

Data Sheet

Customer: _____

Product: Wire Wound Power Inductor (Shielded) – MCS Series _____

Size : 0420/0530/0612/0618/0624/0630 _____

Issued Date: 10-Dec.-2018 _____

Edition: Ver. 1 _____

Record of change

Date	Ver	Description	Page
10-Dec.-2018	1		

HITANO ENTERPRISE CORP.

7F-7, No. 3, Wu Chuan 1st Road, New Taipei Industrial Park,
New Taipei City, TAIWAN, R.O.C.
Tel: +886 2 2299 1331 (Rep.)
Fax: +886 2 2298 2466, 2298 2969

Prepared by	Checked by	Approved by	Accepted by (customer)
10-Dec.-2018	10-Dec.-2018	10-Dec.-2018	
<i>Andy Hsu</i>	<i>Hwa Wu</i>	<i>Hwa Wu</i>	

WIRE WOUND POWER INDUCTOR MCS SERIES

■ Features

- * The MCS 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

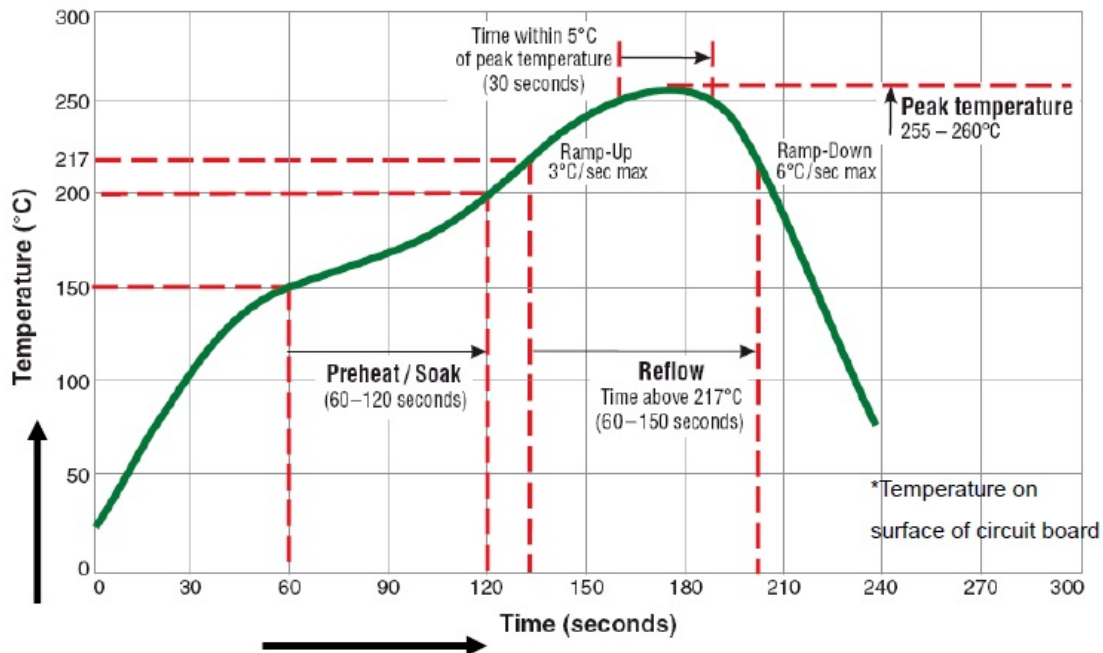
- * Power Supply Module.
- * DC/DC Converters, etc.
- * Other Various Electronic Appliance.



