2050	1850
CSMS2012T-1R5N	1.5	0.090	1800	1650
CSMS2012T-2R2M	2.2	0.107	1500	1500
CSMS2012T-3R3M	3.3	0.190	1150	1100
CSMS2012T-4R7M	4.7	0.241	1050	1000

- Operating Temp : -25 to +120°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>
- I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C
- I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS4010

#### 1. MECHANICAL DIMENSION



unit : mm

#### 2. ELECTRICAL

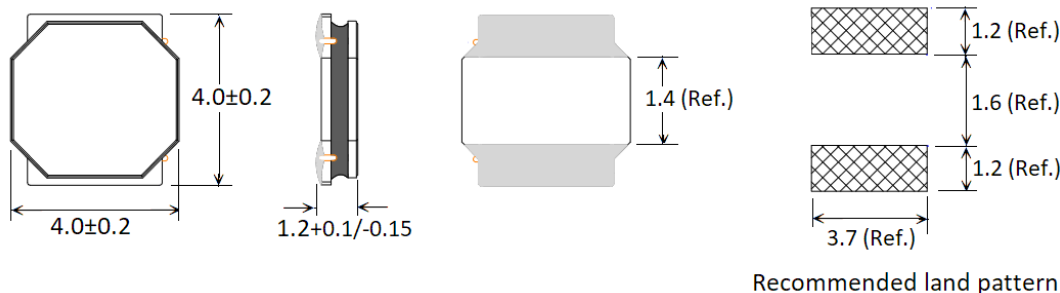
PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS4010T-1R0N	A	1.0	0.056	2000	1900	116
CSMS4010T-2R2M	C	2.2	0.085	1200	1500	73
CSMS4010T-3R3M	E	3.3	0.100	1100	1400	58
CSMS4010T-4R7M	H	4.7	0.140	950	1200	47
CSMS4010T-6R8M	I	6.8	0.200	800	1000	38
CSMS4010T-100M	K	10	0.300	620	750	31
CSMS4010T-150M	M	15	0.430	540	600	24
CSMS4010T-220M	N	22	0.570	450	500	19

- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS4012

#### 1. MECHANICAL DIMENSION (unit : mm)



#### 2. SPECIFICATION

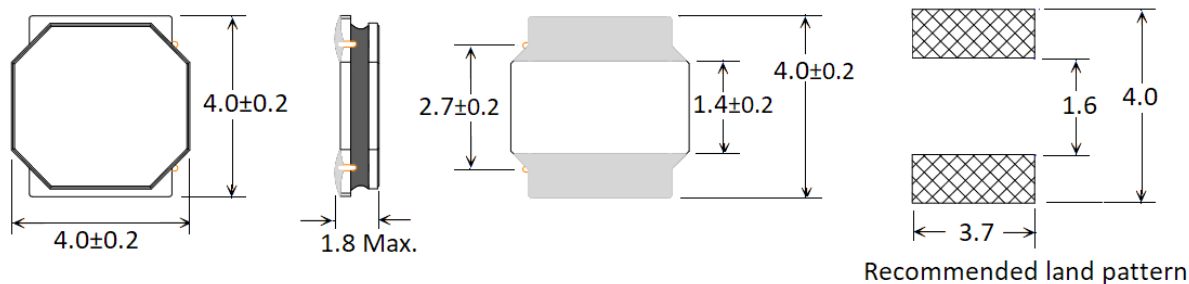
Part No.	Inductance (uH)	DCR (mΩ)±30%	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
CSMS4012T-1R0N	1.0	40.0	2.61	2.70
CSMS4012T-1R5N	1.5	51.0	2.07	2.25
CSMS4012T-2R2N	2.2	68.0	1.71	2.07
CSMS4012T-3R3N	3.3	75.0	1.36	1.89
CSMS4012T-4R7M	4.7	110.0	1.18	1.62
CSMS4012T-6R8M	6.8	165.0	0.97	1.35
CSMS4012T-100M	10	225.0	0.81	1.08

- Inductance Tolerance : M: ±20% , N: ±30%
- Inductance measurement: 1MHz
- Operating Temperature Range : -40 ~ +125°C (Including self-temperature rise)
- Storage Condition : +25°C±10°C , Humidity 40~70% RH
- Rated current :  
Isat: For Inductance drop 30% from its value without current.  
Irms: The value of D.C current when the temperature rise is  $\Delta T \leq 40^\circ\text{C}$  (Ta= 25°C)
- Test Instrument : WAYNE KERR 3206B & 3265B LCR METER
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS4018

#### 1. MECHANICAL DIMENSION (unit : mm)



#### 2. SPECIFICATION

Part No.	Inductance (uH)	DCR (mΩ)Max.	Saturation Current Isat (A)	Temperature Rise Current Irms (A)
CSMS4018T-1R0N	1.0	32.4	4.00	3.20
CSMS4018T-2R2N	2.2	50.4	3.00	2.20
CSMS4018T-3R3N	3.3	66.0	2.30	2.00
CSMS4018T-4R7N	4.7	84.0	2.00	1.70
CSMS4018T-6R8M	6.8	117.6	1.60	1.45
CSMS4018T-100M	10	180.0	1.30	1.20
CSMS4018T-150M	15	252.0	1.10	0.85
CSMS4018T-220M	22	348.0	0.90	0.72
CSMS4018T-330M	33	552.0	0.70	0.55

