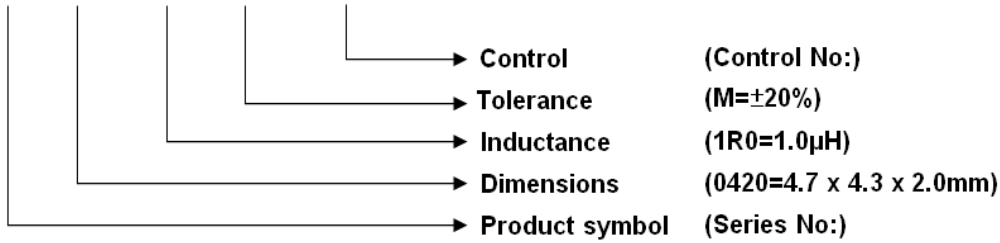


# SPECIFICATION FOR APPROVAL

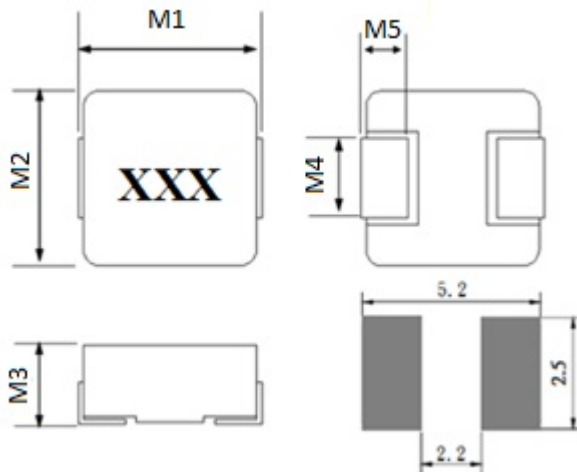
※This is a RoHS and REACH compliant product whose related documents are available on request.  
 ※Graphic is only for dimensionally application.

