MORE® CHANCE 茂昌电子

CUSTOMER :	STD
PRODUCTS :	SHIELDED SMD Power Inductor
PART NO :	MCSI2D Series
CUST P/ NO :	
DATE :	2026.8.16
SALES DEP :	
E-MAIL :	

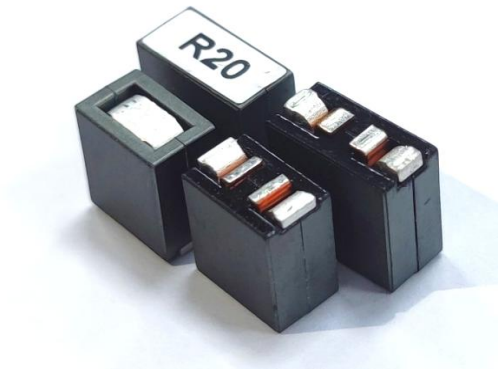
VERSION :	REV.A
CHANGE PROJECT :	–
BEFORE :	-
AFTER :	-
CHANGE DATE :	-
CUSTOMER SIGNATURE :	-

APPROVAL BY :	***CHECK BY :***	***DRAWN BY :***
Honey Wei	***Leo Wang***	***Fu***

CHANGE HISTORY

Ver	Revision Items	Before Revision	After Revision	Date
Rev.A	-	-	-	2026.8.16

MCSI2D Series



- *SHIELDED SMD POWER INDUCTOR*
- *Operating Temperature up tp -40 ℃ ~ 125 ℃*
- *High Current up to 125 A*
- *Low DCR down to 0.125mOhms*
- *Environmental Lead free*
- *Environmental RoHS2.0 compliant*
- *Environmental halogen free*
- *Storage Temperature ：-40 ℃ ~ +85 ℃*
- *Packaging 13"Reel ,Plastic tape: 24.0mm wide*

FEATURES

- Ferrite based with lower core loss
- Frerrite High Bs material.
- Accurate&low DCR design
- The pad surface design is directly completed by the Clip.
- Low thickness by1.5 turn loop design.
- Dual Winding For Sever TLVR design.

Applications

- Multi-phase and Vcore regulators.
- Server and desktop VRMs and EVRDs.
- Data networking and storage systems.
- Buck Converter,TLVR VRMs.

PRODUCT IDENTIFICATION

MC	SI2D	966410	Z	R10	L	R125
①	②	③	④	⑤	⑥	⑦

① Brand & Product classification

② Product Series NO.(SI2D：SMD Power Inductors.)

③ External Dimensions.(966410：L:9.6 × W:6.4 × H:10.5) [mm]

④ Separator code.

⑤ Nominal Inductance

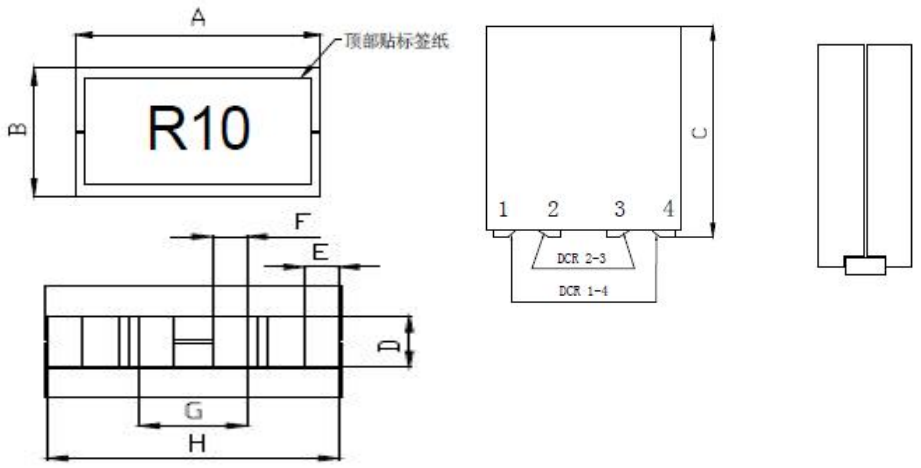
Example	Nominal Value
R10	100nH
R12	120nH

⑥ Inductance Tolerance.(L：±15% ; M：±20% ; N：±30%)

⑦ Nominal DC Resistance.(R125：0.125mΩ)

Mechanical & Dimensions

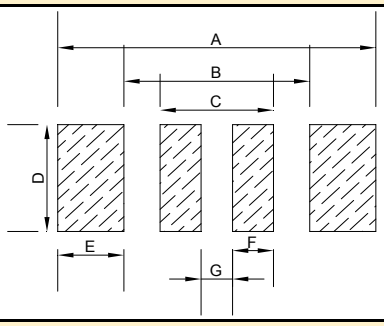
(Unit: mm)



Code	Dimensions
A	9.6 Max
B	6.4 Max
C	10.5 Max
D	3.2Typ
E	1.15Typ
F	0.6Typ
G	2.8Typ
H	9.0Typ

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
A	10.1 Ref
B	5.9 Ref
C	3.6 Ref
D	3.7 Ref
E	2.1 Ref
F	1.3 Ref
G	1.0 Ref

Electrical Characteristics

Part Number	L(nH)[1] ±15%	Li(nH) Min	DCR1[2] (mΩ)±10%	DCR2[3] (mΩ)±10%	Isat(Amps)[4] @25℃	@100℃	@125℃	Irms(Amps)[5] Pin1,4	Pin2,3
MCSI2D966410ZR10LR125	100.0	64.0	0.125	0.330	98.0	83.0	78.0	75.0	40.0
MCSI2D966410ZR12LR125	120.0	77.0	0.125	0.330	79.0	67.0	63.0	75.0	40.0
MCSI2D966410ZR15LR125	150.0	96.0	0.125	0.330	62.0	53.0	49.0	75.0	40.0
MCSI2D966410ZR18LR125	180.0	115.0	0.125	0.330	54.0	46.0	43.0	75.0	40.0
MCSI2D966410ZR22LR125	220.0	140.0	0.125	0.330	50.0	-	-	75.0	40.0

Note:

1.Inductance is measured at 100 KHz and 1.0 Vrms at 25℃

2.The nominal DCR1 is measured at 25℃ ambient temperature For Pin1,4

3.The nominal DCR2 is measured at 25℃ ambient temperature For Pin2,3

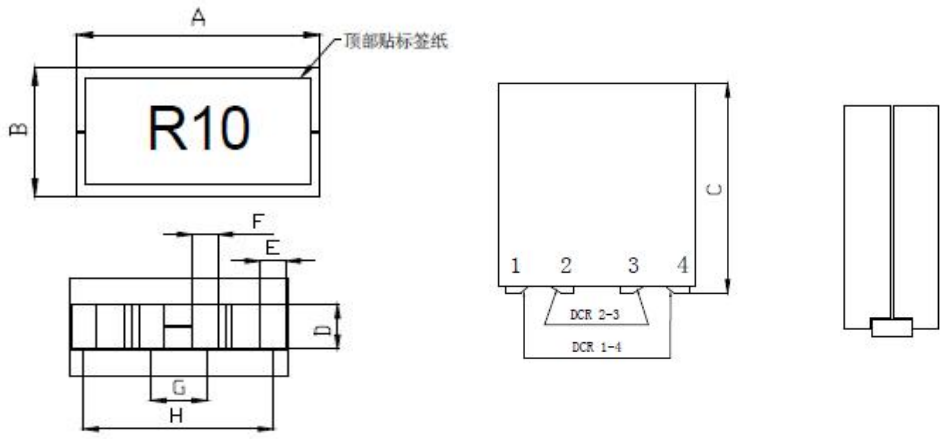
4.The Isat is the DC current which causes the inductance drop to Li .