■ Part Numbering

MCS	0420	4R7	M	□□□
SERIES	SIZE	INDUCTANCE	TOLERANCE	INTERNAL CODE
	0420	R47= 0.47uH	M= ±20%	
	0530	4R7= 4.7uH	N= ±30%	
	0612	100= 10uH		
	0618			
	0624			
	0630			

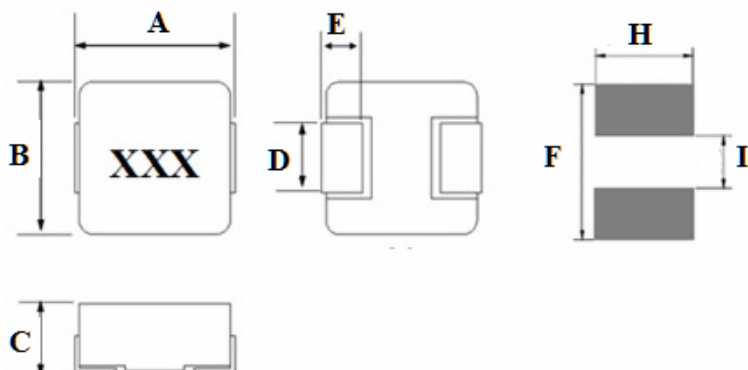
■ RoHS Reflow Soldering Profile



POWER INDUCTORS MCS SERIES

MCS0420

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	4.45±0.25
B	4.0±0.30
C	2.0 max
D	1.5±0.3
E	0.8±0.3
F	5.20 Ref
H	2.50 Ref
I	2.20 Ref

2. ELECTRICAL

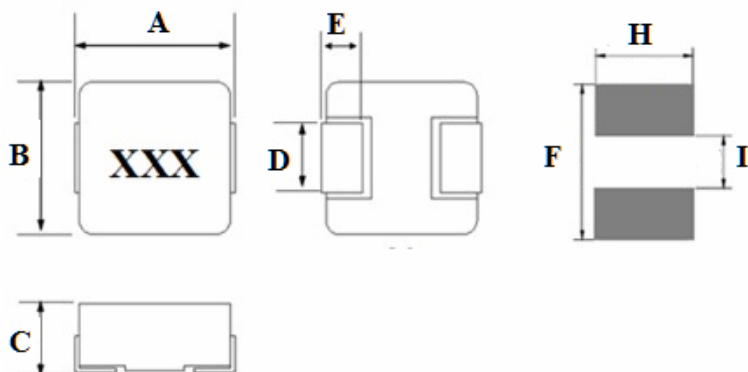
PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ)	RDC(A) Isat	RDC(A) Irms
MCS0420 R10M-□□	0.10	100	4.00	27.0	13.0
MCS0420 R22M-□□	0.22	100	6.60	21.0	9.50
MCS0420 R47M-□□	0.47	100	14.0	9.50	7.00
MCS0420 R56M-□□	0.56	100	16.0	9.00	7.00
MCS0420 R68M-□□	0.68	100	18.0	8.60	7.00
MCS0420 1R0M-□□	1.00	100	27.0	7.00	4.50
MCS0420 1R2M-□□	1.20	100	27.0	6.50	4.50
MCS0420 1R5M-□□	1.50	100	46.0	6.00	4.00
MCS0420 2R2M-□□	2.20	100	58.0	5.00	3.00
MCS0420 3R3M-□□	3.30	100	87.0	4.00	2.50
MCS0420 4R7M-□□	4.70	100	105	3.60	2.30
MCS0420 6R8M-□□	6.80	100	135	3.00	2.00
MCS0420 100M-□□	10.0	100	258	2.20	1.20

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either Irms or Isat
 Irms: The value of DC current when temperature rise is $\Delta T \leq 40^\circ\text{C}$. (Ta=25°C)
 Isat: For inductance drop 30% from its value without current

POWER INDUCTORS MCS SERIES

MCS0530

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	5.4±0.30
B	5.2±0.20
C	2.8±0.20
D	2.2±0.3
E	1.2±0.2
F	5.20 Ref
H	2.50 Ref
I	2.20 Ref