## 1. PRODUCT IDENTIFICATION

**MCS 0420-** □□□ □ □□



## 2. PRODUCT DIMENSION



UNIT: mm

	DIM.	TOL.
M1	4.45	±0.25
M2	4.0	±0.3
M3	1.8	±0.2
M4	1.5	±0.3
M5	0.8	±0.3

## 3. MARKING

Marking ex:1.0uH → 1R0



# SPECIFICATION FOR APPROVAL

## 4. ELECTRICAL SPEC.

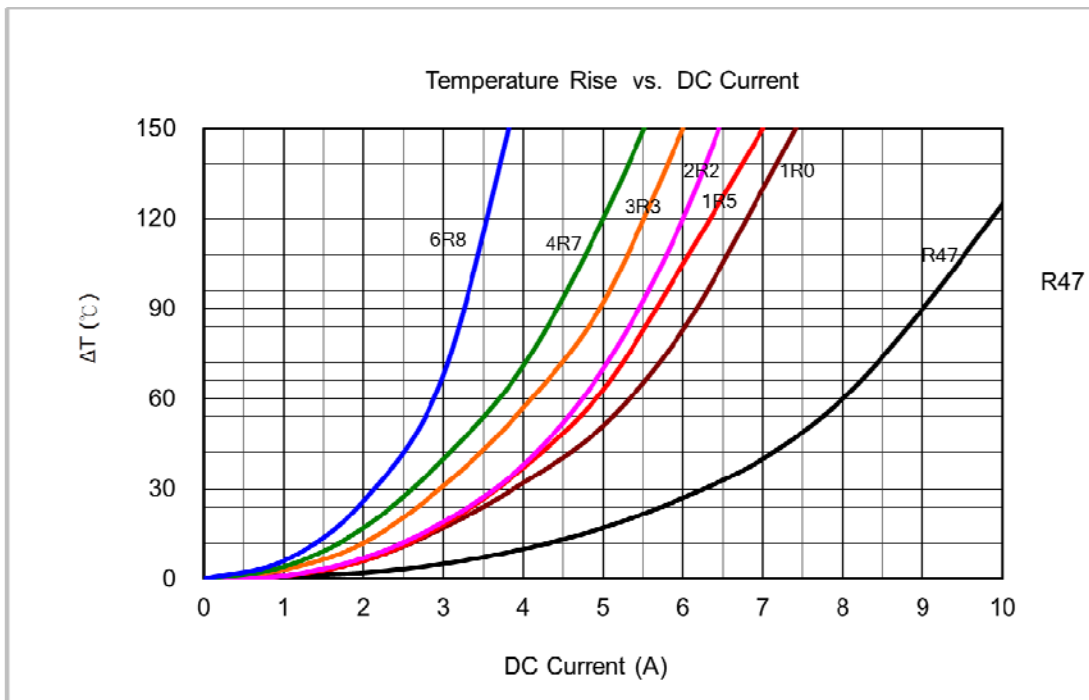
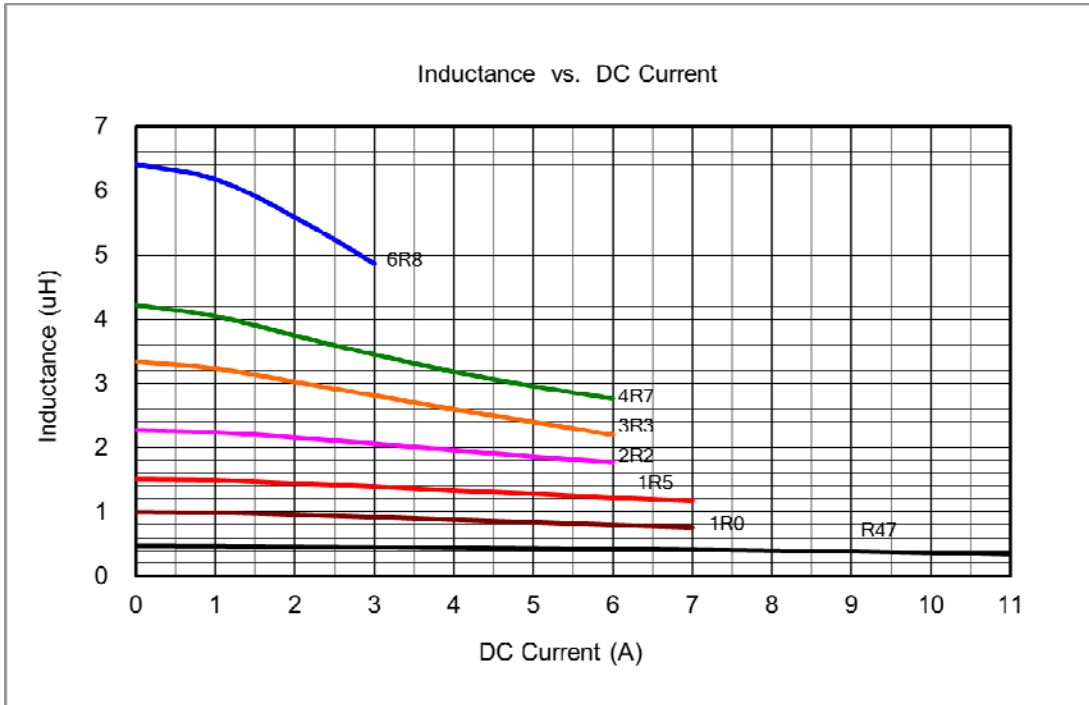
PART NO.	Inductance ( $\mu$ H) $\pm 20\%$	DCR (m $\Omega$ ) Typical 25 $^{\circ}$ C	DCR (m $\Omega$ ) MAX.25 $^{\circ}$ C	Rated Current (A) Typical	I sat (A) Typical
MCS0420-R10MN2	0.10	3.5	4.0	12.0	22.0
MCS0420-R15MN2	0.15	6.0	6.6	9.0	13.0
MCS0420-R22MN2	0.22	6.0	6.6	9.0	12.5
MCS0420-R47MN2	0.47	12.5	14.0	7.0	9.5
MCS0420-R56MN2	0.56	14.0	16.0	6.5	10.0
MCS0420-R68MN2	0.68	16.0	18.0	6.0	9.0
MCS0420-1R0MN2	1.0	24.0	27.0	4.5	7.0
MCS0420-1R2MN2	1.2	24.0	27.0	4.5	7.0
MCS0420-1R5MN2	1.5	38.0	46.0	4.0	6.0
MCS0420-2R2MN2	2.2	52.0	58.0	3.0	5.0
MCS0420-3R3MN2	3.3	74.0	87.0	2.5	4.0
MCS0420-4R7MN2	4.7	98.0	110.0	2.2	3.5
MCS0420-5R6MN2	5.6	105.0	115.0	1.8	3.5
MCS0420-6R8MN2	6.8	160.0	175.0	1.5	2.5
MCS0420-100MN1	10	256	282	1.2	2.2

TEST INSTRUMENT: CHROMA 16502 、Zentech1320+Zentech3305

- (1). Test Freq : 100KHz , 0.5V
- (2). All test data is referenced to 25 $^{\circ}$ C ambient.
- (3). Operating Temperature Range -25 $^{\circ}$ C to +125 $^{\circ}$ C.
- (4). Rated Current: DC current(A)that will cause an approximate $\Delta$ T of 40 $^{\circ}$ C.
- (5). I sat: DC current(A)that will cause Lo to drop approximately 30%.
- (6). The part temperature(ambient +temp rise)should not exceed 125 $^{\circ}$ C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part