5.The Irms is the DC current which causes the surface temperature rise approximate 40°C without core loss.

6.The product pad's flatness control to 0.12mm Max.

Mechanical & Dimensions

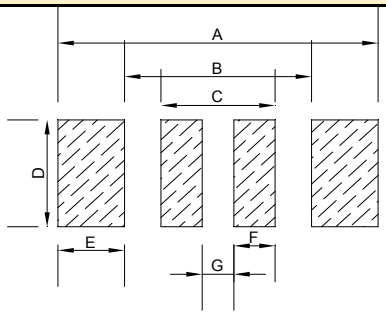
(Unit: mm)



Code	Dimensions
A	10.0 Max
B	5.0 Max
C	12.0 Max
D	2.3 Typ
E	1.1 Typ
F	0.86 Typ
G	1.96 Typ
H	8.6 Typ

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
A	10.35 Ref
B	6.85 Ref
C	3.5 6 Ref
D	3.0 Ref
E	2.7 Ref
F	1.6 Ref
G	0.36 Ref

Electrical Characteristics

Part Number	L(nH)[1] ±15%	DCR1[2] (mΩ)±10%	DCR2[3] (mΩ)±10%	Isat(Amps)[4]		Irms(Amps)[5]	
				@25℃	@100℃	Pin1,4	Pin2,3
MCSI2D100512ZR07LR125	70.0	0.125	0.45	127.0	110.0	75.0	35.0
MCSI2D100512ZR08LR125	80.0	0.125	0.45	111.0	96.0	75.0	35.0
MCSI2D100512ZR09LR125	90.0	0.125	0.45	98.0	85.0	75.0	35.0
MCSI2D100512ZR10LR125	100.0	0.125	0.45	89.0	77.0	75.0	35.0
MCSI2D100512ZR12LR125	120.0	0.125	0.45	74.0	64.0	75.0	35.0
MCSI2D100512ZR15LR125	150.0	0.125	0.45	59.0	51.0	75.0	35.0
MCSI2D100512ZR17LR125	170.0	0.125	0.45	52.0	45.0	75.0	35.0

Note:

1.Inductance is measured at 100 KHz and 1.0 Vrms at 25℃

2.The nominal DCR1 is measured at 25℃ ambient temperature For Pin1,4

3.The nominal DCR2 is measured at 25℃ ambient temperature For Pin2,3

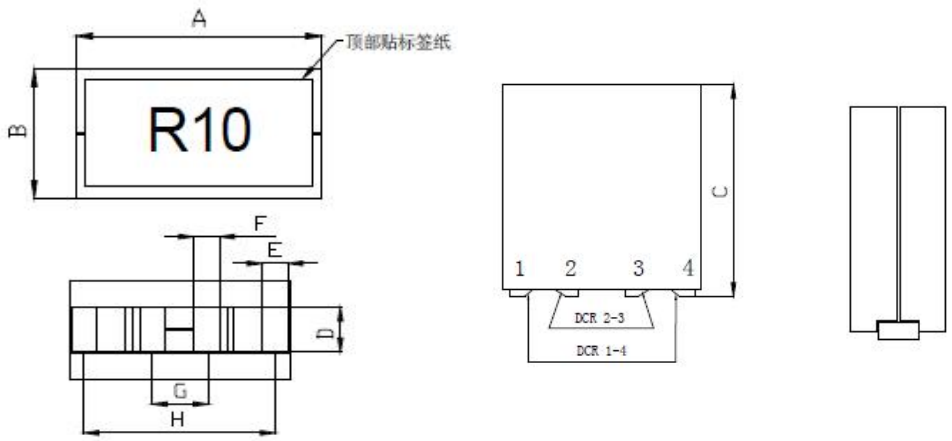
4.The Isat that will cause initial inductance value approximately 20% rolloff.

5.The Irms is the DC current which causes the surface temperature rise approximate 40°C without core loss.

6.The product pad's flatness control to 0.12mm Max.

Mechanical & Dimensions

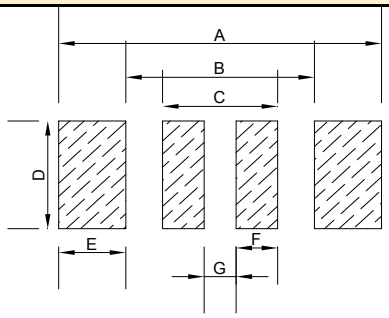
(Unit: mm)



Code	Dimensions
A	11.7±0.3
B	5.7±0.3
C	11.0±0.2
D	2.45±0.3
E	1.3±0.3
F	1.15±0.3
G	2.65±0.5
H	10.1±0.5

Recommend Land Pattern Dimensions

(Unit: mm)



Code	Dimensions
A	12.2 Ref
B	6.5 Ref
C	4.5 Ref
D	3.2 Ref
E	2.7 Ref
F	1.6 Ref
G	1.3 Ref

Electrical Characteristics

Part Number	L(nH)[1] ±15%	DCR1[2] (mΩ)±10%	DCR2[3] (mΩ)±10%	Isat(Amps)[4]		Irms(Amps)[5]	
				@25℃	@100℃	Pin1,4	Pin2,3
MCSI2D120611ZR10LR125	105.0	0.125	0.37	125.0	106.0	77.0	45.0
MCSI2D120611ZR12LR125	120.0	0.125	0.37	102.0	87.0	77.0	45.0
MCSI2D120611ZR15LR125	150.0	0.125	0.37	84.0	71.0	77.0	45.0
MCSI2D120611ZR17LR125	170.0	0.125	0.37	70.0	60.0	77.0	45.0
MCSI2D120611ZR20LR125	200.0	0.125	0.37	58.0	50.0	77.0	45.0

Note:

1.Inductance is measured at 100 KHz and 1.0 Vrms at 25℃

2.The nominal DCR1 is measured at 25℃ ambient temperature For Pin1,4

3.The nominal DCR2 is measured at 25℃ ambient temperature For Pin2,3

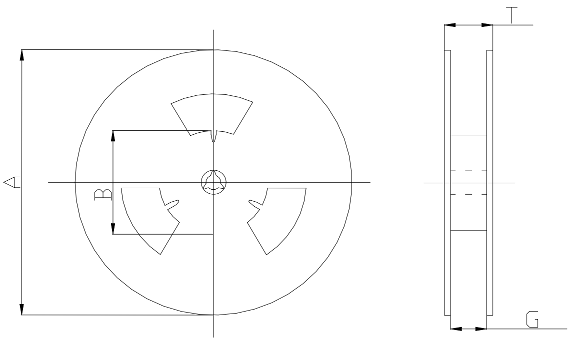
4.The Isat that will cause initial inductance value approximately 20% rolloff.

