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SPECIFICATION FOR APPROVAL

CUSTOMER	CUSTOMER P/N	REV. —	SPL. LOT NO.	
PART NAME HIGH CURRENT POWER CHOKE (ROHS+HF)	PART NO. MCS SERIES	REV. ORIG	DATE OF ISSUE 2014-3-3	Q'TY PC

※This is a RoHS and REACH compliant product.

1. FEATURES

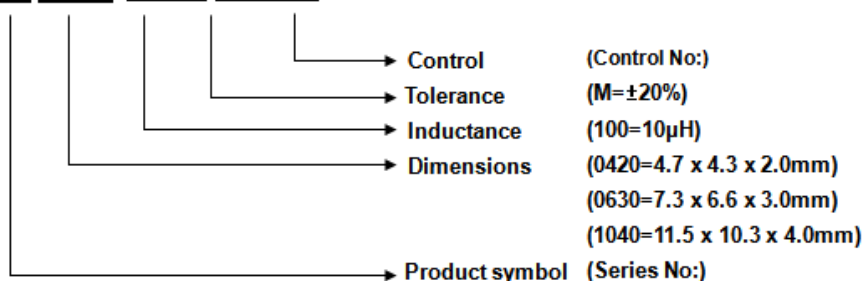
- Shielded construction.
- Frequency Range: up to 1 MHz.
- Handles high transient current spikes without saturation.
- Low loss realized with low DCR
- 100% lead (Pb) free meet RoHS standard

2. APPLICATION

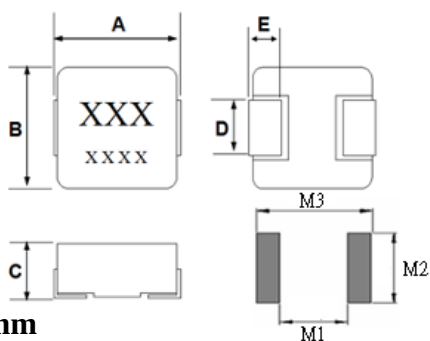
- Notebook, PDA, desktop, and server applications.
- High current POL converters
- Low profile, high current power supplies.
- Battery powered devices
- DC/DC converters in distributed power systems.

3. Product Identification

MCS XXXX- □□□ □ □□



4. Product Dimension



UNIT: mm

	A	B	C	D	E	M1	M2	M3
MCS0420	4.45±0.25	4.0±0.3	1.8±0.2	1.5±0.3	0.8±0.3	2.2	2.5	5.2
MCS0630	7.3 MAX	6.6±0.2	3.0 MAX	3.0±0.3	1.6±0.3	3.7	3.5	7.4
MCS1040	11.5±0.35	10.0±0.3	4.0 MAX	3.0±0.5	2.0±0.5	5.4	4.4	13.5

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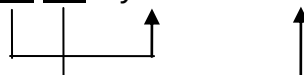
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5. Marking and Date code:

Marking ex:1.0uH → 1R0

Date code

XX XX → year and weekly ex:1033



6. Electrical Spec.:

PART NO.	Inductance (uH)±20%	DCR mΩ Typical 25°C	DCR mΩ MAX.25°C	Rated Current Typical (A)	I sat Typical (A)
MCS0420-R47MN2	0.47	12.5	14.0	7.0	9.5
MCS0420-1R0MN2	1.0	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	92.0	105.0	2.2	3.0
MCS0420-6R8MN2	6.8	162.0	178.0	2.0	2.1
MCS0630-R22MN2	0.22	2.50	2.80	23.0	40.0
MCS0630-R33MN2	0.33	3.50	3.90	20.0	30.0
MCS0630-R47MN2	0.47	4.00	4.20	17.5	26.0
MCS0630-R56MN2	0.56	4.70	5.00	16.5	25.5
MCS0630-R68MN2	0.68	5.00	5.50	15.5	25.0
MCS0630-R82MN2	0.82	6.70	8.0	13.0	20.0
MCS0630-1R0MN2	1.00	9.00	10.0	11.0	20.0
MCS0630-1R5MN2	1.50	14.0	15.0	9.0	16.0
MCS0630-2R2MN2	2.20	17.0	20.0	8.0	12.0
MCS0630-3R3MN2	3.30	28.0	30.0	6.0	10.0
MCS0630-4R7MN2	4.70	37.0	40.0	5.5	7.0
MCS0630-6R8MN2	6.80	54.0	60.0	4.5	6.5
MCS0630-8R2MN1	8.20	54.0	60.0	4.5	6.5
MCS0630-100MN1	10.00	62.0	68.0	4.0	5.5
MCS0630-150MN1	15.00	120.0	160.0	2.0	4.0
MCS0630-220MN1	22.00	165.0	190.0	2.0	3.5
MCS0630-330MN1	33.00	226.0	271.0	2.0	2.2
MCS1040-R22MN1	0.22	0.80	1.0	30.0	50.0
MCS1040-R36MN1	0.36	1.1	1.2	34.0	40.0
MCS1040-R47MN1	0.47	1.3	1.55	25.0	35.0
MCS1040-R56MN1	0.56	1.6	1.8	25.0	32.0