2. ELECTRICAL

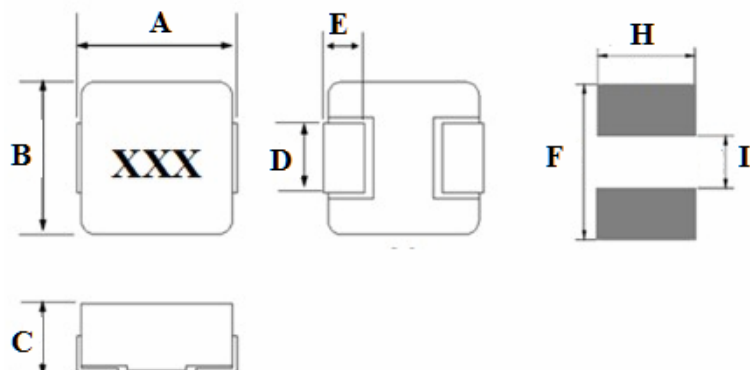
PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ)	RDC(A) Isat	RDC(A) Irms
MCS0530 R20M-□□	0.20	100	3.9	17.0	14.0
MCS0530 R47M-□□	0.47	100	8.0	15.0	11.0
MCS0530 R68M-□□	0.68	100	12.0	13.0	9.0
MCS0530 1R0M-□□	1.00	100	14.0	11.0	8.1
MCS0530 1R2M-□□	1.20	100	16.0	11.0	8.1
MCS0530 1R5M-□□	1.50	100	25.0	10.0	7.2
MCS0530 2R2M-□□	2.20	100	29.0	7.5	5.5
MCS0530 3R3M-□□	3.30	100	38.0	6.0	4.8
MCS0530 4R7M-□□	4.70	100	60.0	5.0	4.5
MCS0530 6R8M-□□	6.80	100	90.0	4.0	3.5
MCS0530 100M-□□	10.0	100	125.0	3.5	2.5

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either Irms or Isat
 Irms: The value of DC current when temperature rise is $\Delta T \leq 40^\circ\text{C}$. (Ta=25°C)
 Isat: For inductance drop 30% from its value without current

POWER INDUCTORS MCS SERIES

MCS0612

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	7.1±0.2
B	6.6±0.2
C	1.0±0.2
D	2.9±0.1
E	1.8±0.3
F	7.37 Ref
H	3.45 Ref
I	3.71 Ref

2. ELECTRICAL

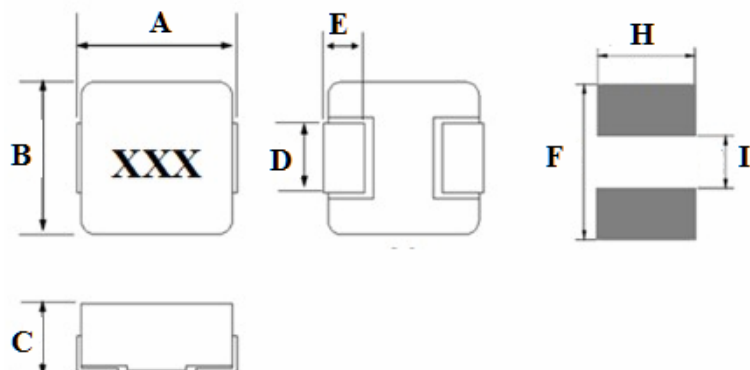
PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ)	RDC(A) Isat	RDC(A) Irms
MCS0612 R56M-□□	0.56	100	15.5	11.0	8.0
MCS0612 R68M-□□	0.68	100	17.5	9.0	7.0
MCS0612 1R0M-□□	1.00	100	29.0	7.5	6.0
MCS0612 2R2M-□□	2.20	100	58.0	5.0	4.0
MCS0612 3R3M-□□	3.30	100	92.0	4.0	3.5
MCS0612 4R7M-□□	4.70	100	122.0	3.5	2.8
MCS0612 6R8M-□□	6.80	100	210.0	2.8	2.1
MCS0612 100M-□□	10.0	100	280.0	2.2	2.0

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either Irms or Isat
 Irms: The value of DC current when temperature rise is $\Delta T \leq 40^\circ\text{C}$. ($T_a = 25^\circ\text{C}$)
 Isat: For inductance drop 30% from its value without current