5.The Irms is the DC current which causes the surface temperature rise approximate 40°C without core loss.

6.The product pad's flatness control to 0.12mm Max.

Packaging

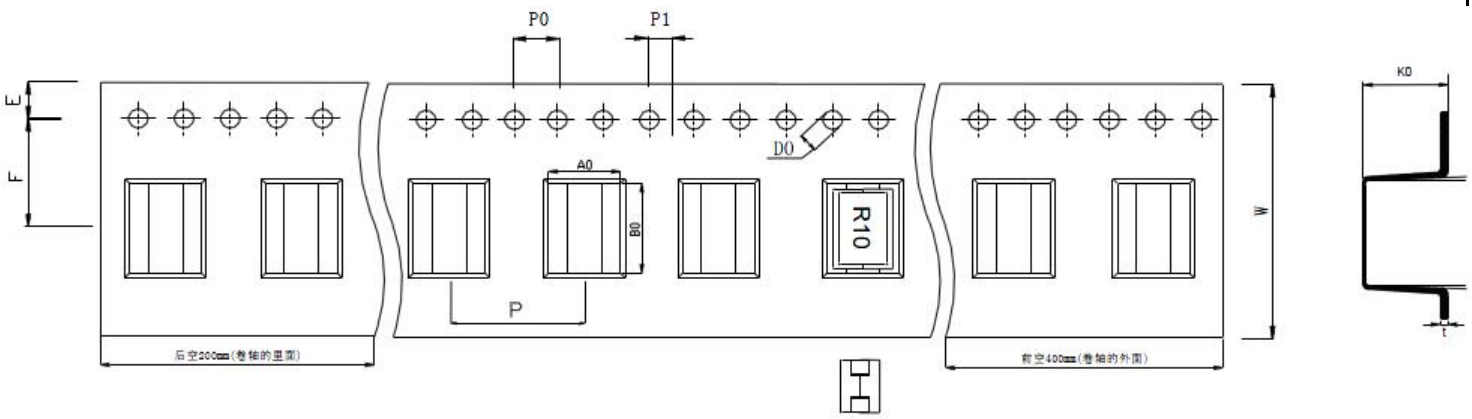
Reel Dimension:



P/N	Type	A(mm)	B(mm)	G(mm)	T(mm)	Chip/Reel
MCSI2D966410	13" x24mm	330	100	20.4	24.5	500
MCSI2D100512	13" x24mm	330	100	20.4	24.5	300
MCSI2D120611	13" x24mm	330	100	20.4	24.5	400

Packaging

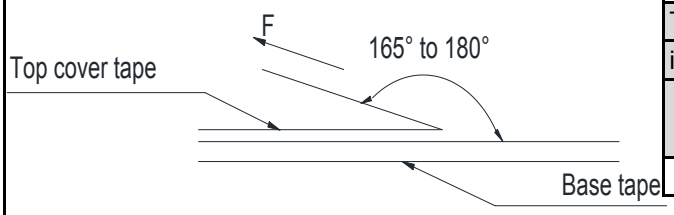
Tape Dimension:



P/N	W	Ao	Bo	Ko	E	F	D0	P	P0	P1
MCSI2D966410	24±0.3	9.8±0.3	6.6±0.3	10.7±0.3	1.75±0.1	11.5±0.1	1.5±0.1	12±0.1	2±0.1	0.5±0.05
MCSI2D100512	24±0.3	5.2±0.1	10.2±0.1	12.3±0.1	1.75±0.1	11.5±0.1	1.5±0.1	16±0.1	4±0.1	2.0±0.10
MCSI2D120611	24±0.3	6.2±0.1	12.2±0.1	11.3±0.1	1.75±0.1	11.5±0.1	1.5±0.1	12±0.1	2±0.1	0.5±0.05

Packaging

Tearing Off Force:



The force tearing off cobe tape is 10 to 130 g.f in the arrow direction under the following conditions			
Room Temp (℃)	Room Humidity (%)	Room atrn (hPa)	Teaming Speed (mm/min)
5~35	45~85	860~1060	300

※Storage Conditions

1. Temperature and humidity conditions: -40℃ ~ +85℃ and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

※Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Recommended Soldering Conditions