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PART NO.	Inductance (uH)±20%	DCR mΩ Typical 25°C	DCR mΩ MAX.25°C	Rated Current Typical (A)	I sat Typical (A)
MCS1040-R68MN1	0.68	2.4	2.7	22.0	30.0
MCS1040-1R0MN1	1.0	3.0	3.3	18.0	28.0
MCS1040-1R5MN1	1.5	3.8	4.2	16.0	21.0
MCS1040-2R2MN1	2.2	6.7	7.0	12.0	18.0
MCS1040-3R3MN1	3.3	10.8	11.8	10.0	16.0
MCS1040-4R7MN1	4.7	17.0	20.0	8.5	15.0
MCS1040-6R8MN1	6.8	22.5	25.0	6.5	9.0
MCS1040-100MN1	10.0	27.0	30.0	7.5	8.5
MCS1040-220MN1	22.0	60.0	66.0	5.0	5.5

TEST INSTRUMENT: CHROMA 16502 、Zentech1320+Zentech3305

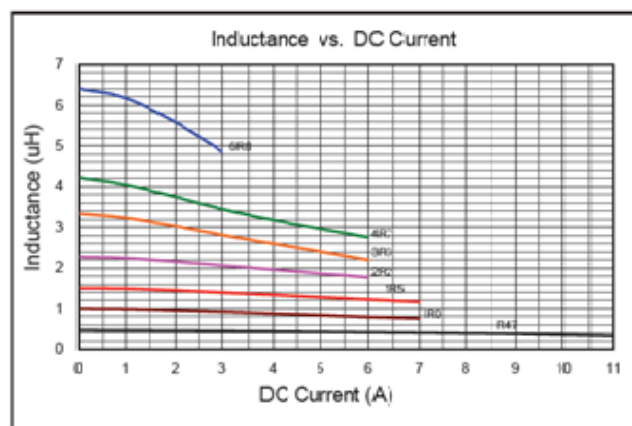
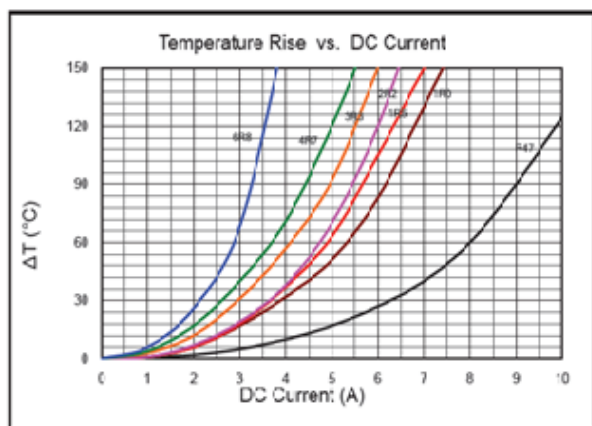
- (1). Test Freq : 100KHz , 0.5V
- (2). All test data is referenced to 25°C ambient.
- (3). Operating Temperature Range -55°C to +125°C.
- (4). Rated Current: DC current(A)that will cause an approximate ΔT of 40°C.
- (5). I sat: DC current(A)that will cause L_o to drop approximately 30%.
- (6). The part temperature(ambient +temp rise)should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature Part temperature should be verified

