



SPECIFICATION FOR APPROVAL

| | |
|-----------------|--------------------------------------|
| CUSTOMER | _____ |
| CUST. PART NO. | _____ |
| CUST. DOC. REV. | _____ |
| DESCRIPTION | HIGH CURRENT POWER CHOKE (ROHS+H.F.) |
| SAMPLE LOT NO. | _____ |
| PART NO. | MCS20FC-XXXMHC |
| DOC. REV. | ORIG |
| DATE | _____ |

Once you approve this part, please sign and return this page to the following marked location.

Customer Signature: _____ Date: _____

This part currently development section.

Production line can produce this series of products.

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| TESTED BY | CHECKED BY | APPROVED BY |
|-----------|------------|-------------|
| | | |

TABLE OF CONTENTS

| INDEX | Page |
|---|-------------|
| ■ Engineering Change Notice - Record | 2 |
| ■ Product Identification | 3 |
| ■ Product Dimension | 3 |
| ■ Electrical Spec. | 3 |
| ■ Electrical Curve | 4 |
| ■ Reliability Performance | 5 |
| ■ Reflow Chart | 6 |
| ■ Package Form | 7 |
| ■ Test Report | |

SPECIFICATION FOR APPROVAL

| | | | | |
|--|-----------------------------------|---------------------|----------------------|----------------------|
| CUSTOMER | CUSTOMER P/N | REV. — | SPL. LOT NO. | |
| PART NAME HIGH CURRENT POWER CHOKE (ROHS+H.F.) | PART NO. MCS20FC-XXXMHC | REV. ORIG | DATE OF ISSUE | Q'TY 0 PCS |

ENGINEERING CHANGE NOTICE - RECORD

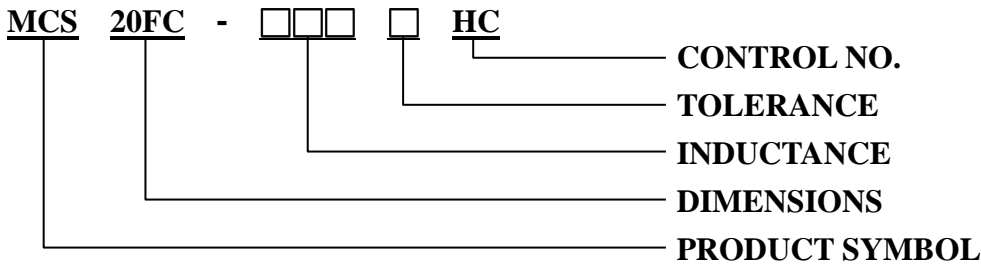
| REVISION NO. | REVISION DESCRIPTION | AUTHOR | DATE | REMARK |
|--------------|----------------------|--------------------|------|--------|
| ORIG | | <i>Zhikai Deng</i> | | |

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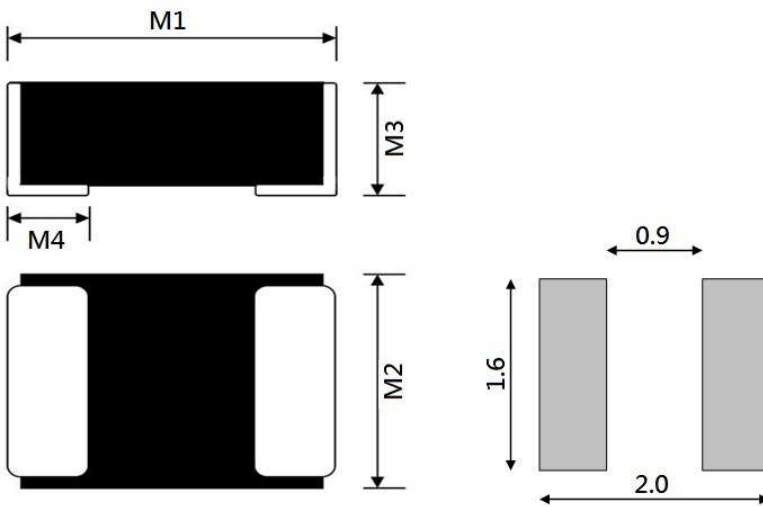
※This is a RoHS and REACH compliant product whose related documents are available on request.