POWER INDUCTORS MCS SERIES

MCS0618

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	7.1±0.3
B	6.6±0.3
C	1.6±0.2
D	3.0±0.3
E	1.6±0.5
F	8.40 Ref
H	3.50 Ref
I	3.70 Ref

2. ELECTRICAL

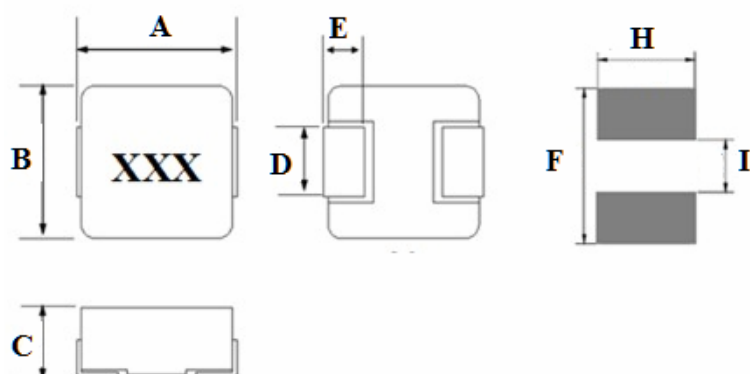
PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ) max	RDC(A) Isat	RDC(A) Irms
MCS 0618 R68M-□□	0.68	100	12.7	17.0	9.0
MCS 0618 1R0M-□□	1.00	100	17.0	14.0	7.0
MCS 0618 1R5M-□□	1.50	100	26.0	12.0	6.5
MCS 0618 2R2M-□□	2.20	100	35.0	8.0	5.0
MCS 0618 3R3M-□□	3.30	100	60.0	8.0	3.5
MCS 0618 4R7M-□□	4.70	100	70.0	5.0	3.5
MCS 0618 6R8M-□□	6.80	100	110.0	4.5	2.8
MCS 0618 100M-□□	10.0	100	155.0	2.5	2.3

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either Irms or Isat
 Irms: The value of DC current when temperature rise is $\Delta T \leq 40^\circ\text{C}$. (Ta=25°C)
 Isat: For inductance drop 30% from its value without current

POWER INDUCTORS MCS SERIES

MCS0624

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	7.1±0.3
B	6.6±0.3
C	2.4 max
D	3.0±0.3
E	1.6±0.5
F	8.40 Ref
H	3.50 Ref
I	3.70 Ref

2. ELECTRICAL

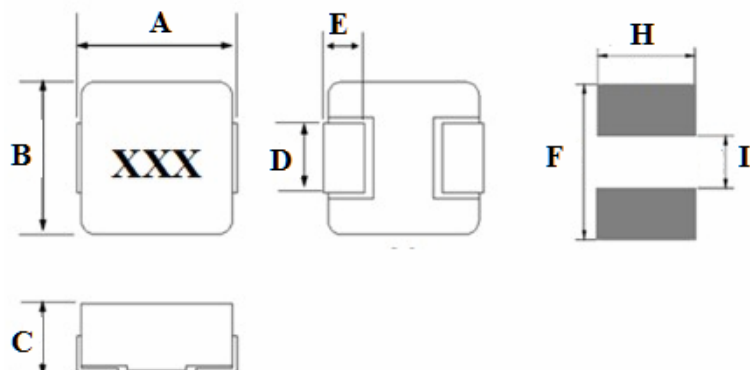
PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ) max	RDC(A) Isat	RDC(A) Irms
MCS 0624 R22M-□□	0.22	100	3.0	34.0	21.0
MCS 0624 R33M-□□	0.33	100	4.1	26.0	18.0
MCS 0624 R47M-□□	0.47	100	5.1	22.0	15.0
MCS 0624 R56M-□□	0.56	100	6.5	17.0	13.0
MCS 0624 R68M-□□	0.68	100	7.0	16.0	12.0
MCS 0624 1R0M-□□	1.00	100	13.5	16.0	9.0
MCS 0624 1R5M-□□	1.50	100	20.0	15.0	9.0
MCS 0624 2R2M-□□	2.20	100	28.0	12.0	7.0
MCS 0624 3R3M-□□	3.30	100	39.0	10.0	5.5
MCS 0624 4R7M-□□	4.70	100	50.0	7.5	5.0
MCS 0624 6R8M-□□	6.80	100	65.0	6.0	4.0
MCS 0624 100M-□□	10.0	100	101.0	5.0	3.1
MCS 0624 150M-□□	15.0	100	160.0	3.3	2.5