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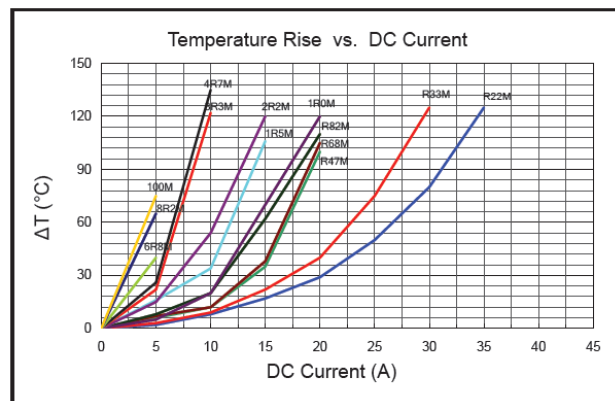
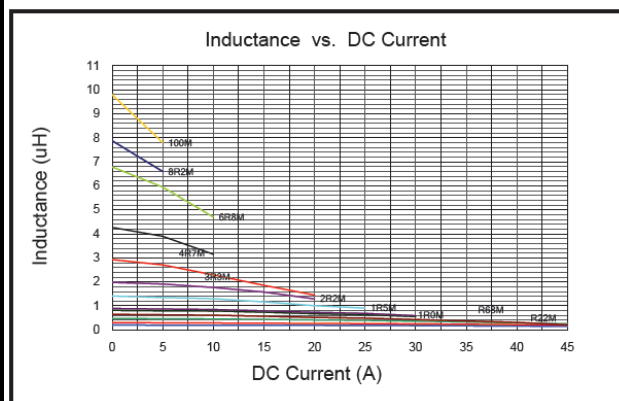
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			Q'TY PC

7. ELECTRICAL CURVE:

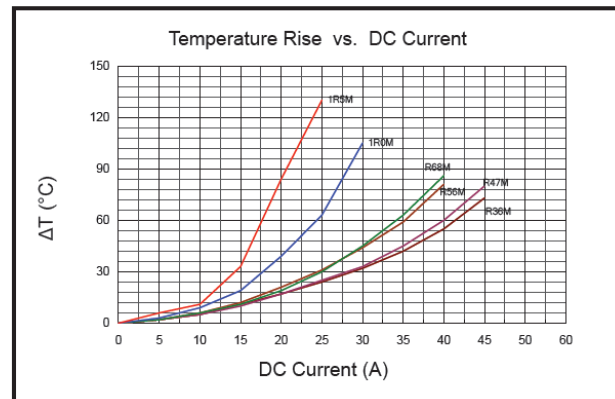
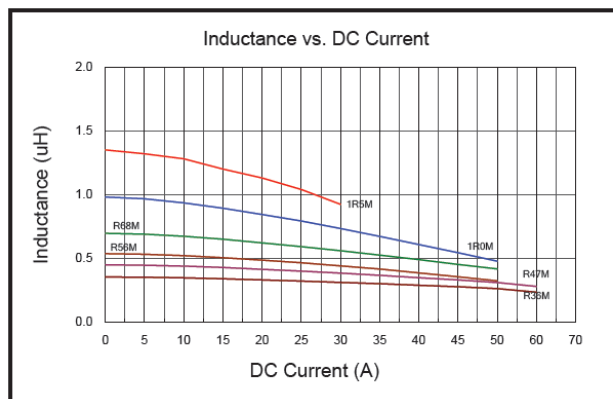
• MCS0420