※Graphic is only for dimensionally application.

1 .PRODUCT IDENTIFICATION



2. PRODUCT DIMENSION



UNIT: mm

| | DIM. | TOL. |
|----|------|------|
| M1 | 2.0 | ±0.2 |
| M2 | 1.6 | ±0.2 |
| M3 | 1.0 | MAX. |
| M4 | 0.5 | ±0.3 |

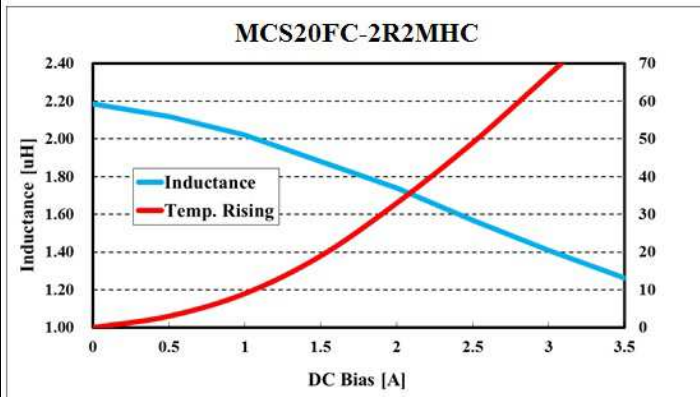
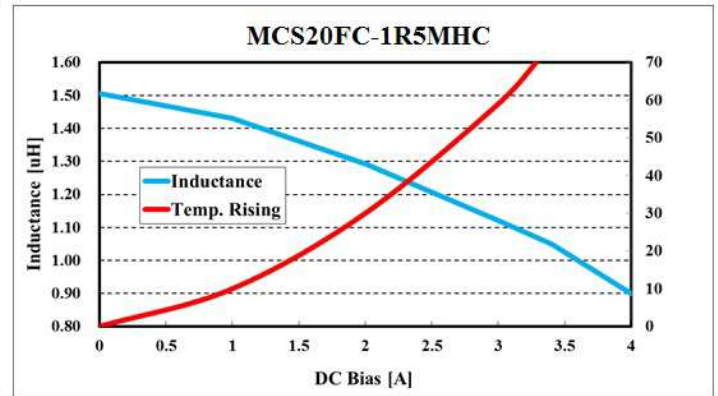
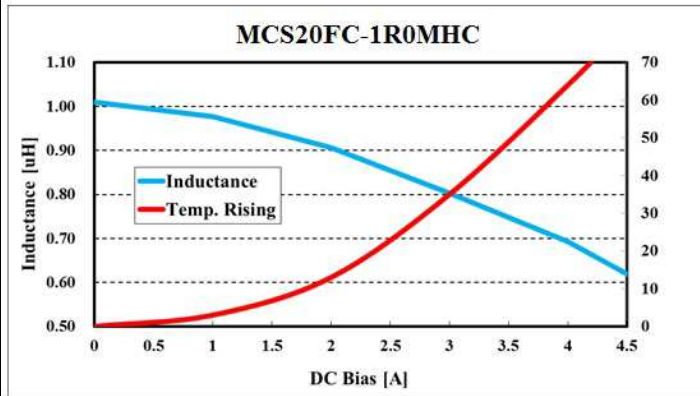
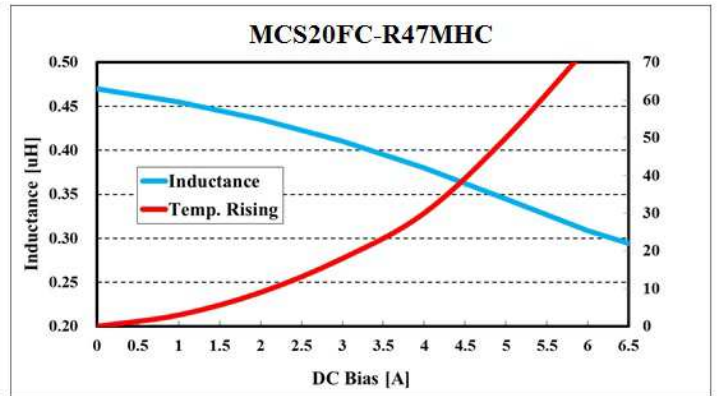
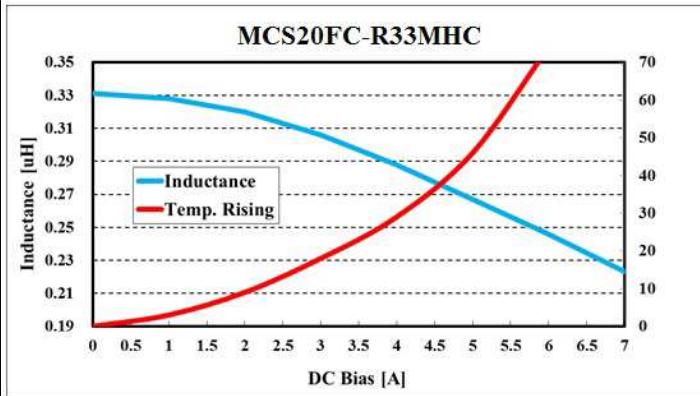
3. ELECTRICAL SPEC.