Figure 1. Re-flow Soldering

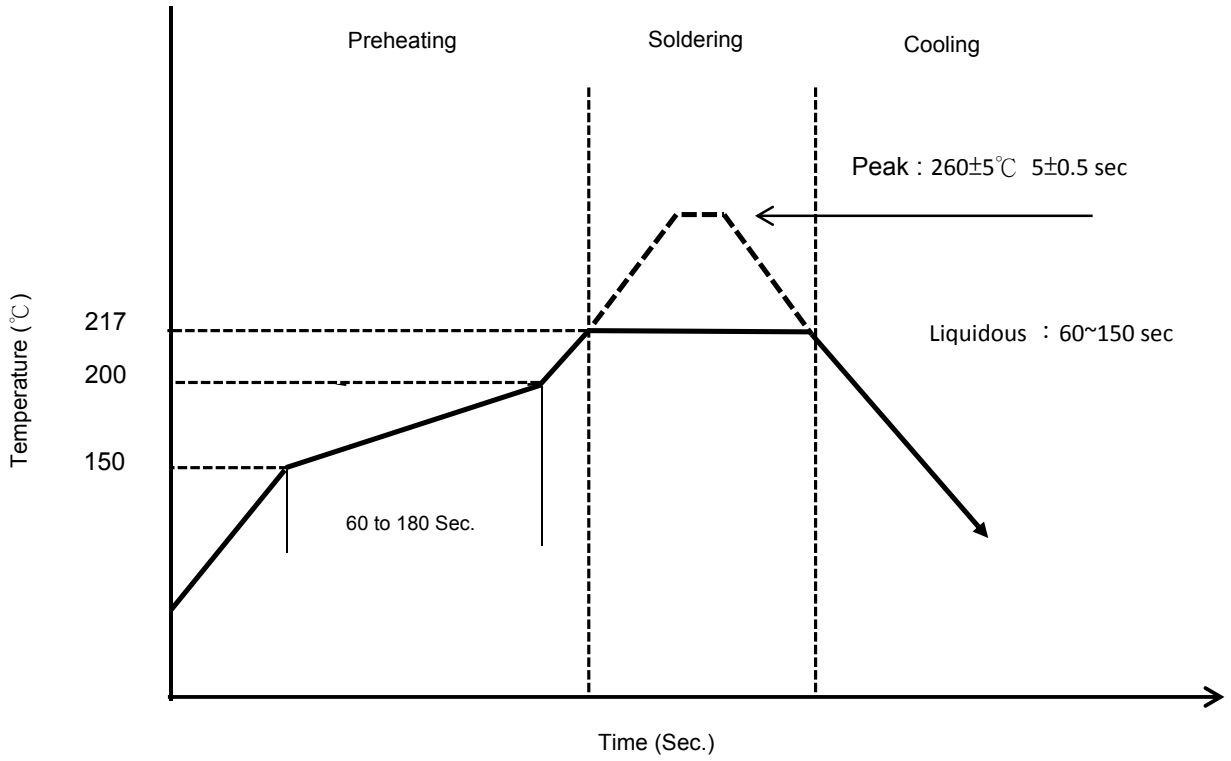
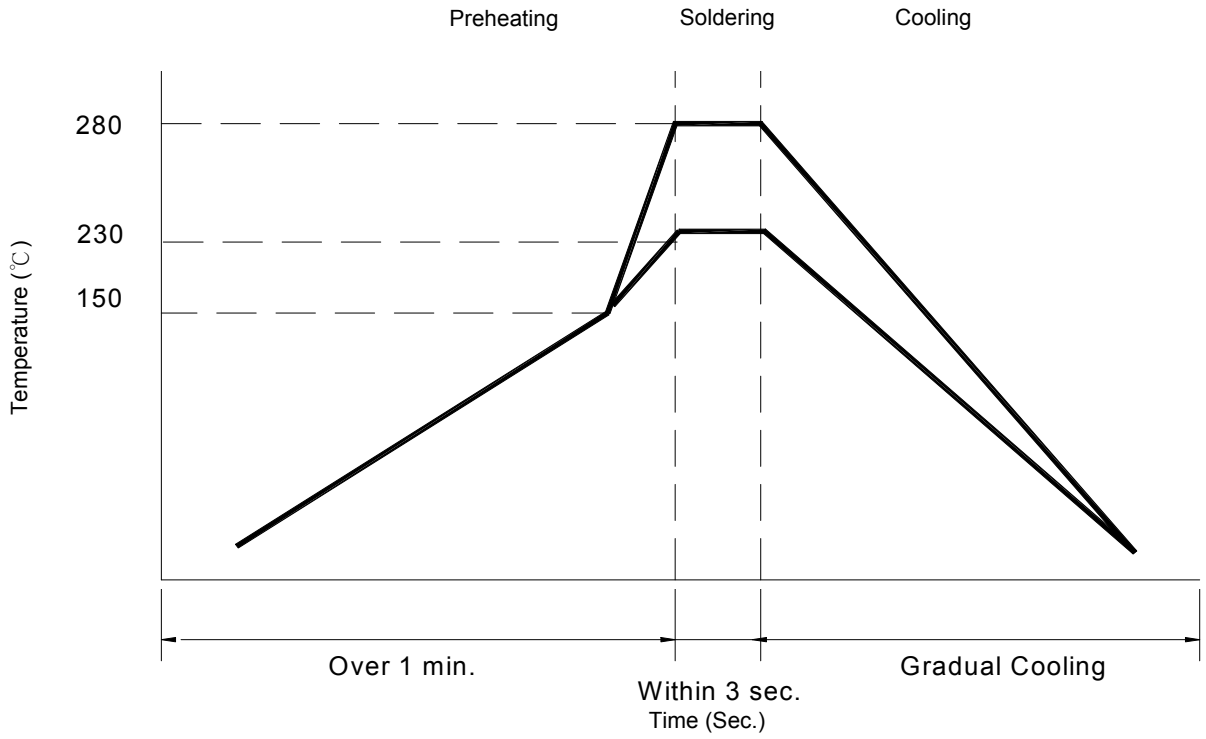
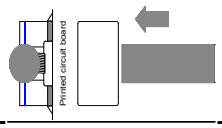


