



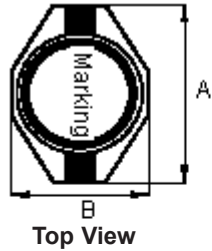
PART NO.

MCBFS5220-220MU

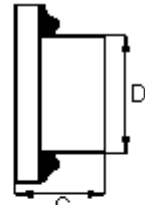
REVISIONS

ECN #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
-	A	RELEASED	ASK	20/4/11	SID	20/4/11		04/5/11

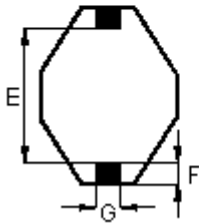
Configurations and Dimensions



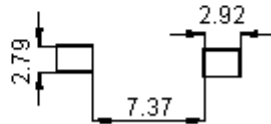
Top View



Side View



Bottom View

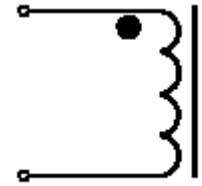


Suggest PCB Layout

Dimensions : Millimetres

A	12.95 mm	(Max.)
B	9.5 mm	
C	5.2 mm	
D	8.4 ± 0.3 mm	-
E	7.62 mm	(Ref.)
F	2.54 mm	
G		

Schematic Diagram



Note:

1. Wire Ø0.21mm × 1P 2UEWF 155°C
2. 29.5TS (Reference)



Marking : 220

Electrical Characteristics (at 25°C)

Test Condition		
100 KHz 0.1 V	L	22 µH ±20%
at 25°C	DCR	218 mΩ (Max.)
100 KHz 0.1 V I _{rms} = 1.88 A	L at I _{rms}	ΔT 40°C (Max.)

Operating temperature : -55°C to +130°C

Note : I_{rms} : Temperature rise 40°C

Test Data for Mechanical

Test Item	A mm	B mm	C mm	D mm	E mm	F mm	G mm
Specification	12.95 (Max.)	9.5 (Max.)	5.2 (Max.)	8.4 ±0.3	7.62 (Ref.)	2.54 (Ref.)	2.54 (Ref.)
1	12.78	9.23	4.81	8.5	7.62	2.52	2.53
2	12.75	9.22	4.8	8.48	7.6	2.51	2.52
3	12.78	9.2	4.81	8.51	7.61	2.53	2.53
4	12.7	9.18	4.8	8.52	7.62	2.5	2.51
5	12.74	9.2	4.79	8.49	7.59	2.52	2.52
Average	12.75	9.21	4.8	8.5	7.61	2.52	2.52

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DRAWING TITLE:

Inductor

SIZE
A

DWG NO.

M10003465

ELECTRONIC FILE
MCBFS5220-220MU

REV
A

SCALE: NTS

U.O.M.: mm

SHEET: 1 OF 4



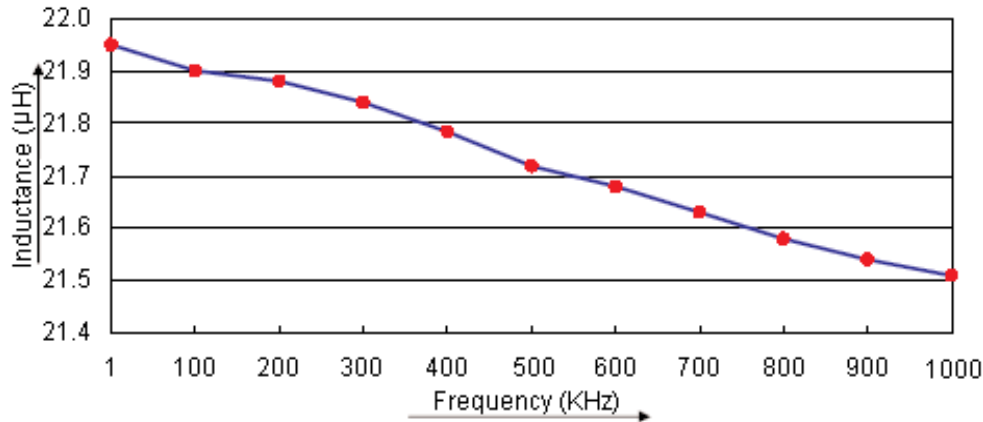
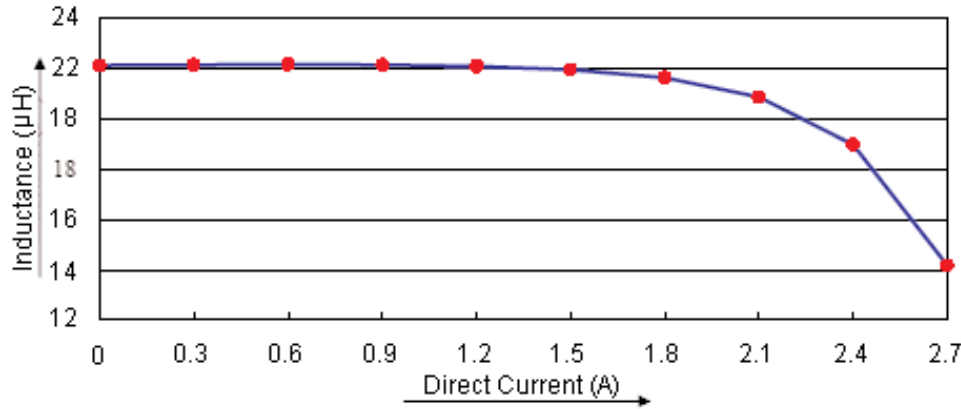
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Electric Characteristics