| PART NO. | Inductance (uH) ±20% | DCR (mΩ) Typical | DCR (mΩ) MAX. | Irms (A) Typical | Irms (A) MAX. | I sat (A) Typical | I sat (A) MAX. |
|----------------|----------------------------|------------------------|---------------------|------------------------|---------------------|-------------------------|----------------------|
| MCS20FC-R33MHC | 0.33 | 21 | 26 | 4.7 | 4.0 | 6.7 | 6.1 |
| MCS20FC-R47MHC | 0.47 | 23 | 30 | 4.5 | 4.05 | 6.1 | 5.3 |
| MCS20FC-1R0MHC | 1.0 | 48 | 60 | 3.2 | 3.0 | 3.9 | 3.3 |
| MCS20FC-1R5MHC | 1.5 | 86 | 99 | 2.4 | 2.2 | 3.4 | 3.1 |
| MCS20FC-2R2MHC | 2.2 | 117 | 140 | 2.2 | 2.0 | 2.6 | 2.45 |

- (1). Test Freq : 1MHz , 1V
- (2). All test referenced to 26°C ambient.
- (3). Operating Temperature range: -40°C to +125°C
- (4). Storage Temperature range: -50°C to +125°C
- (5). Isat means that DC current will cause a 30% inductance reduction from initial value.
- (6). Irms means that DC current will cause coil temp. rising to 40°C whichever is smaller.

