

SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP

Approval's condition: _____

Approved date: _____

KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME:

CUSTOMER'S MODEL NO. :

CUSTOMER'S PART NO. :

DESCRIPTION:

Molding Power Inductors

Semitel'S MODEL NO. :

SMTU Series

VERSION:

A

DATE:

2025/12/10

Attachments:

- Product specification
- Sample Qty.:
- Test data

Prepared By	Checked By	Approved By
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Product Specification

1. Features

- Halogen Free & RoHS compliant
- Operating temperature : -55°C ~ +125°C
- Low profile and low DCR
- Magnetically Shielded construction, low EMI
- Frequency range up to 3MHz
- Minimized acoustic noise and minimized leakage flux noise
- High current carrying capacity, Low core loss
- Flat wire: high utilization of winding space delivers low DC resistance

2. Applications

- PC/TV, and server applications
- DC/DC conversions
- DC switching power supply circuit

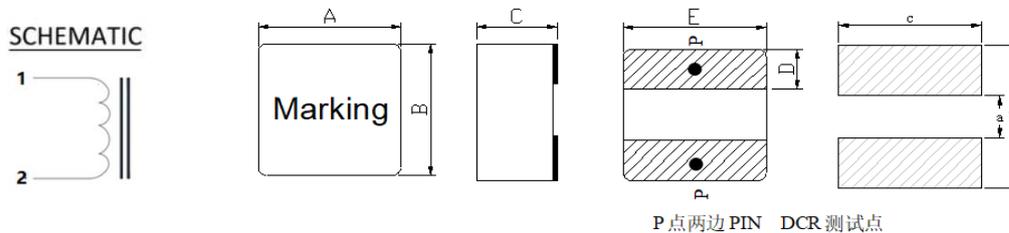
3. Product Identification

$\frac{\text{SMTU}}{\text{①}}$ $\frac{0420}{\text{②}}$ - $\frac{\text{R15}}{\text{③}}$ $\frac{\text{M}}{\text{④}}$ $\frac{\text{T}}{\text{⑤}}$

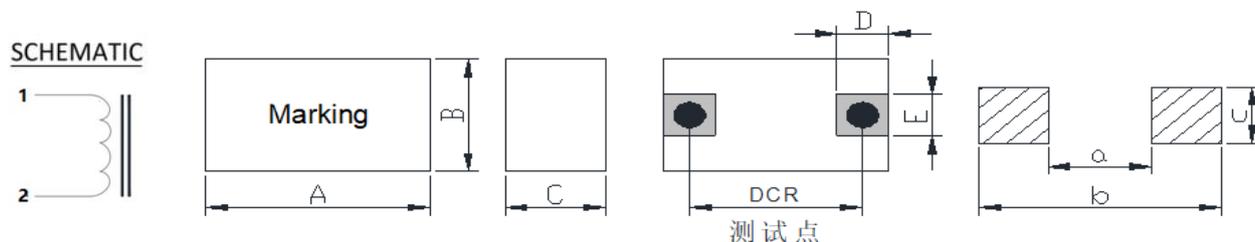
- ① Series name
- ② Product dimensions (0420:4.10X4.10X2.00 mm)
- ③ Inductance Value (R15:0.15 uH)
- ④ Inductance Tolerance (M= ± 20%)
- ⑤ Packing (Tape Carrier Package)

Semitel'S MODEL NO. :	SMTU Series	CUSTOMER'S MODEL NO. :	
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4.Physical Dimensions (Unit:mm)

