Data Sheet

Customer:

Product: Wire Wound Power Inductor (Molded) – MCS20FC Series

Size : 201610

Issued Date: 06-Oct.-2023

Edition: Ver. 3

Record of change

Date	Ver.	Description	Page
20-Dec.-2018	1		
25-Feb.-2021	2	Revised code on dimension	2
06-Oct.-2023	3	Add 0.24uH & Spec.	3

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)
06-Oct.-2023	06-Oct.-2023	06-Oct.-2023	
Hwa Wu	Andy Hsu	Arthur Su	

MOLDED POWER INDUCTOR MCS20FC SERIES

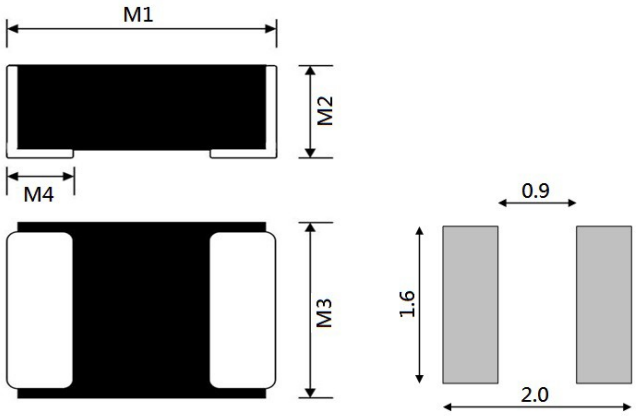
Features

The MCS-20FC 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

Thin Type On-Board Power Supply Module.
DC/DC Converters, etc.
Portable Device and Other Various Electronic Appliance.

PRODUCT DIMENSION



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

UNIT:mm

Part Numbering

MCS20FC	-	R47	M	MP
SERIES		INDUCTANCE	TOLERANCE	CONTROL CODE
		R47= 0.47uH	M= ±20%	
		2R2= 2.2 uH		

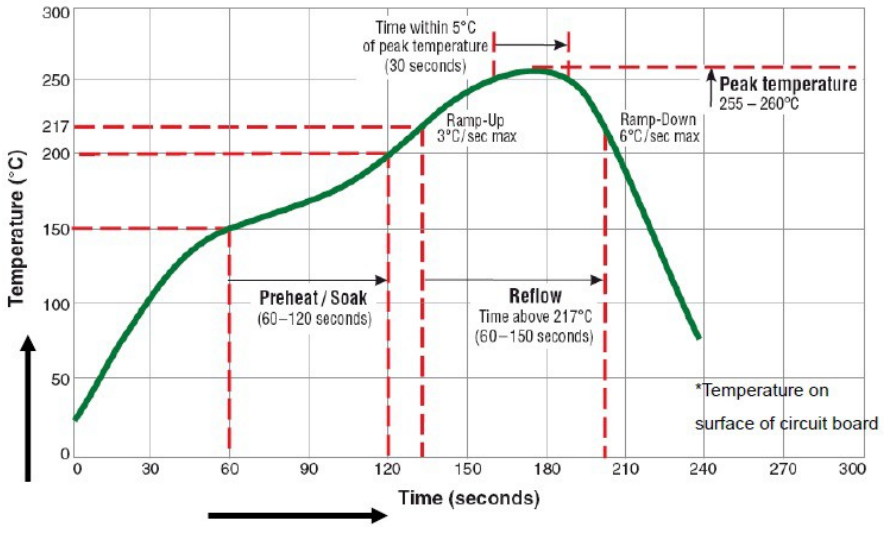
MOLDED POWER INDUCTOR MCS20FC SERIES

ELECTRICAL SPECIFICATION

PART NO.	Inductance (uH) ±20%	DC Resistance (mΩ) Typical	DC Resistance (mΩ) Max.	Irms (A) Typical	Irms (A) Max.	I sat (A) Typical	I sat (A) Max.
MCS20FC-R24MMP	0.24	17	21	5.0	4.50	5.6	5.05
MCS20FC-R33MMP	0.33	24	29	4.1	3.69	5.0	4.50
MCS20FC-R47MMP	0.47	33	40	3.5	3.15	4.4	4.00
MCS20FC-R68MMP	0.68	41	49	3.4	3.06	3.7	3.33
MCS20FC-1R0MMP	1.0	60	69	2.6	2.26	2.9	2.61
MCS20FC-1R5MMP	1.5	114	129	2.0	1.81	2.5	2.25
MCS20FC-2R2MMP	2.2	135	150	1.7	1.50	1.9	1.71