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4. ELECTRICAL CURVE



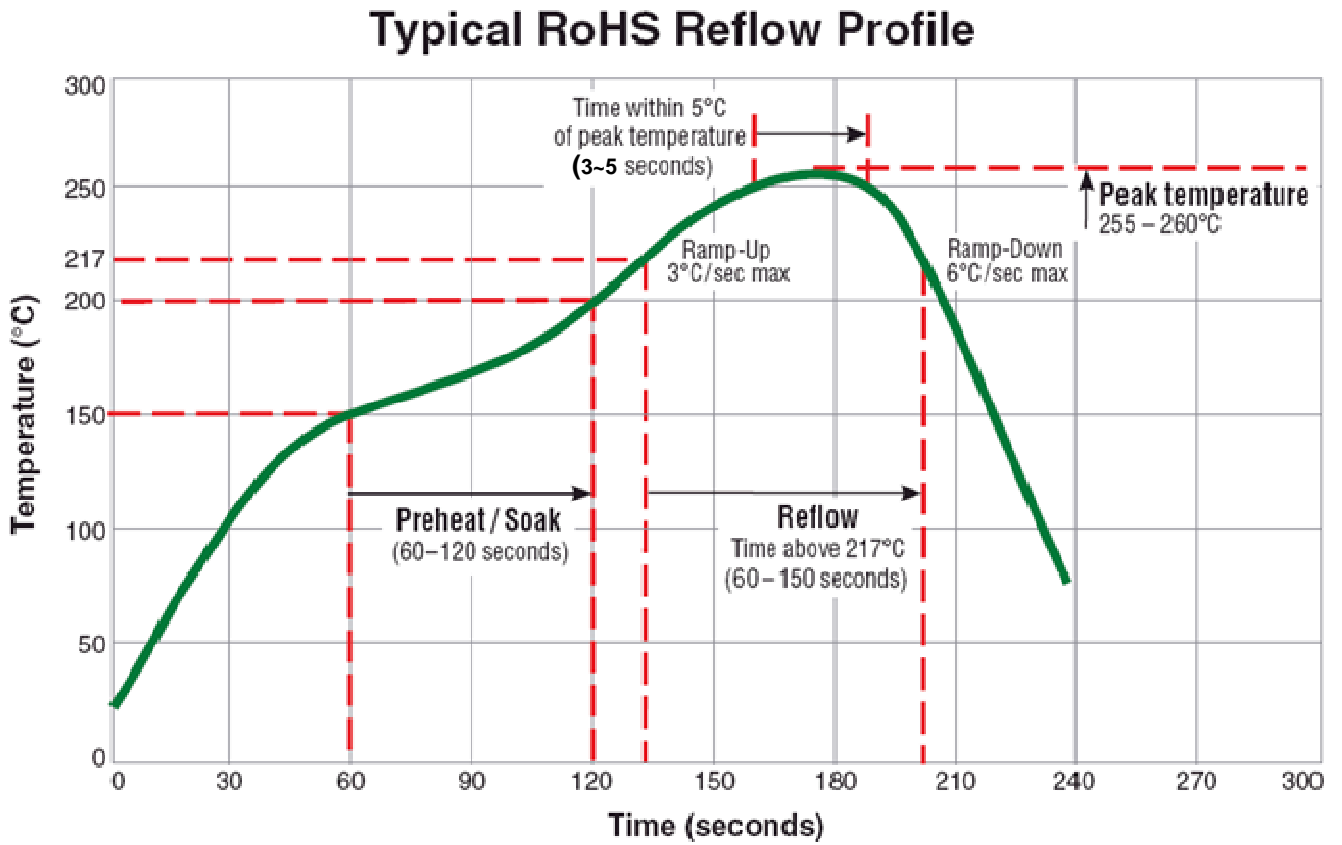
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5. RELIABILITY PERFORMANCE

| Test Item | Test Condition | Criteria |
|---------------------------|---|---|
| Resistance to Solder Heat | <ol style="list-style-type: none"> 1. Solder temperature: 260±5°C 2. Flux: Rosin 3. DIP time: 10±1 sec | <ol style="list-style-type: none"> 1. More than 95% of terminal electrode should be covered with new solder 2. No mechanical damage 3. Inductance value should be within ±20% of the initial value |
| Adhesive Test | <ol style="list-style-type: none"> 1. Reflow temperature: 245°C It shall be Soldered on the substrate applying direction parallel to the substrate 2. Apply force(F): 5N 3. Test time: 10 sec | <ol style="list-style-type: none"> 1. No mechanical damage 2. Soldering the products on PCB after the pulling test force > 5N |
| Temperature Cycle | <ol style="list-style-type: none"> 1. Temperature: -50 ~ 125°C For 30 minutes each 2. Cycle: 500 cycles 3. Measurement: At ambient temperature 24 hours after test completion | <ol style="list-style-type: none"> 1. No mechanical damage 2. Inductance should be within ±20% of the initial value |
| Dry Heat Test | <ol style="list-style-type: none"> 1. Temperature: 85±2°C 2. Testing time: 500 hrs 3. Applied current: Full rated current 4. Measurement: At ambient temperature 24 hours after test completion | <ol style="list-style-type: none"> 1. No mechanical damage 2. Inductance should be within ±20% of the initial value |
| Humidity Test | <ol style="list-style-type: none"> 1. Temperature: 60±2°C 2. Humidity: 90-95% RH 3. Applied current: Full rated current 4. Testing time: 500 hrs 5. Measurement: At ambient temperature 24 hours after test completion | <ol style="list-style-type: none"> 1. No mechanical damage 2. Inductance should be within ±20% of the initial value |