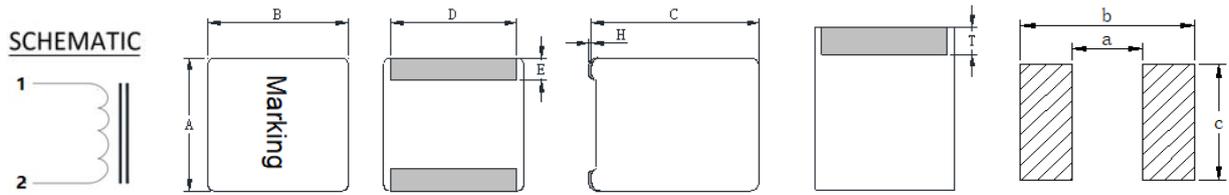


series	A	B	C	D	E	a	b	c
SMTU0420	4.10±0.20	4.10±0.20	2.00MAX	1.20±0.20	4.10TYP	1.40TYP	4.50TYP	4.50TYP
SMTU0430	4.10±0.20	4.10±0.20	3.00MAX	1.20±0.20	4.10TYP	1.40TYP	4.50TYP	4.50TYP
SMTU0520	5.30±0.20	5.10±0.20	2.00MAX	1.55±0.30	5.30TYP	1.70TYP	5.50TYP	5.70TYP
SMTU0524	5.30±0.20	5.10±0.20	2.40MAX	1.55±0.30	5.30TYP	1.70TYP	5.50TYP	5.70TYP
SMTU0530	5.30±0.20	5.10±0.20	3.00MAX	1.55±0.30	5.30TYP	1.70TYP	5.50TYP	5.70TYP
SMTU0624	6.60±0.40	6.40±0.40	2.40MAX	1.90±0.40	6.60TYP	2.30TYP	7.00TYP	7.20TYP
SMTU0630	6.60±0.40	6.40±0.40	3.00MAX	1.90±0.40	6.60TYP	2.30TYP	7.00TYP	7.20TYP
SMTU1040	11.6±0.30	11.5±0.30	4.00MAX	3.00±0.40	11.20TYP	4.00TYP	11.00TYP	11.60TYP

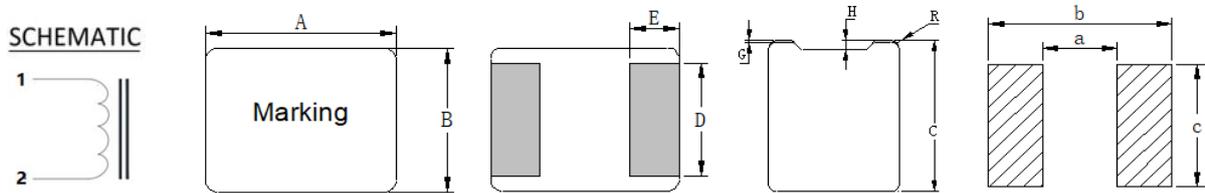


series	A	B	C	D	E	a	b	c
SMTU130806	12.8±0.40	7.00±0.40	6.00±0.20	3.00±0.20	3.50±0.40	6.00TYP	14.00TYP	4.50TYP

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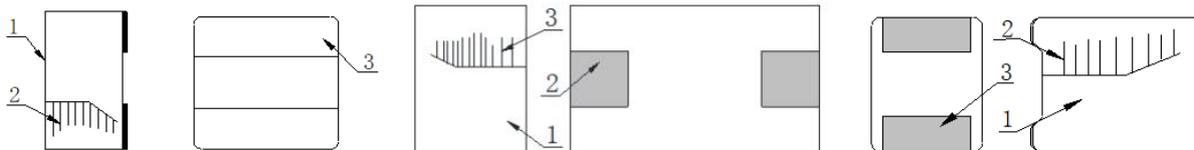


series	A	B	C	D	E	H	T
SMTU4860	4.80±0.20	4.60±0.20	5.80±0.20	4.30±0.20	0.70±0.50	0.003-0.150	1.00Min
	a	b	c				
	2.70TYP	5.10TYP	4.70TYP				



series	A	B	C	D	E	H	T
SMTU405060	4.80±0.20	3.80±0.20	5.80±0.20	4.30±0.20	0.70±0.50	0.003-0.150	1.00Min
	a	b	c				
	2.70TYP	5.10TYP	4.70TYP				

5. Material list



NO	Components	Material
1	Core	composite powder
2	Wire	Flat wire 220°C
3	Base	Tinned copper
Surface spray paint treatment		