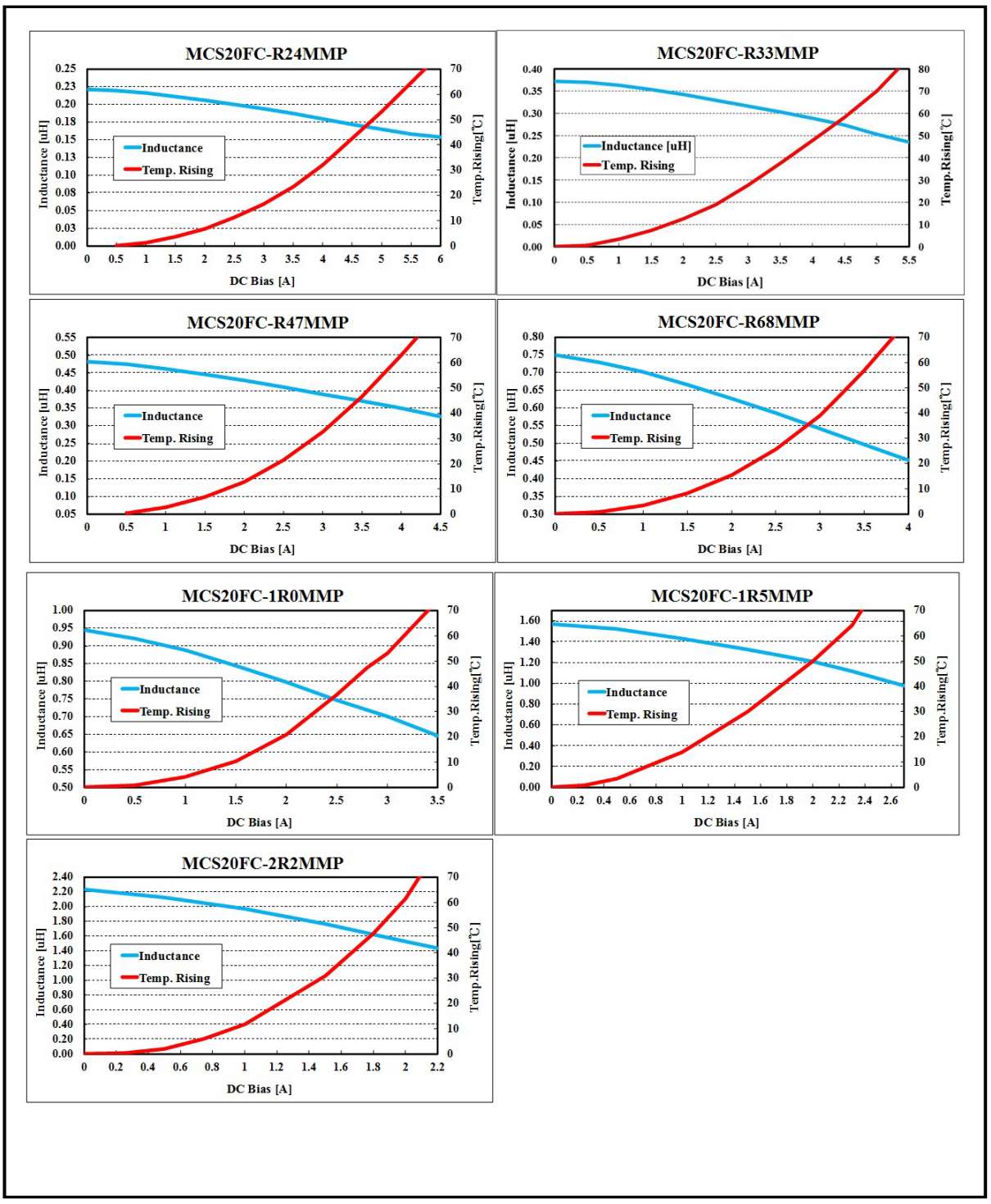
(1). Test Freq : 1MHz , 1V
(2). All test referenced to 26℃ ambient.
(3). Operating Temperature range: -40℃ to +125℃
(4). Storage Temperature range: -50℃ to +125℃
(5). Isat means that DC current will cause a 30% inductance reduction from initial value.
(6). Irms means that DC current will cause coil temp.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