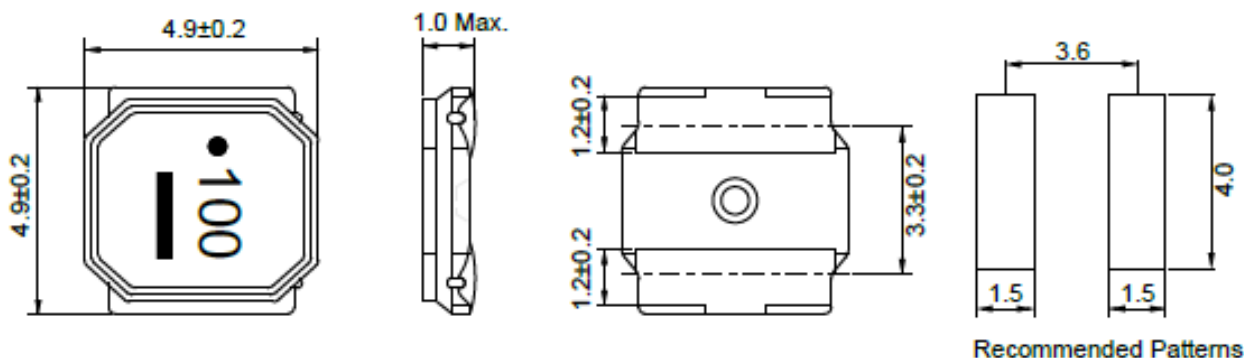
- Inductance Tolerance : M:  $\pm 20\%$  , N:  $\pm 30\%$
- Inductance measurement: 100KHz
- Operating Temperature Range :  $-40 \sim +125^{\circ}\text{C}$  (Including self-temperature rise)
- Storage Condition :  $+25^{\circ}\text{C} \pm 10^{\circ}\text{C}$  , Humidity 40~70% RH
- Rated current :  
Isat: For Inductance drop 30% from its value without current.  
Irms: The value of D.C current when the temperature rise is  $\Delta T \leq 40^{\circ}\text{C}$  (  $T_a = 25^{\circ}\text{C}$  )
- Test Instrument : WAYNE KERR 3206B & 3265B LCR METER
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS5010

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) $I_{dc1}$	RDC(mA) $I_{dc2}$	SRF MHz min
CSMS5010T-1R0N	1R0	1.0	0.070	2350	1750	95
CSMS5010T-2R2N	2R2	2.2	0.105	1500	1400	65
CSMS5010T-3R3M	3R3	3.3	0.125	1400	1250	42
CSMS5010T-4R7M	4R7	4.7	0.145	1200	1150	37
CSMS5010T-6R8M	6R8	6.8	0.185	1000	1000	33
CSMS5010T-100M	100	10	0.250	850	900	23
CSMS5010T-150M	150	15	0.400	680	650	19
CSMS5010T-220M	220	22	0.600	550	450	15

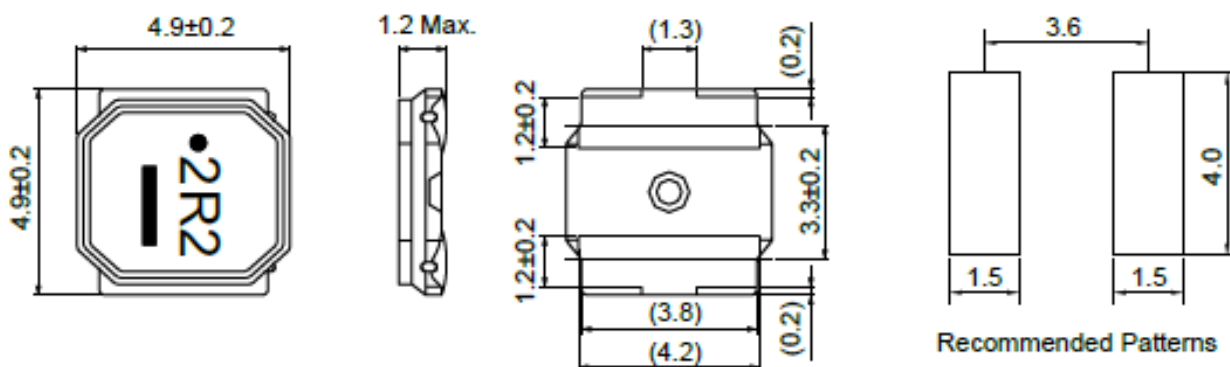
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either  $I_{dc1}$  or  $I_{dc2}$ .  
 $I_{dc1}$ : The value of current causes a 30% inductance reduction from initial value.( at  $T_a$ : 20°C) Measurement : 4285A+42841A+42842C  
 $I_{dc2}$ : The value of current causes a 40°C temperature rise.( at  $T_a$ : 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS5012

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) $I_{dc1}$	RDC(mA) $I_{dc2}$	SRF MHz min
CSMS5012T-1R0N	1R0	1.0	0.053	4500	2300	700
CSMS5012T-1R5N	1R5	1.5	0.070	3800	2200	86
CSMS5012T-2R2M	2R2	2.2	0.085	3100	2000	70
CSMS5012T-3R3M	3R3	3.3	0.160	2400	1450	480
CSMS5012T-4R7M	4R7	4.7	0.180	2200	1400	40
CSMS5012T-6R8M	6R8	6.8	0.260	1700	1100	36
CSMS5012T-100M	100	10	0.420	1400	850	26
CSMS5012T-150M	150	15	0.670	1200	640	22

- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either  $I_{dc1}$  or  $I_{dc2}$ .  
 $I_{dc1}$ : The value of current causes a 30% inductance reduction from initial value.( at  $T_a$ : 20°C) Measurement : 4285A+42841A+42842C  
 $I_{dc2}$ : The value of current causes a 40°C temperature rise.( at  $T_a$ : 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