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either Irms or Isat
 Irms: The value of DC current when temperature rise is $\Delta T \leq 40^\circ\text{C}$. (Ta=25°C)
 Isat: For inductance drop 30% from its value without current

POWER INDUCTORS MCS SERIES

MCS0630

1. SHAPE & DIMENSION (UNIT:mm)



Unit:mm

A	7.1±0.3
B	6.6±0.3
C	3.0 max
D	3.0±0.3
E	1.6±0.5
F	8.40 Ref
H	3.50 Ref
I	3.70 Ref

2. ELECTRICAL

PART NO.	L(uH)	Test Freq(KHz)	DCR(mΩ) max	RDC(A) Isat	RDC(A) I _{rms}
MCS0630 R22M-□□	0.22	100	3.00	42.0	24.0
MCS0630 R24M-□□	0.24	100	3.10	31.0	23.0
MCS0630 R33M-□□	0.33	100	3.50	30.0	21.0
MCS0630 R47M-□□	0.47	100	4.10	20.0	18.0
MCS0630 R56M-□□	0.56	100	4.50	18.0	16.5
MCS0630 R68M-□□	0.68	100	5.30	17.0	16.0
MCS0630 R82M-□□	0.82	100	6.00	17.0	14.0
MCS0630 1R0M-□□	1.00	100	7.40	15.0	12.0
MCS0630 1R5M-□□	1.50	100	12.1	14.0	10.0
MCS0630 2R2M-□□	2.20	100	15.0	10.0	8.00
MCS0630 3R3M-□□	3.30	100	22.0	9.50	6.50
MCS0630 4R7M-□□	4.70	100	33.0	6.50	5.50
MCS0630 6R8M-□□	6.80	100	50.0	6.00	4.50
MCS0630 8R2M-□□	8.20	100	60.0	6.00	4.20
MCS0630 100M-□□	10.0	100	68.0	5.50	4.00
MCS0630 150M-□□	15.0	100	115	4.50	3.00
MCS0630 220M-□□	22.0	100	200	3.00	2.30
MCS0630 330M-□□	33.0	100	250	3.00	2.00

- Operating Temp : -40 to +125°C
- Rated current: smaller value of either I_{rms} or I_{sat}
 I_{rms}: The value of DC current when temperature rise is ΔT≦40°C.(Ta=25°C)
 I_{sat}: For inductance drop 30% from its value without current

WIRE WOUND POWER INDUCTOR MCS SERIES

MECHANICAL RELIABILITY

TEST	Specification & Requirement	Test Method
Solderability	The surface of terminal/pin tested shall be covered with new solder at least 90%	Terminal shall be immersed for 5~10 sec. in flux at room temperature. Dip sample unto solder bath containing solder at 245±3°C for 3±0.5 seconds
Shock	Inductance changed within ±5% without mechanical damage.	Drop down with 981m/s ² (100G) shock Attitude upon a rubber block method shock testing machine, 3 tests
Vibration	Inductance changed within ±5% without mechanical damage.	Vibration frequency: 10 Hz to 55 Hz to 10 Hz 60 sec. cycle Vibration time: 2 hours