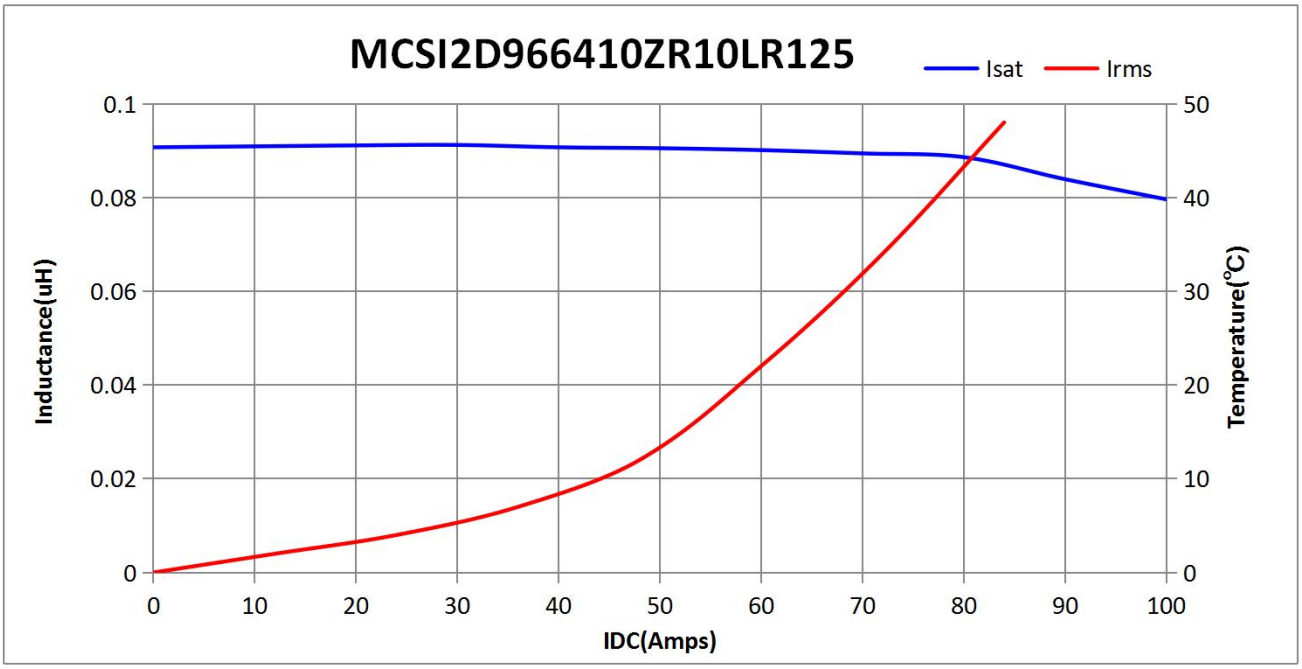
Figure 2. Hand Soldering

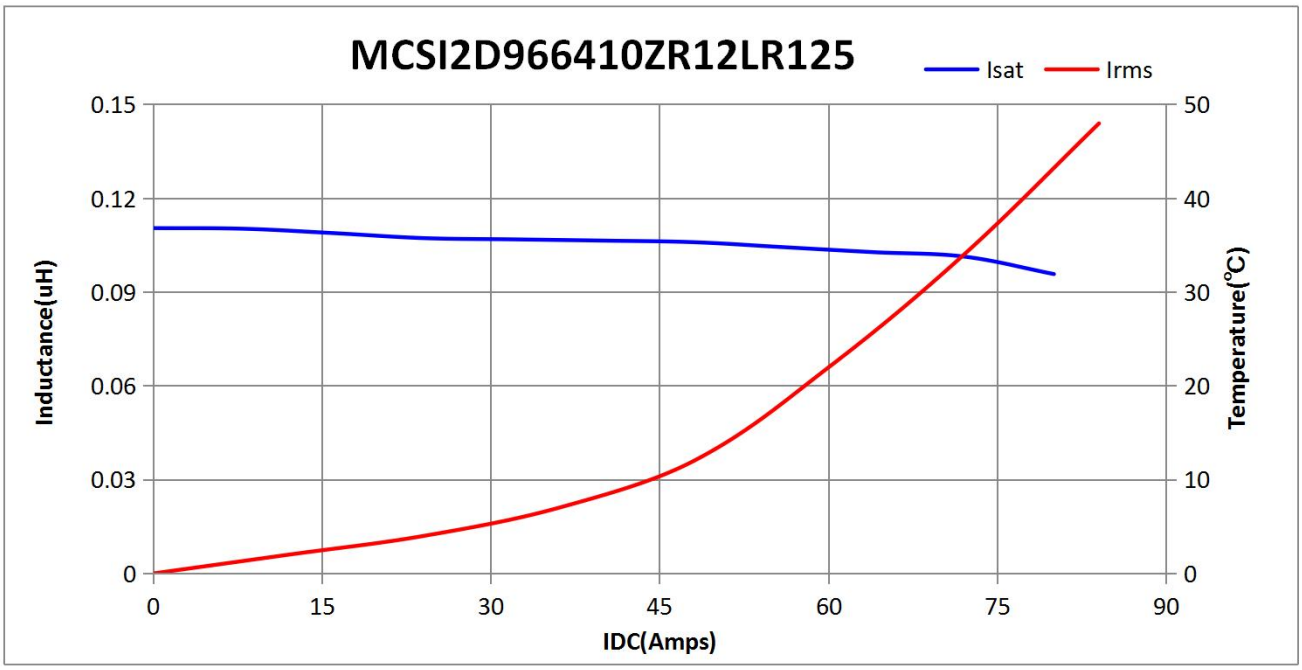


Reliability and Testing Conditions

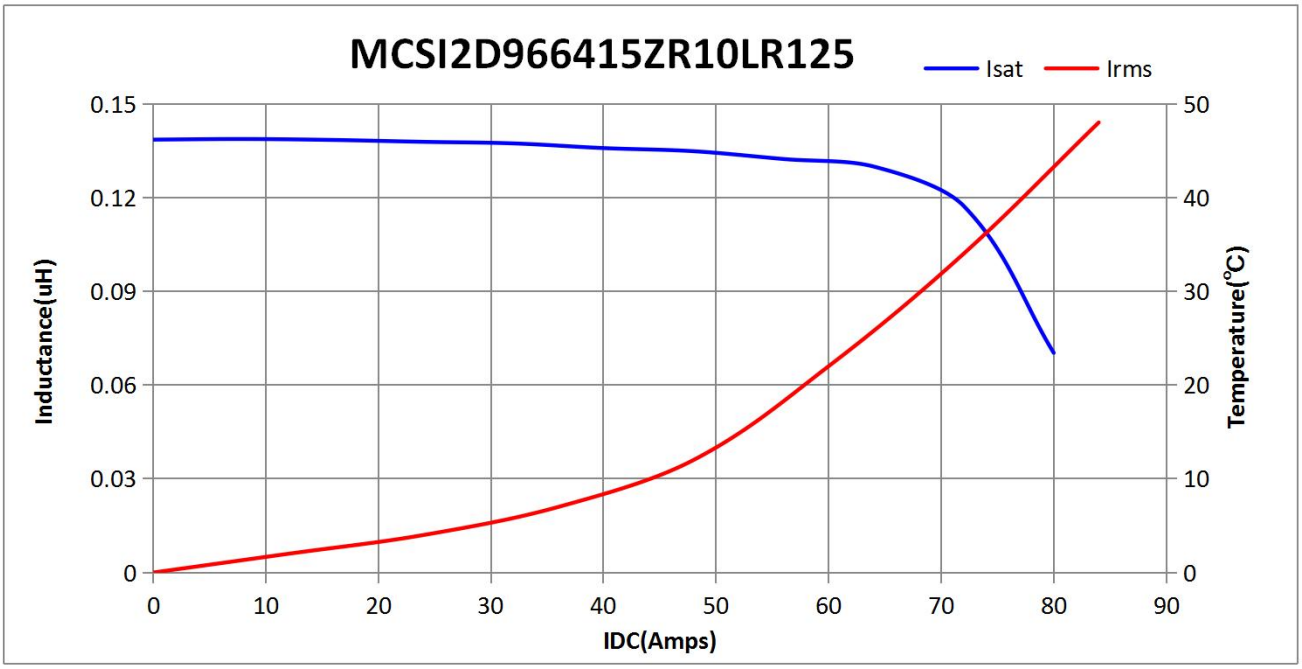
Item	Specification	Conditions
Operating temperature range	-40℃ ~ +125℃ (Including self-temperature rise)	
Storage temperature and humidity range	-40°C ~ +85°C , 70% RH Max	
Solderability	More than 90% of the terminal electrode should be covered with solder.	- Preheat: 150 ℃, 60 sec - Solder: Sn96.5%-Ag3%-Cu0.5% - Temperature: 245±5℃ - Flux for lead free: Rosin 9.5% - Dip time: 4±1 sec - Depth: completely cover the termination
Resistance to Soldering Heat	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	- Solder technique simulation: SMD - Temperature (°C): 260 ± 5 (solder temp) - Time (s): 10 ± 1 - Temperature ramp / immersion and emersion rate: 25 mm/s ± 6 mm/s - Number of heat cycles: 1
Resistance to High Temperature	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	500 hrs. at 125°C±5°C Unpowered. Measurement at 24±4 hours after test conclusion.
Resistance to Low Temperature	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	500 hrs. at -40°C±5°C. Unpowered. Measurement at 24±4 hours after test conclusion.
Resistance to Humidity	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 500 hours in 40±2℃ and 90 to 95% humidity , and 2 hour drying under normal condition.
Thermal shock	Inductance within ±20% of initial value. No disconnection or short circuit. The appearance shall not break.	After 100 cycles of following condition. Step / Temperature (℃) / Times (min.) 1 / -40±5℃ / 30 2 / Room Temperature / Within 3 3 / 125±5℃ / 30 4 / Room Temperature / Within 3
Vibration Test	Inductance within ±10% of initial value and appearance shall not break.	After vibration for 1hour, In each of three orientations at sweep vibration (10~55~10Hz) with 1.52mm P-P Amplitudes.
Terminal strength	The terminal electrode and the ferrite must not be damaged	Solder a chip to test substrate, and then laterally apply a load 10N in the arrow direction, Duration :5s 
Drop Test	Inductance within ±20% of initial value. The appearance shall not break.	Drop 3 times on a concrete floor from a height of 75cm by inimum packing