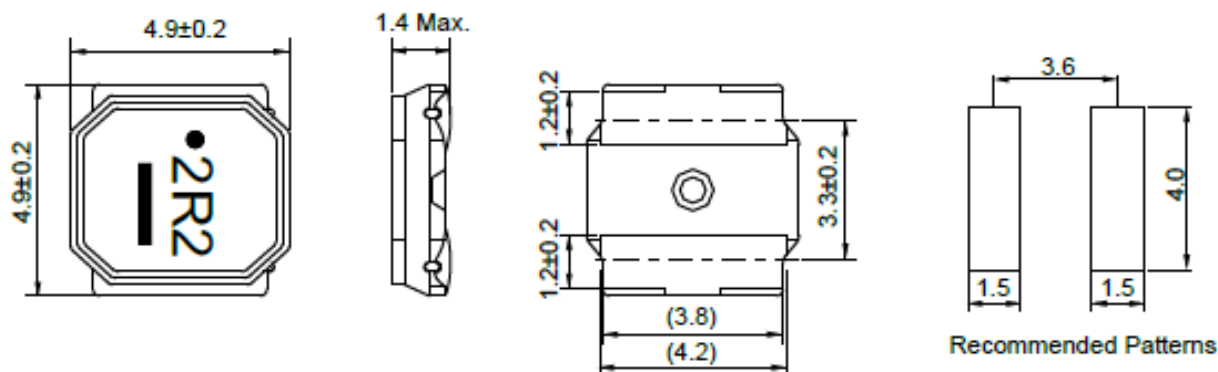


## POWER INDUCTORS CSMS SERIES

### CSMS5014

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS5014T-R47N	R47	0.47	0.025	5800	3300	185
CSMS5014T-1R2N	1R2	1.2	0.045	3800	2400	86
CSMS5014T-2R2N	2R2	2.2	0.065	2800	2000	56
CSMS5014T-3R3N	3R3	3.3	0.080	2350	1700	48
CSMS5014T-4R7M	4R7	4.7	0.100	2050	1400	41
CSMS5014T-6R8M	6R8	6.8	0.150	1600	1200	33
CSMS5014T-100M	100	10	0.200	1400	1050	27
CSMS5014T-150M	150	15	0.320	1100	650	20
CSMS5014T-220M	220	22	0.450	900	550	16

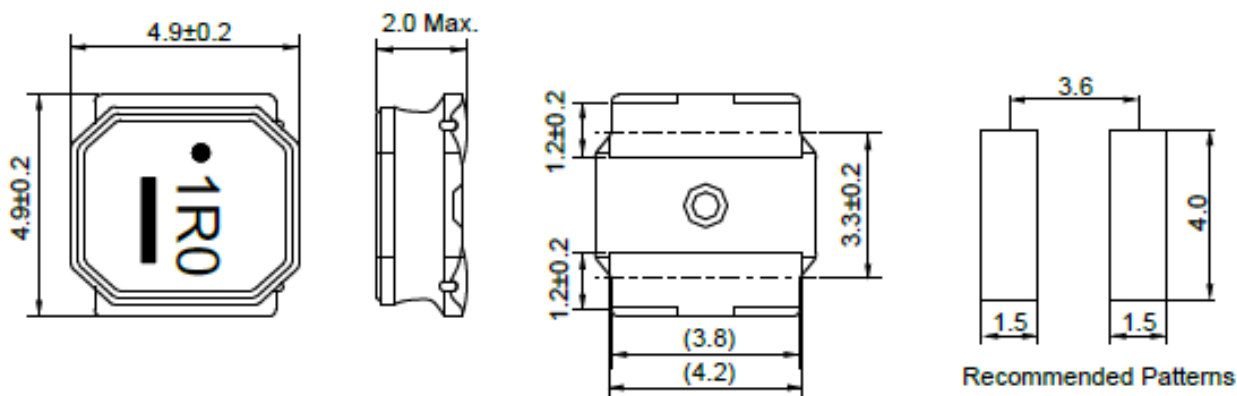
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS5020

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) $I_{dc1}$	RDC(mA) $I_{dc2}$	SRF MHz min
CSMS5020T-1R0N	1R0	1.0	0.021	4000	3600	81
CSMS5020T-1R5N	1R5	1.5	0.026	3350	3200	68
CSMS5020T-2R2N	2R2	2.2	0.035	2900	2900	57
CSMS5020T-3R3N	3R3	3.3	0.048	2400	2400	46
CSMS5020T-4R7M	4R7	4.7	0.060	2000	2000	37
CSMS5020T-6R8M	6R8	6.8	0.090	1600	1650	30
CSMS5020T-100M	100	10	0.120	1300	1450	24
CSMS5020T-150M	150	15	0.165	1100	1200	20
CSMS5020T-220M	220	22	0.200	900	1000	17

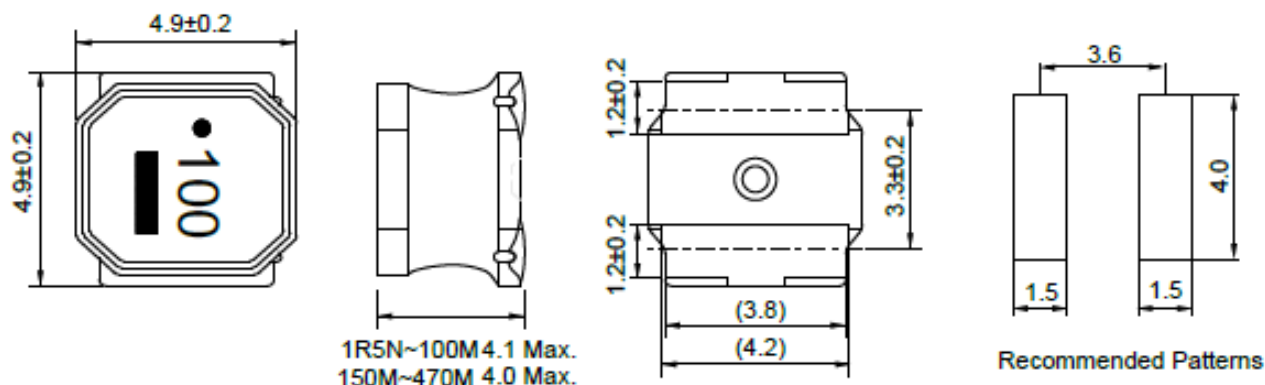
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either  $I_{dc1}$  or  $I_{dc2}$ .  
 $I_{dc1}$ : The value of current causes a 30% inductance reduction from initial value.( at  $T_a$ : 20°C) Measurement : 4285A+42841A+42842C  
 $I_{dc2}$ : The value of current causes a 40°C temperature rise.( at  $T_a$ : 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS5040