Test Data for Electrical

Test Item	L µH	DCR mΩ	L at I _{rms} µH
Condition	100 KHz 0.1 V	at 25°C	100 KHz 0.1 V I _{rms} = 1.88 A
Specification	22 ±20%	218 (Max.)	ΔT 40°C (Max.)
1	22.2	173.73	OK
2	22.07	175.26	
3	22.13	176.45	
4	22.33	172.35	
5	22.05	174.25	
Average	22.15	174.41	OK

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DRAWING TITLE:

Inductor

SIZE A	DWG NO. M10003465	ELECTRONIC FILE MCBFS5220-220MU	REV A
SCALE: NTS	U.O.M.: mm	SHEET: 2 OF 4	



PART NO.

MCBFS5220-220MU

REVISIONS

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Reliability Test

Test Item	Specifications	Test Method and Remarks
Solderability	The electrodes shall be at least 90% covered with new solder coating.	According to IEC68-2-20 Soldering temperature : 245 ±5°C Solder : Sn99.3% / Cu0.7% Flux : Rosin Immersion time : 5 ±1 s
Soldering heat resistance	Appearance : No damage Inductance change : Within ±10% of initial value	Preheat temperature 150°C Preheat time : 1 min Solder temperature : 260 ±5°C Dipping time : 10 ±1 s Measured at room temperature after placing for 24 hours.
Vibration (Out LAB)	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to MIL-STD202 Method 204 Frequency : 10 to 55 Hz Amplitude : 1.52 mm Direction and time X Y and Z direction for 2 hours each.
Humidity resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-1 Method Ca Temperature : 40 ±2°C Humidity : 90%-95% RH Test time : 500 ±2 hrs The component should be stabilized at normal condition for 24 hours before test.
High temperature resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-2 Temperature : 85 ±3°C Test time : 500 +24 hrs The component should be stabilized at normal condition for 24 hours before test.
Low temperature resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-1 Method A (Ad) Temperature : -40 ±3°C Test time : 500 +24 hrs The component should be stabilized at normal condition for 24 hours before test.
Temperature cycles test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-14 Method N (Nb) High-temperature : 85 ±3°C duration 30 mins Room-temperature : 25 ±2°C duration 3 hrs Low-temperature : -40 ±3°C duration 30 mins Room-temperature : 25 ±2°C duration 3 hrs Number of cycle : 10 cycles The component should be stabilized at normal condition for 24 hours before test.

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DRAWING TITLE:

Inductor

SIZE	DWG NO.	ELECTRONIC FILE	REV
A	M10003465	MCBFS5220-220MU	A
SCALE: NTS	U.O.M.: mm	SHEET: 3 OF 4	



PART NO.

MCBFS5220-220MU

REVISIONS

ECN #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
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Material List

No.	Item	Material Description
1	Core	R5A DR4.8 × 4 R5A RI 8.4 × 4.1 × 6.85
2	Wire	Ø0.21 mm × 1P 2UEWF (155°C)
3	Solder (Lead-free)	Sn99.3% / Cu0.7%
4	Glue	TH320D / TH320-3
5	Base	SN-BS019.01 LCP

Part Number Table

Description	Part Number
Inductor, 22µH, 20%, 1.8A	MCBFS5220-220MU

<http://www.element14.com>

<http://www.farnell.com>

<http://www.newark.com>

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SID	20/04/11
APPROVED BY:	DATE:
	04/05/11

DRAWING TITLE:

Inductor

SIZE A	DWG NO. M10003465	ELECTRONIC FILE MCBFS5220-220MU	REV A
SCALE: NTS	U.O.M.: mm	SHEET: 4 OF 4	