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6. Working voltage and test

External Dimensions	Working Voltage	Impluse Test
SMTU0420	30VDC	50V
SMTU0430	30VDC	50V
SMTU4860	30VDC	50V
SMTU405060	30VDC	50V
SMTU0520	30VDC	50V
SMTU0524	30VDC	50V
SMTU0530	30VDC	50V
SMTU0624	75VDC	200V
SMTU0630	75VDC	200V
SMTU1040	75VDC	200V
SMTU130806	75VDC	200V

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7.Electrical Characteristics

SMTU0420 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0420-R15MT	0.15	2.2	1.8	28.0	28.5
SMTU0420-R22MT	0.22	2.7	2.2	20.0	26.0
SMTU0420-R47MT	0.47	4.6	4.0	12.0	10.0
SMTU0420-R56MT	0.56	6.5	5.4	12.7	18.4
SMTU0420-R68MT	0.68	6.5	5.3	9.0	7.0
SMTU0420-1R0MT	1.00	9.0	7.5	9.5	14.0
SMTU0420-1R2MT	1.20	9.5	9.0	7.0	6.0
SMTU0420-1R5MT	1.50	13.6	12.4	7.9	7.9
SMTU0420-2R2MT	2.20	21.0	17.5	6.5	8.0
SMTU0420-3R3MT	3.30	65.0	55.0	4.0	3.0

SMTU0430 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0430-R33MT	0.33	3.0	2.5	25.0	23.5
SMTU0430-3R3MT	3.30	28.5	25.0	5.5	6.5

SMTU0520 & SMTU0524 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0520-R36MT	0.36	3.15	2.88	22.0	16.0
SMTU0520-R42MT	0.42	7.19	6.25	10.1	12.7
SMTU0520-R47MT	0.47	5.00	4.20	16.0	12.0
SMTU0524-R10MT	0.10	1.00	0.76	57.0	35.0

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7. Electrical Characteristics

SMTU0530 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0530-R10MT	0.10	0.90	0.74	70	38
SMTU0530-R12MT	0.12	0.90	0.74	50	38
SMTU0530-R15MT	0.15	0.90	0.74	45	38
SMTU0530-R33MT	0.33	2.20	1.80	39	28.5
SMTU0530-R47MT	0.47	3.00	2.50	26	24
SMTU0530-1R0MT	1.00	6.00	5.00	18	17
SMTU0530-1R5MT	1.50	8.70	7.20	15	14
SMTU0530-2R2MT	2.20	14.40	12.0	12.5	12

SMTU0624 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0624-R10MT	0.10	0.85	0.70	55	38
SMTU0624-R15MT	0.15	1.20	0.85	45	40
SMTU0624-R22MT	0.22	1.45	1.20	35	35

SMTU0630 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU0630-R15MT	0.15	0.90	0.70	70	45
SMTU0630-1R0MT	1.00	5.00	4.20	25	20
SMTU0630-1R5MT	1.50	7.30	6.50	16	15

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SMTU1040 & SMTU130806 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU1040-1R2MT	1.20	2.50	2.12	33	27
SMTU130806-R10MT	0.10	0.13	0.11	130	70

SMTU4860 & SMTU405060 series

Part No.	Inductance	DC Resistance		Saturation Current	Heating Rating Current
	L (μH)±20%	DCR (mΩ)		Isat (A)	Irms (A)
	@100kHz,1.0V	MAX	TYP	TYP	TYP
SMTU4860-85NMT	0.085	0.30	0.28	75	50
SMTU4860-75NMT	0.075	0.30	0.28	80	50
SMTU405060-85NMT	0.085	0.30	0.25	85	50

Notes:

- (1). All test data is referenced to 25°C ambient.
- (2). Inductance Tolerance ±20%.
- (3). Test Condition:100kHz, 1.0Vrms.
- (4). Rated current: Isat or Irms, whichever is smaller.
- (5). Isat: DC current at which the inductance drops approximate 30% TYP from its value without current.
- (6). Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ C$) from 25°C ambient.
- (7). L tested by Wayne kerr 3260B LCR meter with Wayne kerr 3265B bias current source or equivalent.
- (8). DCR tested by a Milliohm meter.

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