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS5040T-1R5N	1R5	1.5	0.017	6400	4500	60
CSMS5040T-2R2N	2R2	2.2	0.022	5000	3700	43
CSMS5040T-3R3N	3R3	3.3	0.027	4000	3300	32
CSMS5040T-4R7N	4R7	4.7	0.029	3300	3100	28
CSMS5040T-6R8M	6R8	6.8	0.049	2800	2400	21
CSMS5040T-100M	100	10	0.056	2300	2100	18
CSMS5040T-150M	150	15	0.080	2000	1800	13
CSMS5040T-220M	220	22	0.126	1500	1400	9
CSMS5040T-330M	330	33	0.180	1300	1200	7
CSMS5040T-470M	470	47	0.310	1100	900	6

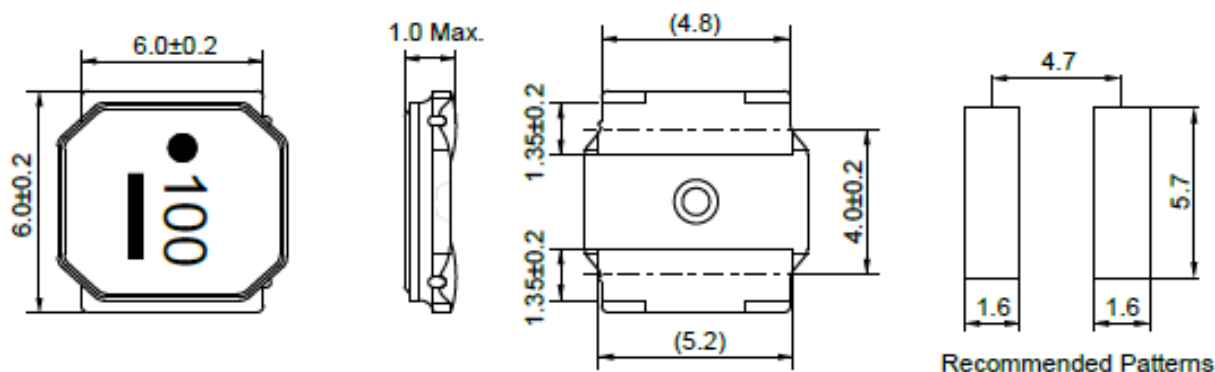
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

**POWER INDUCTORS CSMS SERIES**

**CSMS6010**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS6010T-1R5M	1R5	1.5	0.090	2400	1900	77
CSMS6010T-2R2M	2R2	2.2	0.110	1900	1700	56
CSMS6010T-3R3M	3R3	3.3	0.135	1600	1500	42
CSMS6010T-4R7M	4R7	4.7	0.165	1300	1400	36
CSMS6010T-6R8M	6R8	6.8	0.220	1200	1200	30
CSMS6010T-100M	100	10	0.270	1000	1100	25
CSMS6010T-220M	220	22	0.580	650	700	12

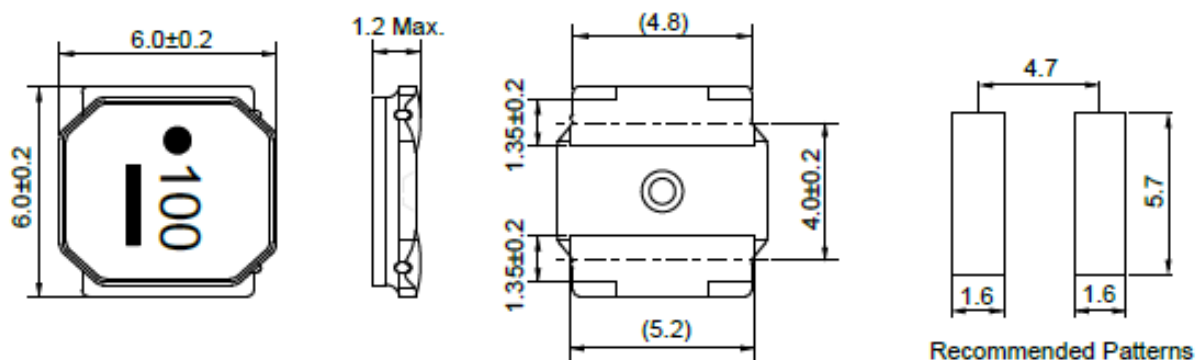
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
 I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS6012

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS6012T-2R5N	2R5	2.5	0.90	2100	1800	45
CSMS6012T-3R3N	3R3	3.3	0.105	1800	1700	42
CSMS6012T-4R7M	4R7	4.7	0.125	1600	1550	36
CSMS6012T-5R3M	5R3	5.3	0.125	1500	1550	34
CSMS6012T-6R8M	6R8	6.8	0.165	1300	1350	30
CSMS6012T-100M	100	10	0.200	1000	1200	22
CSMS6012T-150M	150	15	0.295	800	800	18
CSMS6012T-220M	220	22	0.465	760	650	12
CSMS6012T-330M	330	33	0.580	590	550	8
CSMS6012T-470M	470	47	0.965	520	460	6
CSMS6012T-680M	680	68	1.160	440	410	3
CSMS6012T-101M	101	100	1.670	350	320	1