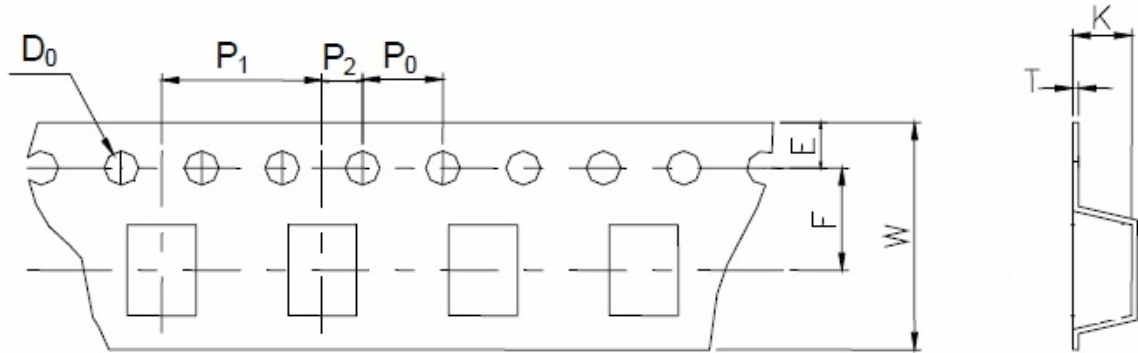
ENDURANCE RELIABILITY

TEST	Specification & Requirement	Test Method
Thermal shock	Inductance changed within ±5% without mechanical damage.	-55°C, (30mins) -> room temp. (5mins) ->125°C, (30mins) ->room temp.(5mins) 100 cycles
Heat resistance	Inductance changed within ±5% without mechanical damage.	Apply IDC current @85°C ambient Duration: 1000 hours
Humidity Resistance	Inductance changed within ±5% without mechanical damage.	Apply IDC current @60°C ambient Humidity: 90% ~ 95% Duration: 1000 hours
Low Temp. Storage	Inductance changed within ±5% without mechanical damage.	Storage Temp. -25 °C ± 2 °C for total 1000 hours then measured at room temp.
High Temp Storage	Inductance changed within ±5% without mechanical damage.	Storage Temp. +125 °C ± 2 °C for total 1000 hours then measured at room temp.

WIRE WOUND POWER INDUCTOR MCS SERIES

■ Tape & Reel Packaging Dimension

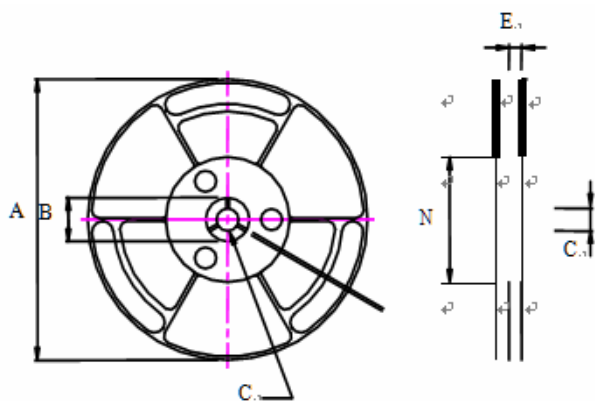
Tape Dimension



Unit: mm

Size	W	F	E	P ₀	P ₂	P ₁	D ₀	T	K
0410	12.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	8.0±0.1	φ1.6 max	0.30±0.05	1.3±0.1
0420	12.0±0.2	3.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	8.0±0.1	φ1.6 max	0.30±0.05	2.5±0.1
0530	16.0±0.2	7.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	12.0±0.1	φ1.6 max	0.40±0.05	3.4±0.1
0612	16.0±0.2	7.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	12.0±0.1	φ1.6 max	0.40±0.05	1.5±0.1
0618	16.0±0.2	7.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	12.0±0.1	φ1.6 max	0.40±0.10	2.3±0.1
0624	16.0±0.2	7.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	12.0±0.1	φ1.6 max	0.40±0.10	3.0±0.1
0630	16.0±0.2	7.5±0.1	1.75±0.1	4.0±0.1	2.0±0.05	12.0±0.1	φ1.6 max	0.40±0.10	3.4±0.1

Reel Dimensions



Unit: mm

Size	A	B	C	E	N
04xx	330±0.2	21.0±1.0	13.5±0.5	12.0±0.5	90 min
05/06xx	330±0.2	21.0±1.0	13.5±0.5	20.5±0.5	90 min