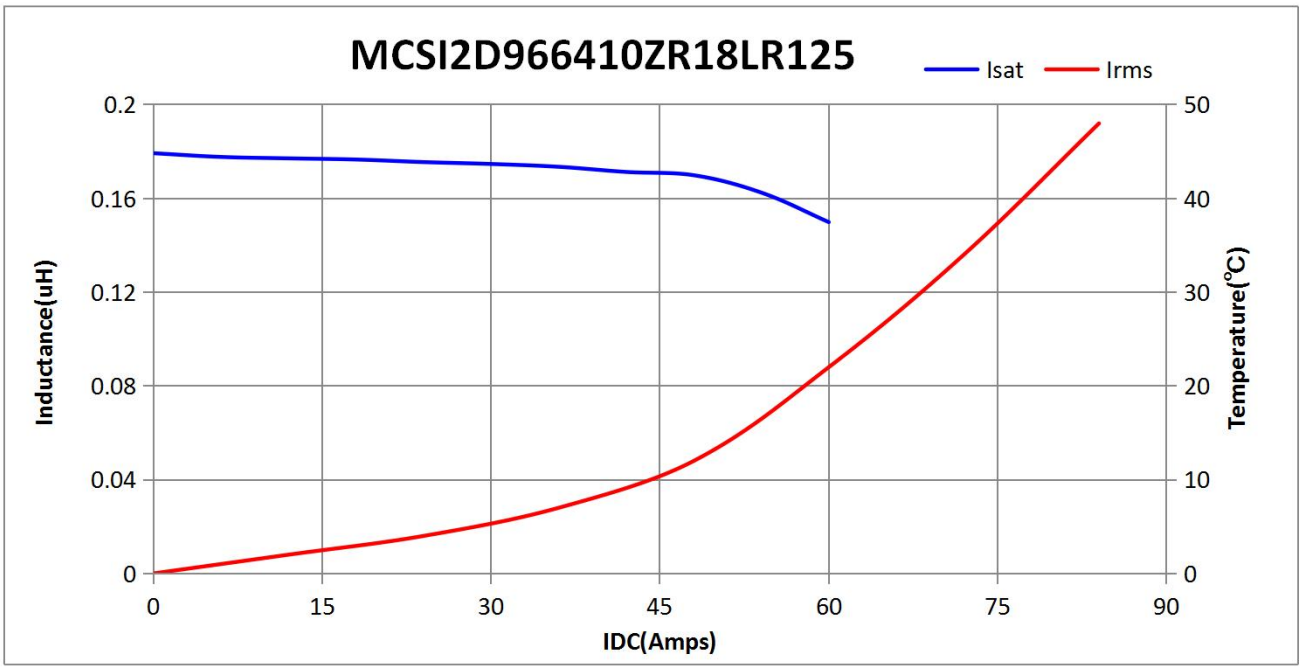
Electrical curve



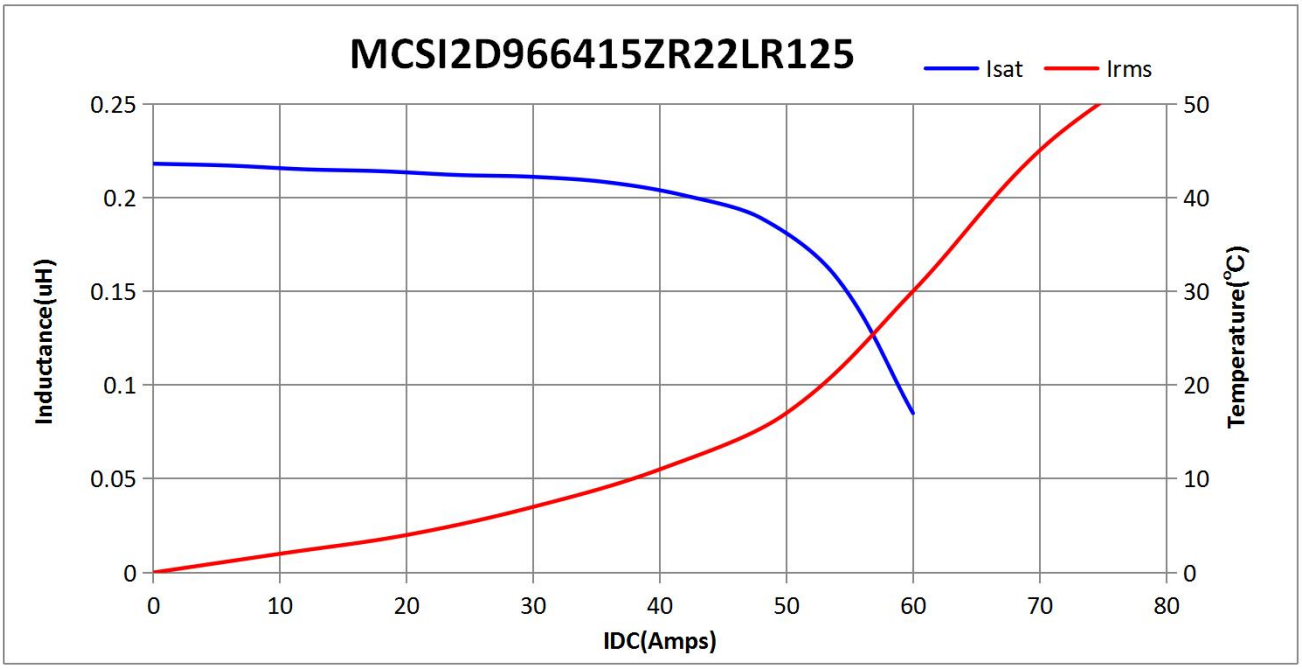


Electrical curve