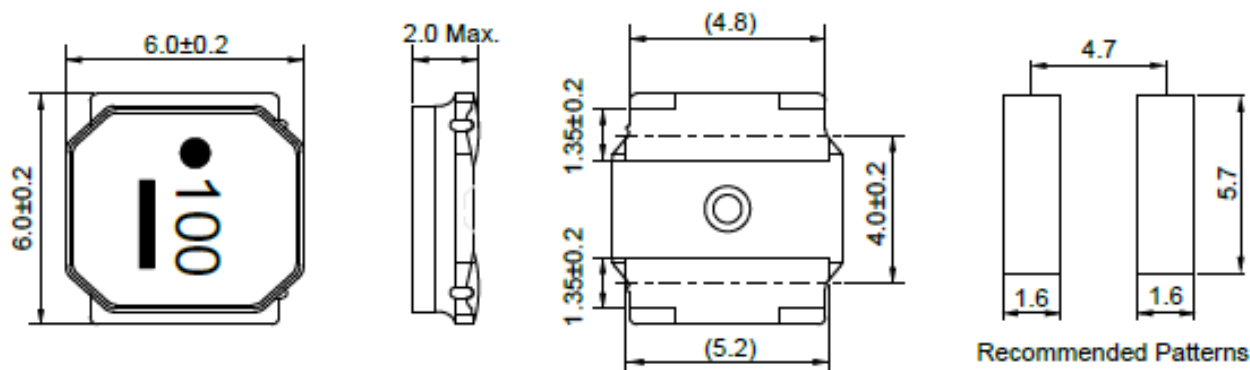
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS6020

#### 1. MECHANICAL DIMENSION

unit : mm



#### 2. ELECTRICAL

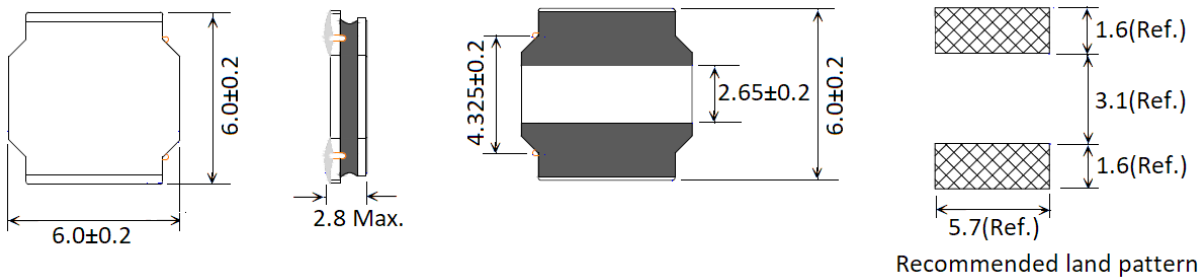
PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS6020T-R80N	0R8	0.8	0.020	6400	4100	110
CSMS6020T-1R5N	1R5	1.5	0.026	4300	3600	93
CSMS6020T-2R2N	2R2	2.2	0.034	3200	2900	73
CSMS6020T-3R3N	3R3	3.3	0.040	2800	2750	55
CSMS6020T-4R7N	4R7	4.7	0.058	2400	2150	43
CSMS6020T-6R8M	6R8	6.8	0.085	2000	1800	30
CSMS6020T-100M	100	10	0.125	1900	1500	18
CSMS6020T-220M	220	22	0.290	1250	950	11

- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

## POWER INDUCTORS CSMS SERIES

### CSMS6028

#### 1. MECHANICAL DIMENSION (unit : mm)



#### 2. SPECIFICATION

Part No.	Inductance (uH)	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
CSMS6028T-R90N	0.9	16.9	6.7	4.6
CSMS6028T-1R5N	1.5	20.8	5.1	4.2
CSMS6028T-2R2N	2.2	26.0	4.2	3.7
CSMS6028T-3R0N	3.0	29.9	3.6	3.4
CSMS6028T-4R7N	4.7	40.3	2.7	3.0
CSMS6028T-6R0M	6.0	52.0	2.5	2.5
CSMS6028T-100M	10	84.5	1.9	1.9
CSMS6028T-150M	15	123.5	1.6	1.8
CSMS6028T-220M	22	175.5	1.3	1.4
CSMS6028T-330M	33	286.0	1.1	1.1
CSMS6028T-470M	47	390.0	1.0	0.92
CSMS6028T-680M	68	546.0	0.8	0.77
CSMS6028T-101M	100	780.0	0.65	0.66

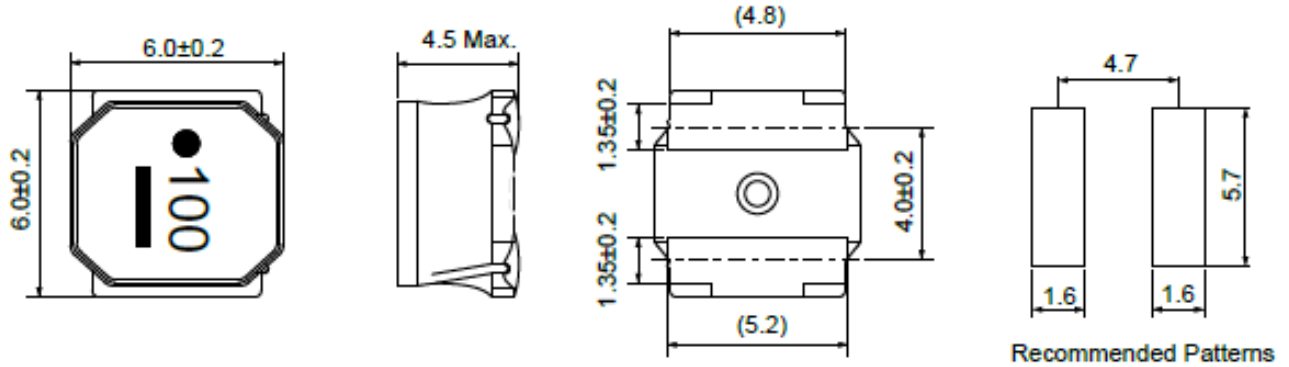
- Inductance Tolerance : M: ±20% , N: ±30%
- Inductance measurement: 100KHz
- Operating Temperature Range : -40 ~ +125°C (Including self-temperature rise)
- Storage Condition : +25°C±10°C , Humidity 40~70% RH
- Rated current :  
Isat: For Inductance drop 30% from its value without current.  
Irms: The value of D.C current when the temperature rise is  $\Delta T \leq 40^\circ\text{C}$  (  $T_a = 25^\circ\text{C}$  )
- Test Instrument : WAYNE KERR 3206B & 3265B LCR METER
- MSL : LEVEL 1