# SPECIFICATION FOR APPROVAL

## 5. ELECTRICAL CURVE



# SPECIFICATION FOR APPROVAL

## 6. RELIABILITY PERFORMANCE

### Reliability Experiment For Electrical

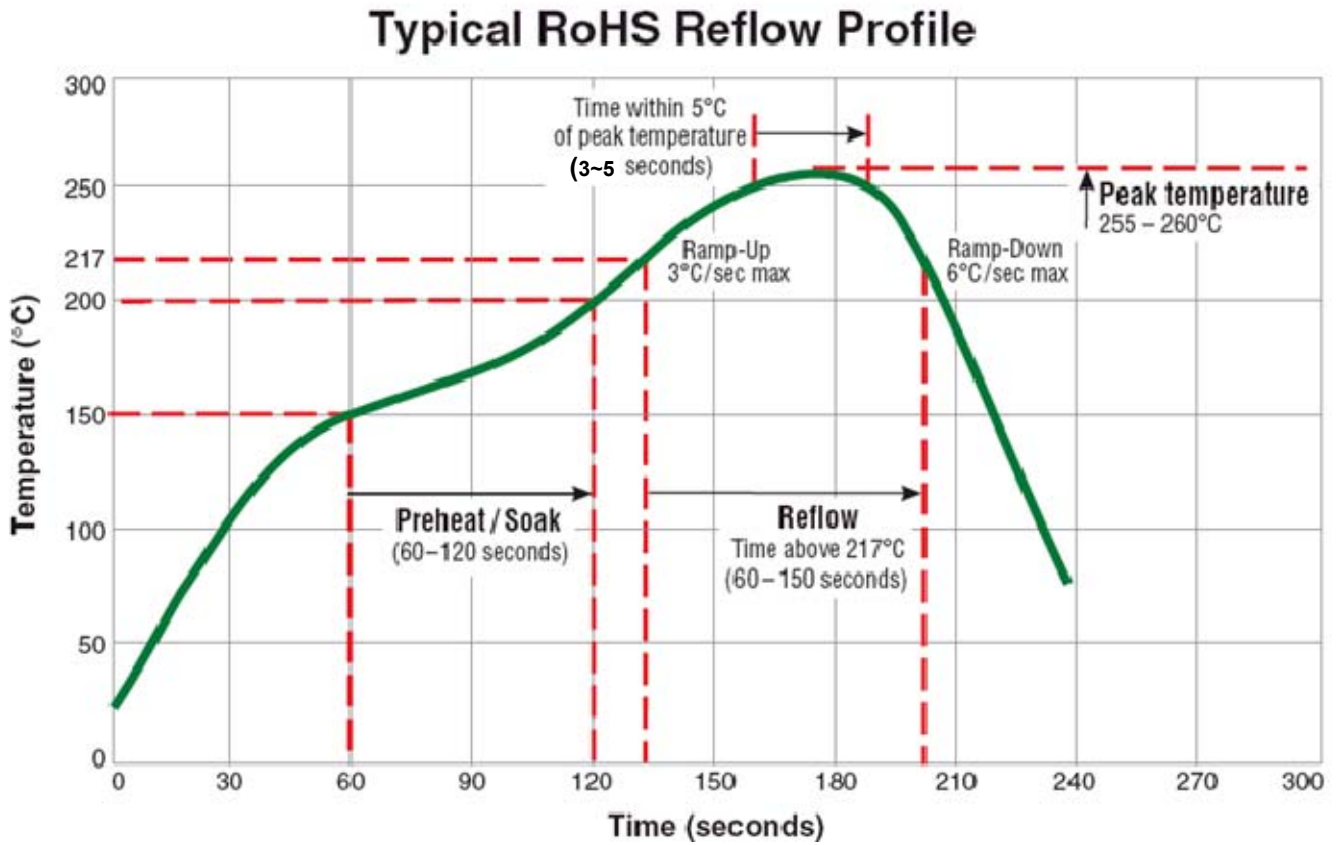
Test Item	Test Condition	Standard Source
Humidity Test	+40°C±2°C, humidity of 90%±5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1.Temperature: +125°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Temperature: -40°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	+125°C±5°C (30 minutes) ~ -40±5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles) Wind speeds 10m/sec.	Reference MIL-STD-202G Method 107G Test Condition B-2
Life Test	+70°C±5°C (300Hours).	Reference MIL-STD-202G Method 108A Test Condition B