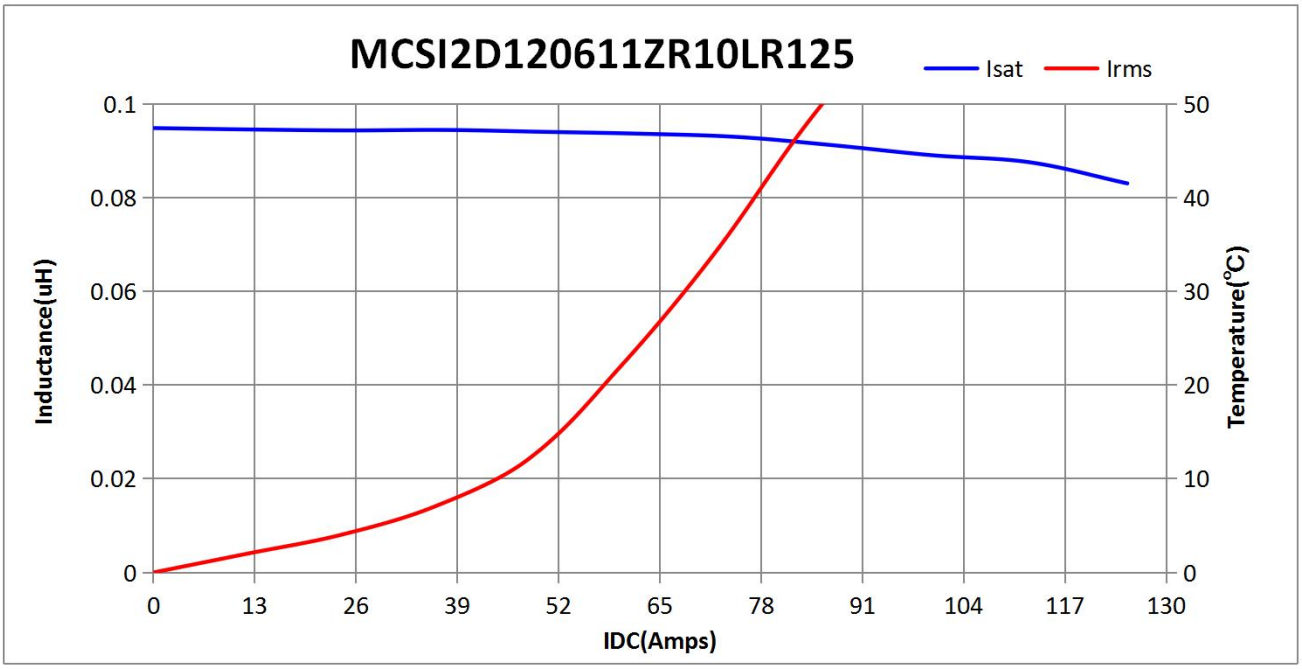


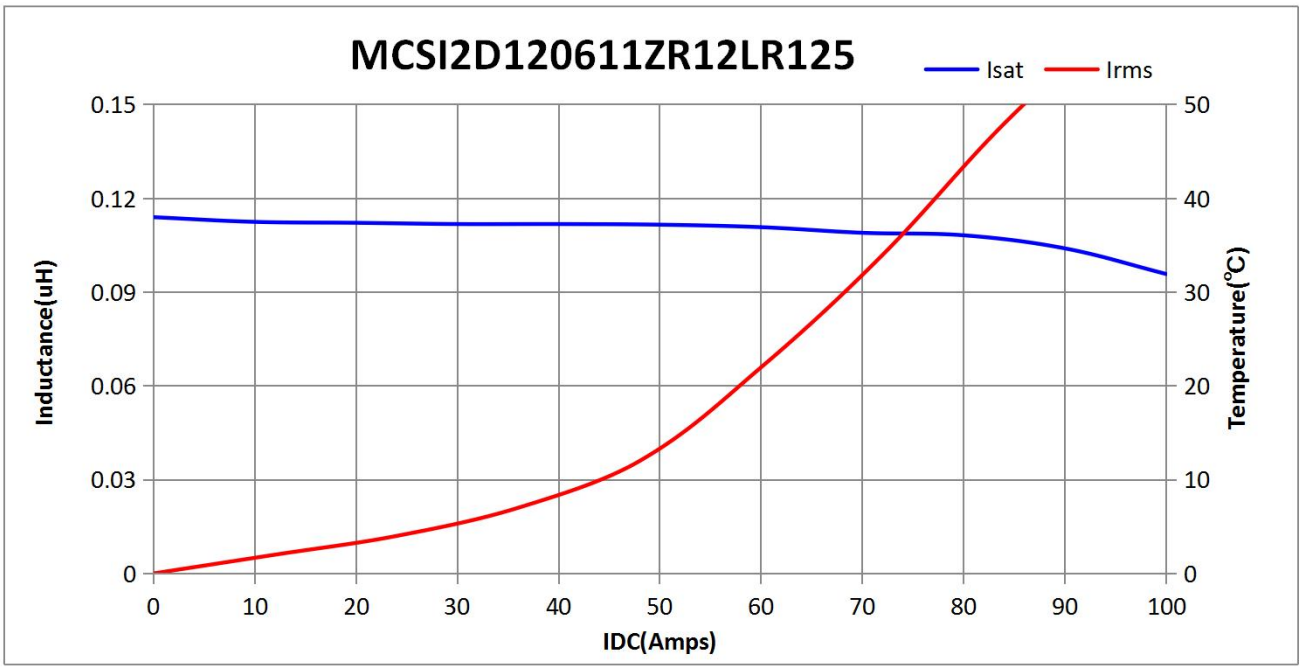


Electrical curve

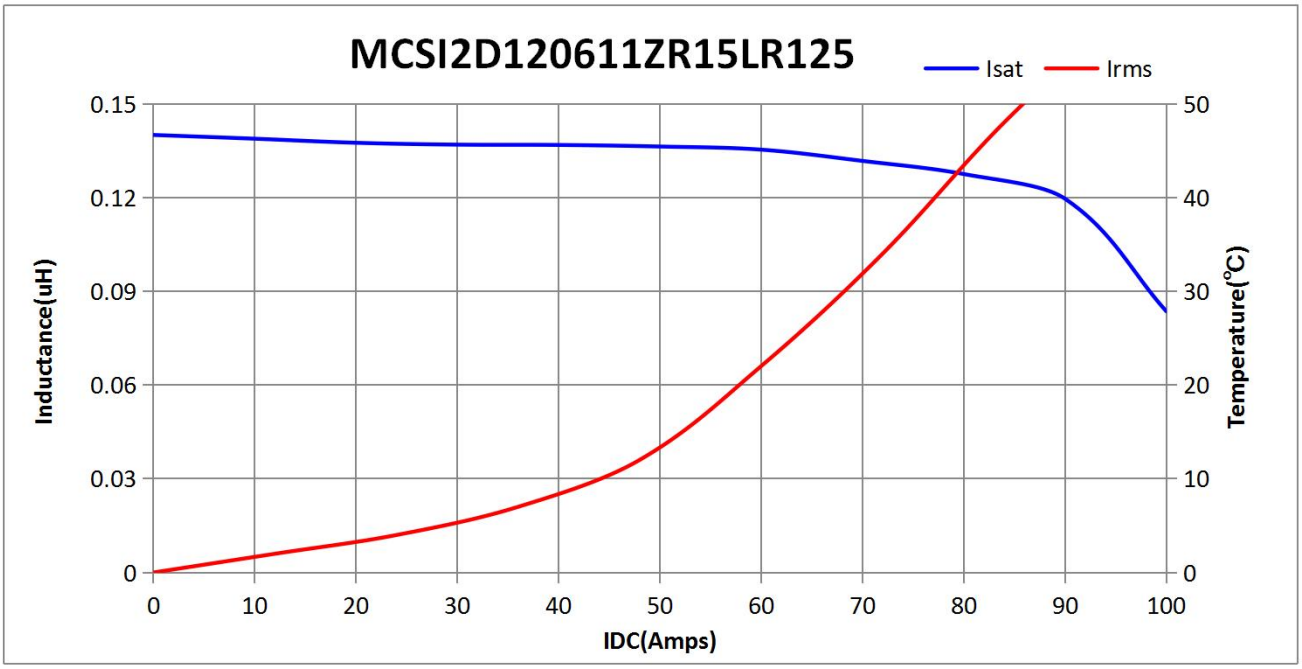