**POWER INDUCTORS CSMS SERIES**

**CSMS6045**

**1. MECHANICAL DIMENSION**

unit : mm



**2. ELECTRICAL**

PART NO.	Marking	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) I <sub>dc1</sub>	RDC(mA) I <sub>dc2</sub>	SRF MHz min
CSMS6045T-1R0N	1R0	1.0	0.014	9800	4500	110
CSMS6045T-1R3N	1R3	1.3	0.016	8200	4200	95
CSMS6045T-1R8N	1R8	1.8	0.019	7200	3900	80
CSMS6045T-2R3N	2R3	2.3	0.022	6400	3600	60
CSMS6045T-3R0N	3R0	3.0	0.024	5600	3300	45
CSMS6045T-4R5M	4R5	4.5	0.030	4400	3100	25
CSMS6045T-6R3M	6R3	6.3	0.036	3600	3000	15
CSMS6045T-100M	100	10	0.046	3100	2400	12
CSMS6045T-150M	150	15	0.070	2500	1900	10
CSMS6045T-220M	220	22	0.107	2000	1600	7
CSMS6045T-330M	330	33	0.141	1650	1400	6
CSMS6045T-470M	470	47	0.211	1400	1150	5
CSMS6045T-680M	680	68	0.304	1100	950	4
CSMS6045T-101M	101	100	0.466	900	750	3

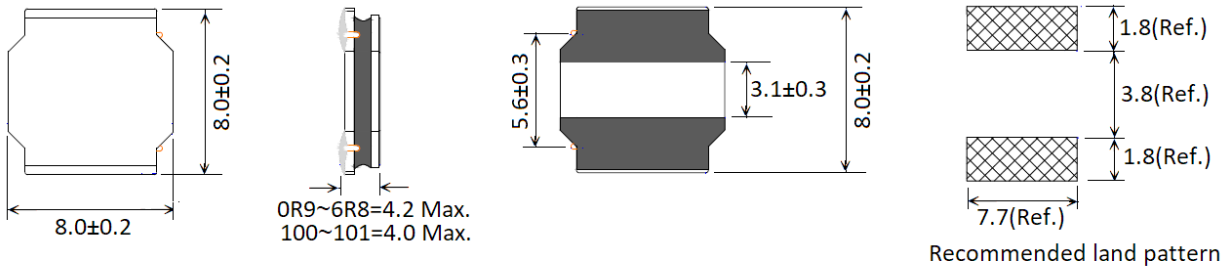
- Operating Temp : -25 to +125°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either I<sub>dc1</sub> or I<sub>dc2</sub>.  
I<sub>dc1</sub>: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
I<sub>dc2</sub>: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- SRF measurement: HP4291B
- DCR measurement: Chroma 16502
- MSL : LEVEL 1



## POWER INDUCTORS CSMS SERIES

### CSMS8040

#### 1. MECHANICAL DIMENSION (unit : mm)



#### 2. SPECIFICATION

Part No.	Inductance (uH)	DCR (mΩ) Max.	Saturation Current (A) Max.	Temperature Rise Current (A) Max.
CSMS8040T-R90N	0.9	7.8	11.0	7.8
CSMS8040T-1R4N	1.4	9.1	9.0	7.0
CSMS8040T-2R0N	2.0	11.7	7.4	6.3
CSMS8040T-3R6N	3.6	19.5	5.3	4.9
CSMS8040T-4R7N	4.7	23.4	4.7	4.1
CSMS8040T-6R8M	6.8	32.5	4.0	3.7
CSMS8040T-100M	10	44.2	3.4	3.1
CSMS8040T-150M	15	65.0	2.7	2.4
CSMS8040T-220M	22	85.6	2.4	2.2
CSMS8040T-330M	33	130.0	1.9	1.7
CSMS8040T-470M	47	195.0	1.5	1.4
CSMS8040T-680M	68	299.0	1.2	1.1
CSMS8040T-101M	100	377.0	1.0	1.0

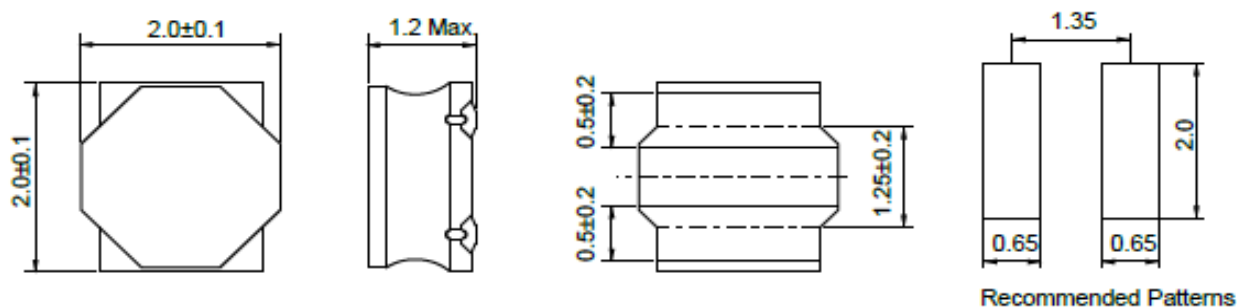
- Inductance Tolerance : M: ±20% , N: ±30%
- Inductance measurement: 100KHz
- Operating Temperature Range : -40 ~ +125°C (Including self-temperature rise)
- Storage Condition : +25°C±10°C , Humidity 40~70% RH
- Rated current :  
Isat: For Inductance drop 30% from its value without current.  
Irms: The value of D.C current when the temperature rise is  $\Delta T \leq 40^\circ\text{C}$  (Ta= 25°C)
- Test Instrument : WAYNE KERR 3206B & 3265B LCR METER
- MSL : LEVEL 1