• MCS0630



• MCS1040



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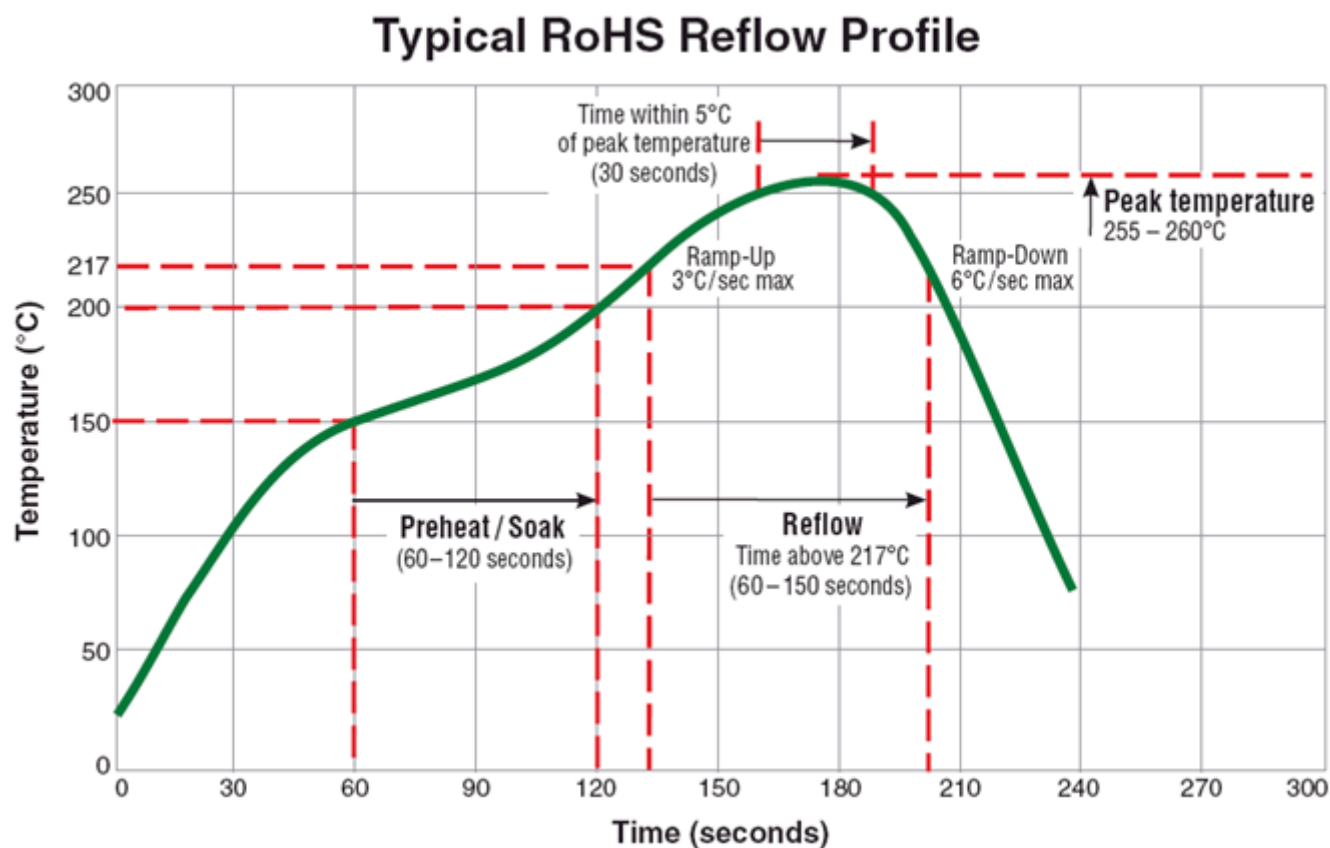
8. RELIABILITY PERFORMANCE

Test Item	Test Condition
Temp cycling	1. +125°C±5°C for 30min ~ +25°C±5°C for 2hrs ~ -40±5°C for 30min 2. Total 10 cycles
Biased humidity	1. Temp: +60°C±2°C 2. R.H: 90%±5% 3. Total 96hrs
Thermal shock	1. +125°C±3°C for 30min ~ -65-5°C for 30min ° 2. Time of temp shift 2min 3. Total 50cycles
High temperature exposure (storage)	1. Temp: +125°C±2°C 2. Total 48±2hrs
Low temp storage	1. Temp -40°C±2°C 2. Total 48±2hrs
Salt spraying	1. Chamber temp: 35°C 2. 5% concentration of salt sprayed 3. To erode for 24hrs
Vibrating test	1. Freq: 10-55-10HZ 2. Amplitude: 1.5mm 3. Direction: X, Y, Z 4. Time: 2hrs for each direction, total 6hrs