RoHS Reflow Soldering Profile



MOLDED POWER INDUCTOR MCS20FC SERIES

ELECTRICAL CURVE



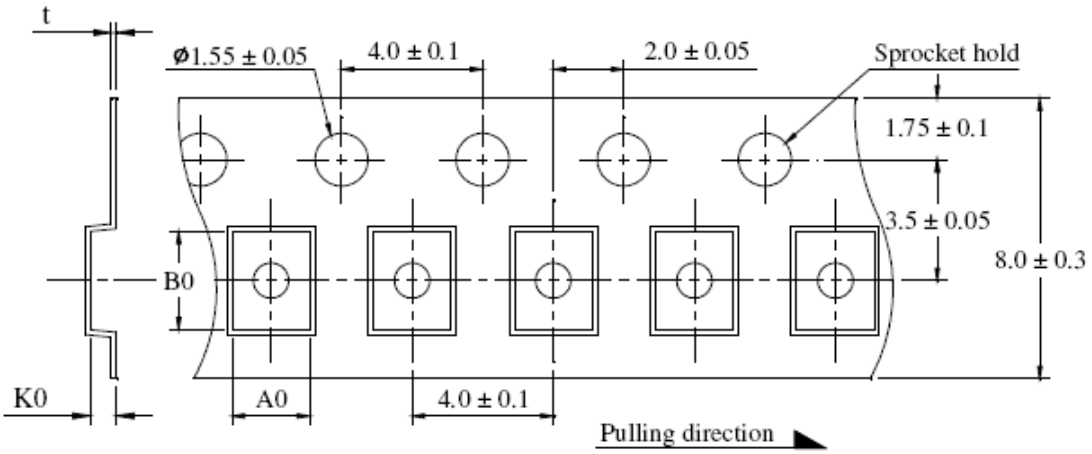
MOLDED POWER INDUCTOR MCS20FC SERIES

RELIABILITY PERFORMANCE

Test Item	Test Condition	Criteria
Resistance to Solder Heat	1. Solder temperature: 260±5℃ 2. Flux: Rosin 3. DIP time: 10±1 sec	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	1. Reflow temperature: 245℃ It shall be Soldered on the substrate applying direction parallel to the substrate 2. Apply force(F): 5N 3. Test time: 10 sec	1. No mechanical damage 2. Soldering the products on PCB after the pulling test force > 5N
Temperature Cycle	1. Temperature: -50 ~ 125℃ For 30 minutes each 2. Cycle: 500 cycles 3. Measurement: At ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value
Dry Heat Test	1. Temperature: 85±2℃ 2. Testing time: 500 hrs 3. Applied current: Full rated current 4. Measurement: At ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value
Humidity Test	1. Temperature: 60±2℃ 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	1. No mechanical damage 2. Inductance should be within ±20% of the initial value

PACKAGING

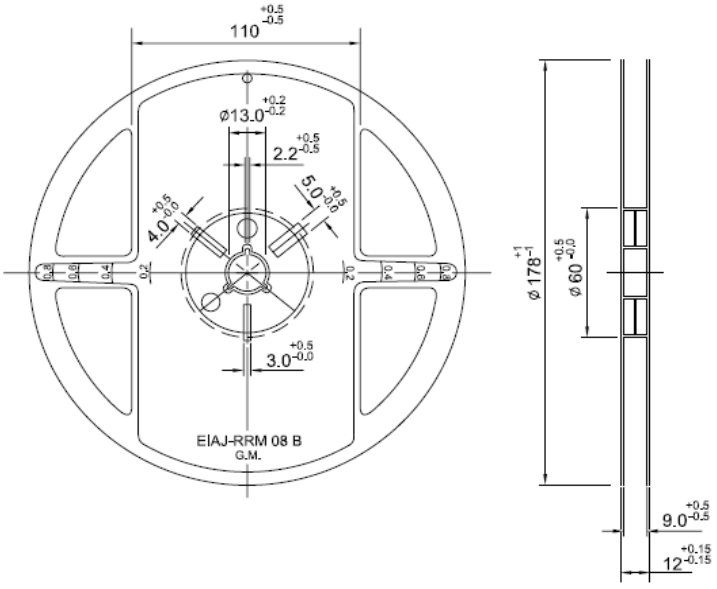
Carrier tape dimensions



	A0	B0	K0	t
DIM.	1.80±0.1	2.20±0.1	1.15±0.1	0.22±0.05

UNIT : mm

Taping reel dimensions



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