## POWER INDUCTORS CSMV SERIES

### CSMV2012

#### 1. MECHANICAL DIMENSION

unit : mm



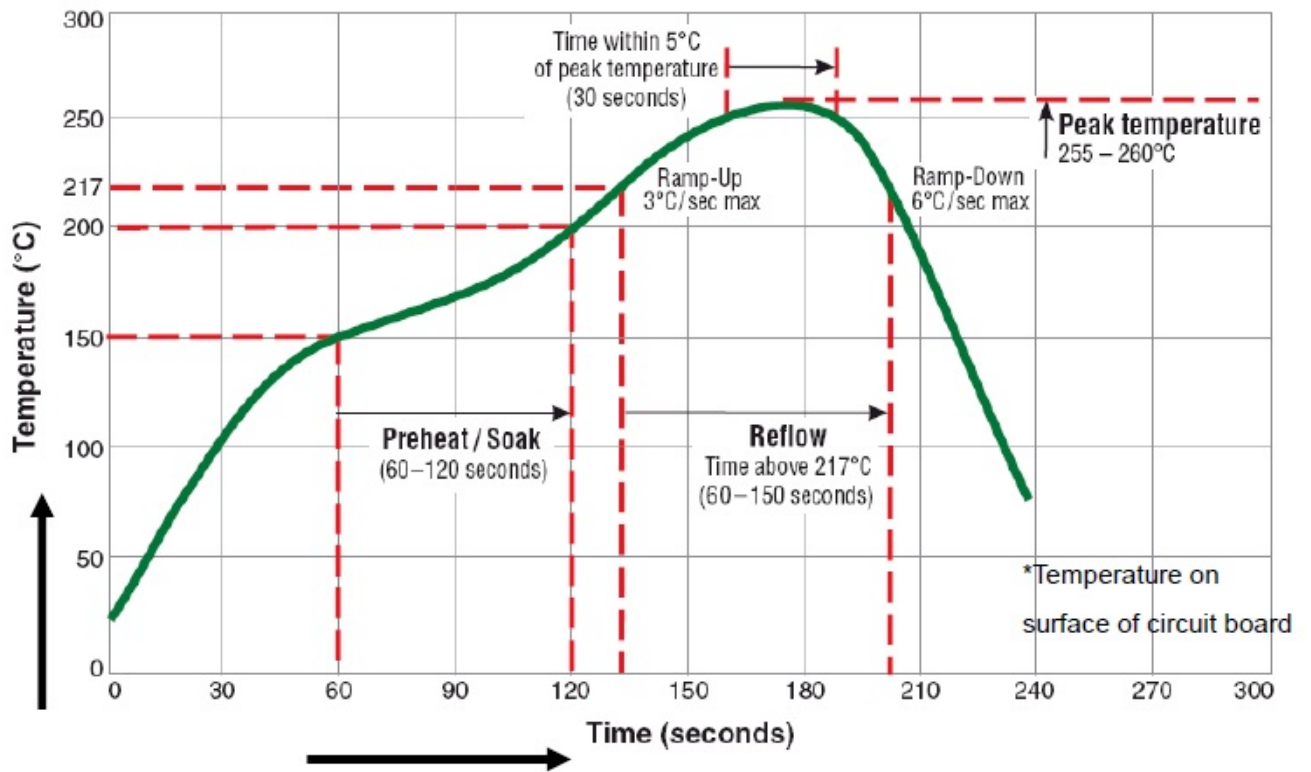
#### 2. ELECTRICAL

PART NO.	L(uH)	DCR( $\Omega$ ) $\pm 20\%$	RDC(mA) Idc1	RDC(mA) Idc2
CSMV2012T-1R0M	1.0	0.073	2350	1830
CSMV2012T-1R5M	1.5	0.100	1950	1550
CSMV2012T-2R2M	2.2	0.129	1700	1350
CSMV2012T-3R3M	3.3	0.227	1350	1040
CSMV2012T-4R7M	4.7	0.325	1150	850

- Operating Temp : -25 to +120°C
- Storage Temp : -40 to +85°C
- Rated current: smaller value of either Idc1 or Idc2.  
 Idc1: The value of current causes a 30% inductance reduction from initial value.( at Ta: 20°C) Measurement : 4285A+42841A+42842C  
 Idc2: The value of current causes a 40°C temperature rise.( at Ta: 20°C) Measurement : R6452A
- Inductance measurement: HP4285A at 100KHz
- DCR measurement: Chroma 16502
- MSL : LEVEL 1