### Reliability Experiment For Physical

Test Item	Test Condition	Standard Source
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	IR/convection reflow: Peak Temp 255°C~260°C for 3~5 Sec. in air, Through 2 Cycle. Temperature Ramp:+1~4°C/sec.;; Above 217°C, must keep 90 s - 120 s.	Reference MIL-STD-202G Method 210F Test Condition K (Reflow)
Solder Ability Test	Soak in 245°C solder pot of 3~5 Sec., PAD must have 95% above coverage.	Reference J-STD-002D

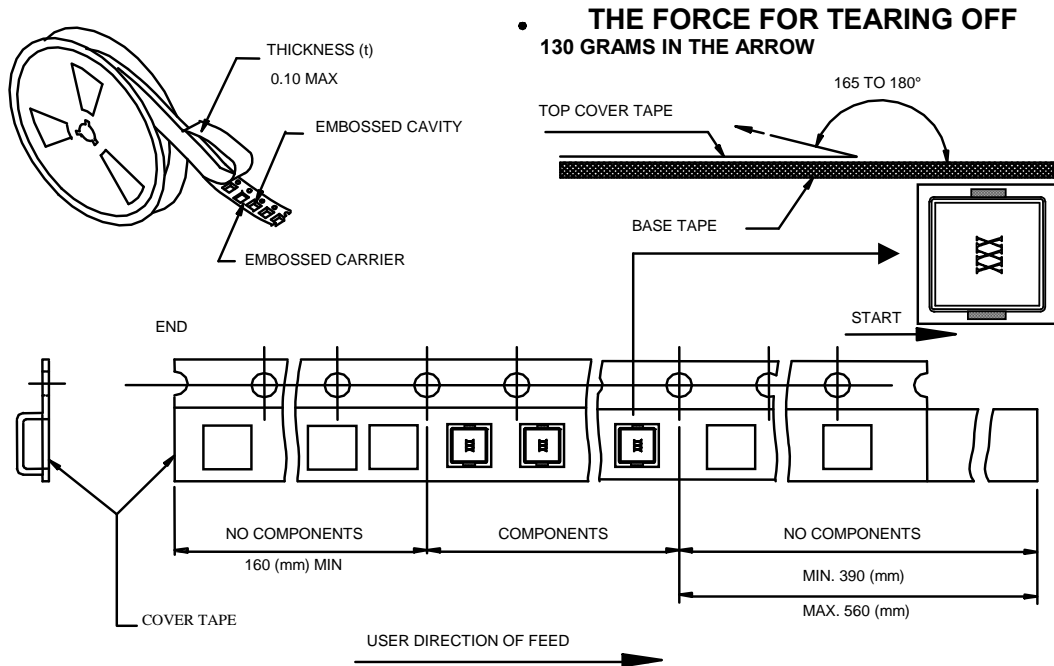
# SPECIFICATION FOR APPROVAL

## 7. TYPICAL RoHS REFLOW PROFILE



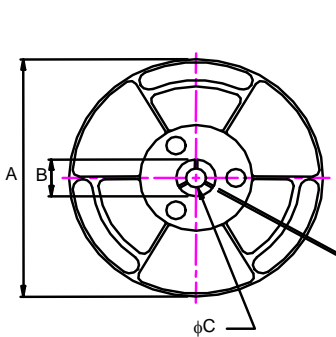
# SPECIFICATION FOR APPROVAL

## 8. PACKAGING



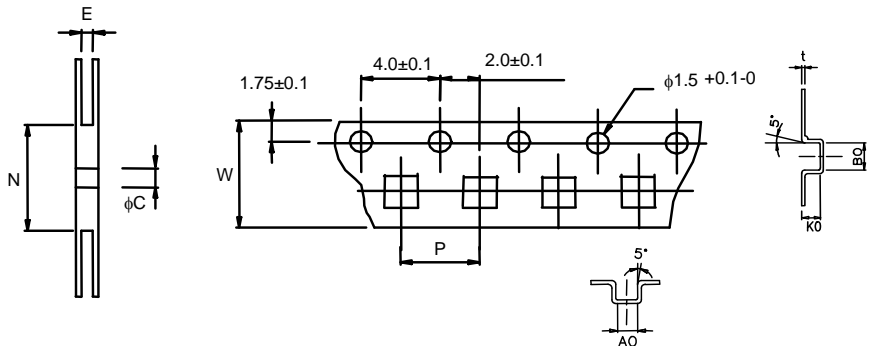
### ■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC



**2000 Parts per Reel**

### ■ DIMENSIONS OF CARRIER TAPE (mm)



※ 10 sprocket hole pitch cumulative tolerance  $\pm 0.20$

UNIT: mm

	A	B	C	E	N	P	W	t	A0	B0	K0
DIM.	330	25.0	13.5	13.0	100	8.0	12.0	0.3	4.7	4.4	2.5
TOL.	$\pm 0.2$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	MIN	$\pm 0.1$	$\pm 0.3$	$\pm 0.05$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$