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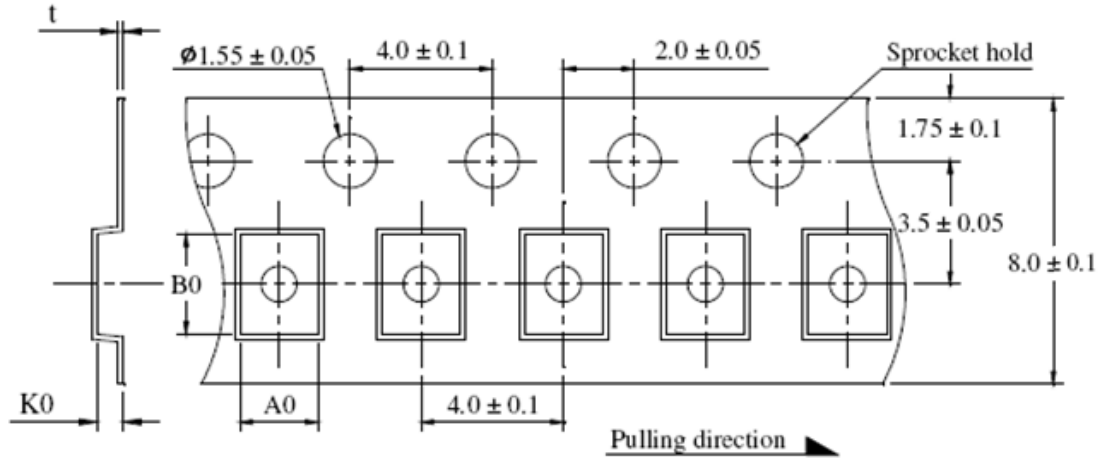
6. TYPICAL RoHS REFLOW PROFILE



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7. PACKAGING

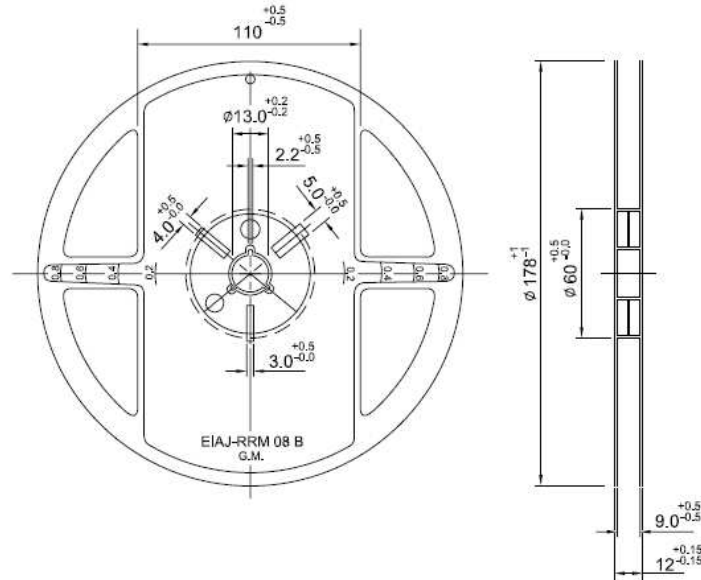
7.1 Carrier tape dimensions



UNIT : mm

| | A0 | B0 | K0 | t |
|-------------|------------------|------------------|------------------|------------------|
| DIM. | 1.82±0.05 | 2.23±0.05 | 1.15±0.05 | 0.22±0.05 |

7.2 Taping reel dimensions



| | |
|------------------|----------------------------|
| Qty.(pcs) | 3,000 |
| BOX | 5 reels / inner box |