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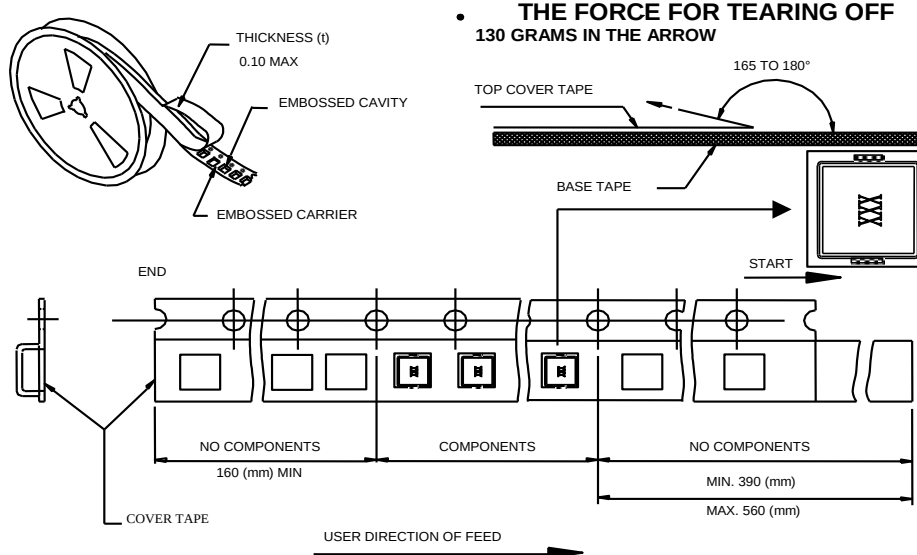
CUSTOMER	CUSTOMER P/N	REV. —	SPL. LOT NO.	
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TYPICAL RoHS REFLOW PROFILE :



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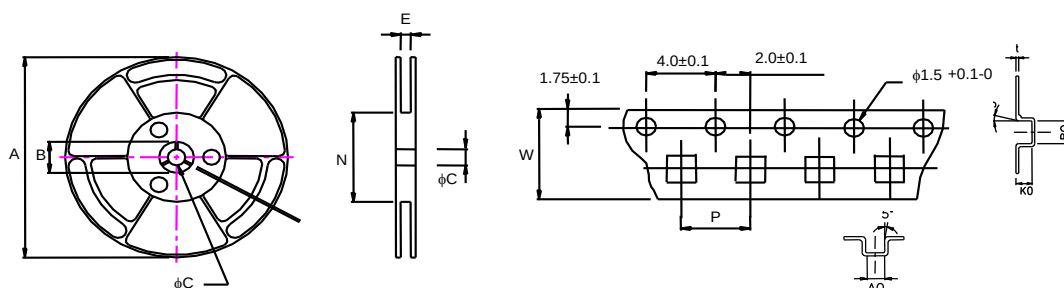
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CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

DIMENSIONS OF CARRIER TAPE (mm)



UNIT : mm

※ 10 sprocket hole pitch cumulative tolerance ±0.20

	A	B	C	E	N	P	W	t	A0	B0	K0
MCS0420	330±0.2	25.0±0.5	13.5±0.5	13.0±0.5	100MIN	8.0±0.1	12.0±0.3	0.3±0.05	4.7±0.1	4.4±0.1	2.5±0.1
MCS0630	330±0.2	25.0±0.5	13.0±0.5	16.6±0.5	100MIN	12.0±0.1	16.0±0.3	0.4±0.05	6.9±0.1	7.6±0.1	3.4±0.1
MCS1040	330±0.2	25.0±0.5	13.0±0.5	24.6±0.5	100MIN	16.0±0.1	24.0±0.3	0.4±0.05	10.6±0.1	11.7±0.1	4.25±0.1

Packaging Quantity:

	Reel		carton	
	Q'ty (pcs)		Q'ty (pcs)	
MCS0420	2000		12000	
MCS0630	1000		7000	
MCS1040	500		3000	