# WIRE WOUND POWER INDUCTOR CSM SERIES

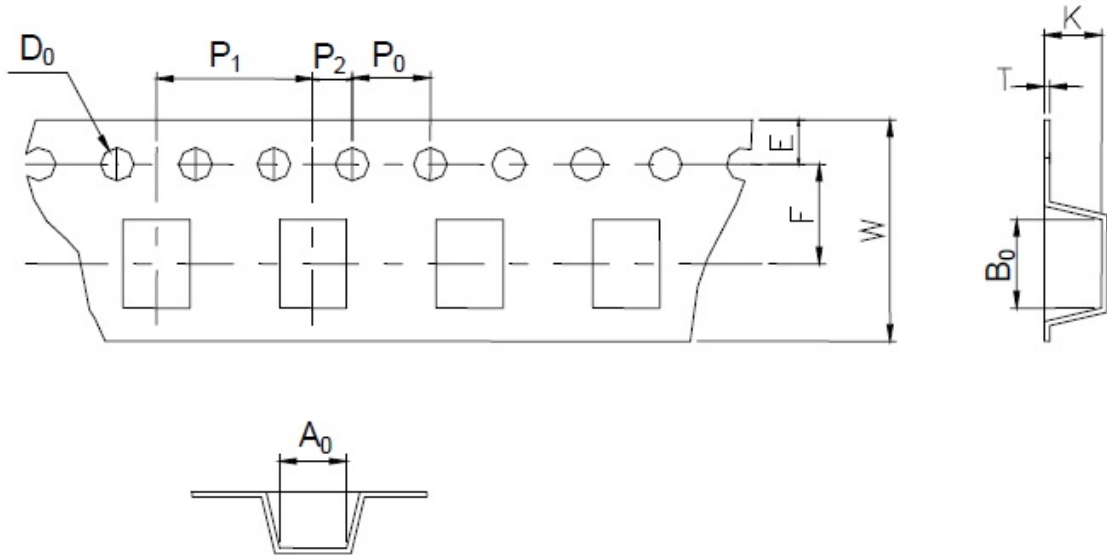
## ■ RoHS Reflow Soldering Profile



# WIRE WOUND POWER INDUCTOR CSM SERIES

## ■ Tape & Reel Packaging Dimension

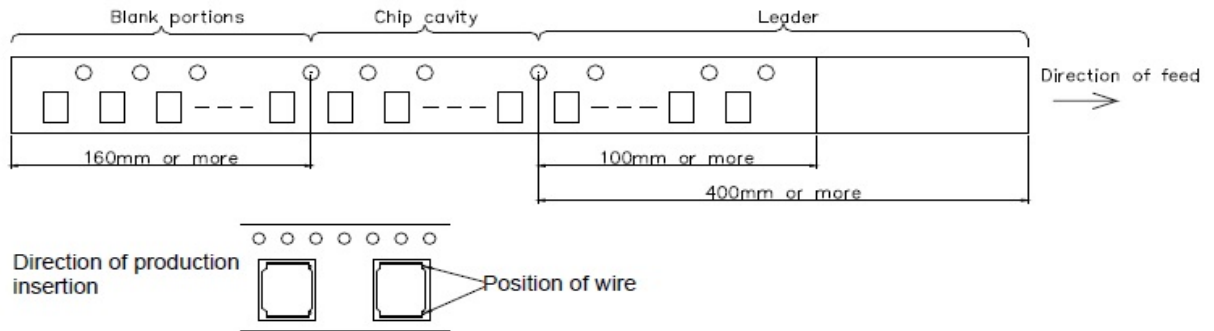
### Tape Dimension



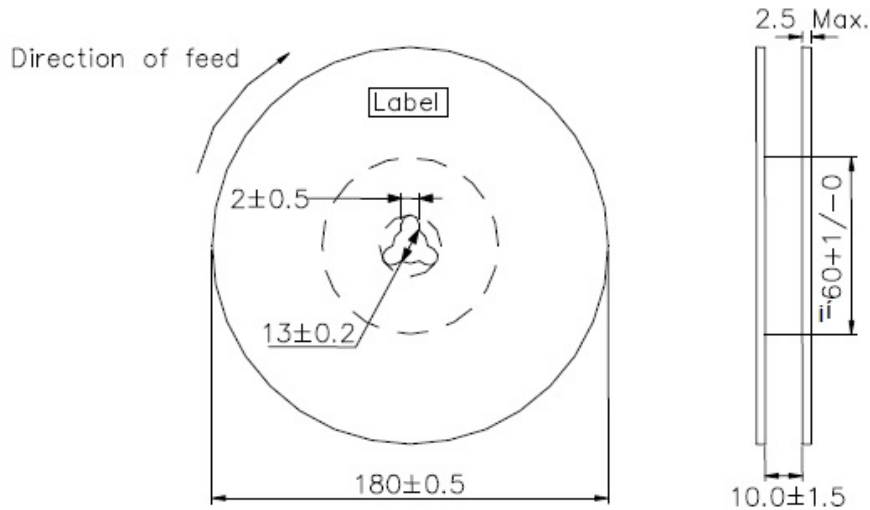
Size	A <sub>0</sub>	B <sub>0</sub>	W	F	E	P	P	P	D	T	K
2012	2.2±0.1	2.2±0.1	8.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.25±0.05	1.3±0.05
2412	2.6±0.1	2.6±0.1	8.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.25±0.05	1.3±0.05
3010	3.2±0.1	3.2±0.1	8.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.4±0.05
3012	3.2±0.1	3.2±0.1	8.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.6±0.05
3015	3.2±0.1	3.2±0.1	8.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.6±0.05
4010	4.3±0.1	4.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.4±0.05
4012	4.3±0.1	4.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.6±0.05
4018	4.3±0.1	4.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	2.1±0.10
5010	5.25±0.1	5.25±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.4±0.05
5012	5.25±0.1	5.25±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.4±0.05
5014	5.25±0.1	5.25±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	1.4±0.05
5020	5.25±0.1	5.25±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.30±0.05	2.3±0.10
5040	5.25±0.1	5.25±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.40±0.10	4.2±0.10
6010	6.3±0.1	6.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.40±0.05	1.4±0.10
6020	6.3±0.1	6.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.40±0.10	2.3±0.10
6028	6.3±0.1	6.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.40±0.10	3.1±0.10
6045	6.3±0.1	6.3±0.1	12.0±0.2	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.40±0.10	4.7±0.10
8040	8.3±0.1	8.3±0.1	16.0±0.2	7.5±0.1	1.75±0.1	12.0±0.1	2.0±0.05	4.0±0.1	φ1.6 max	0.50±0.10	4.5±0.10

# WIRE WOUND POWER INDUCTOR CSM SERIES

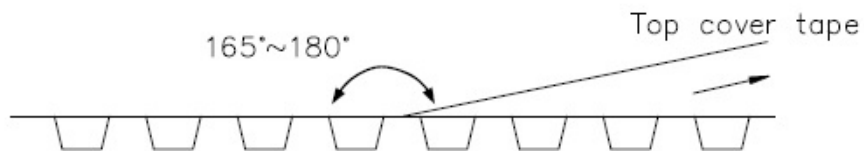
## Direction of Rolling



## Reel Dimensions



## Top Tape Strength



Peel-off strength : 0.1N ~ 0.7N

Peel-off angle :  $165^\circ \sim 180^\circ$

Peel-off speed : 300mm/min