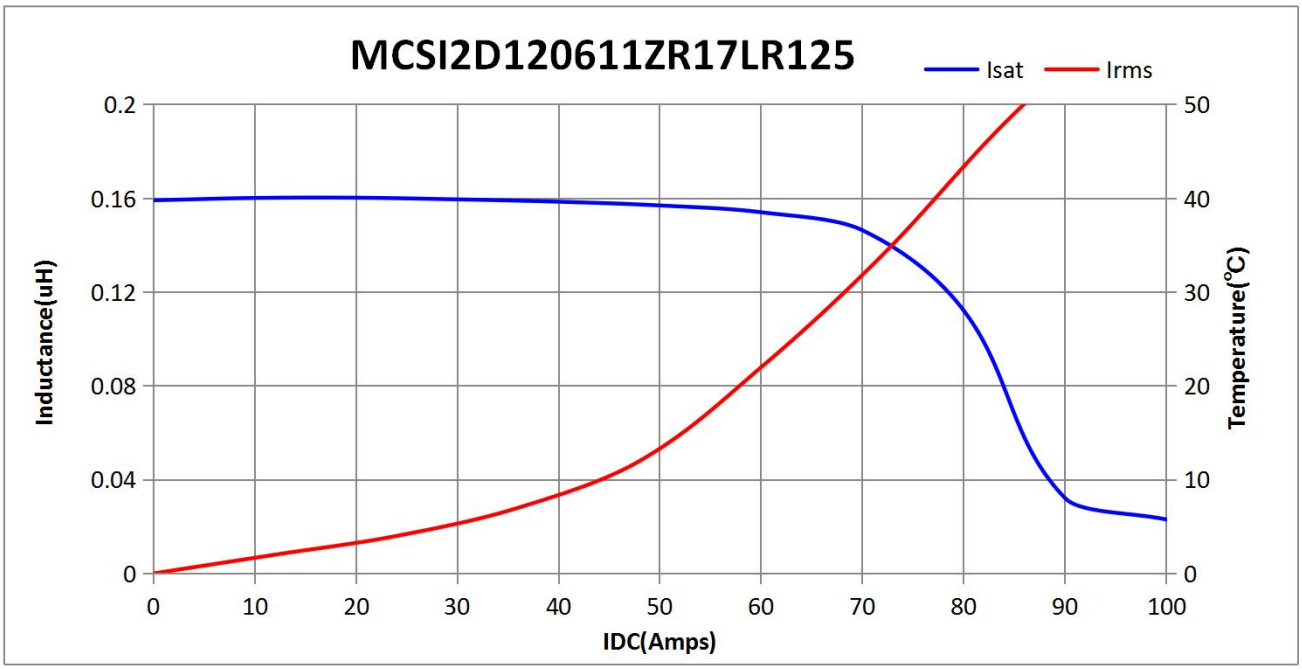
Electrical curve



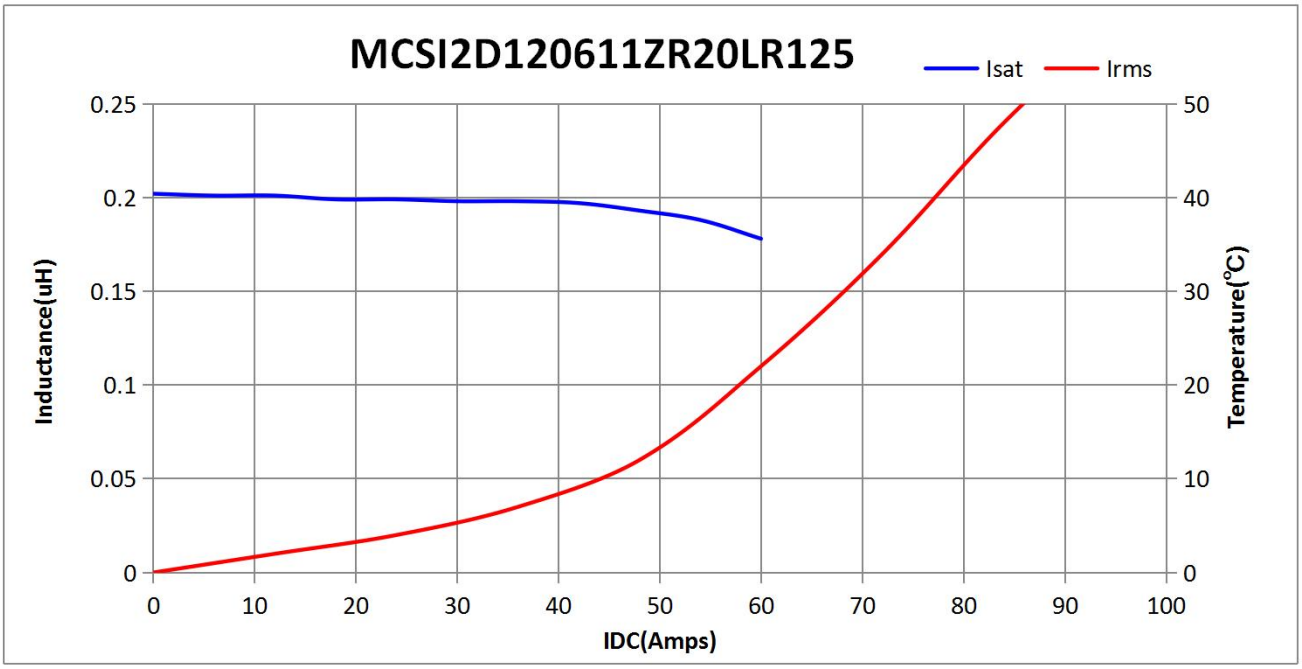


Electrical curve

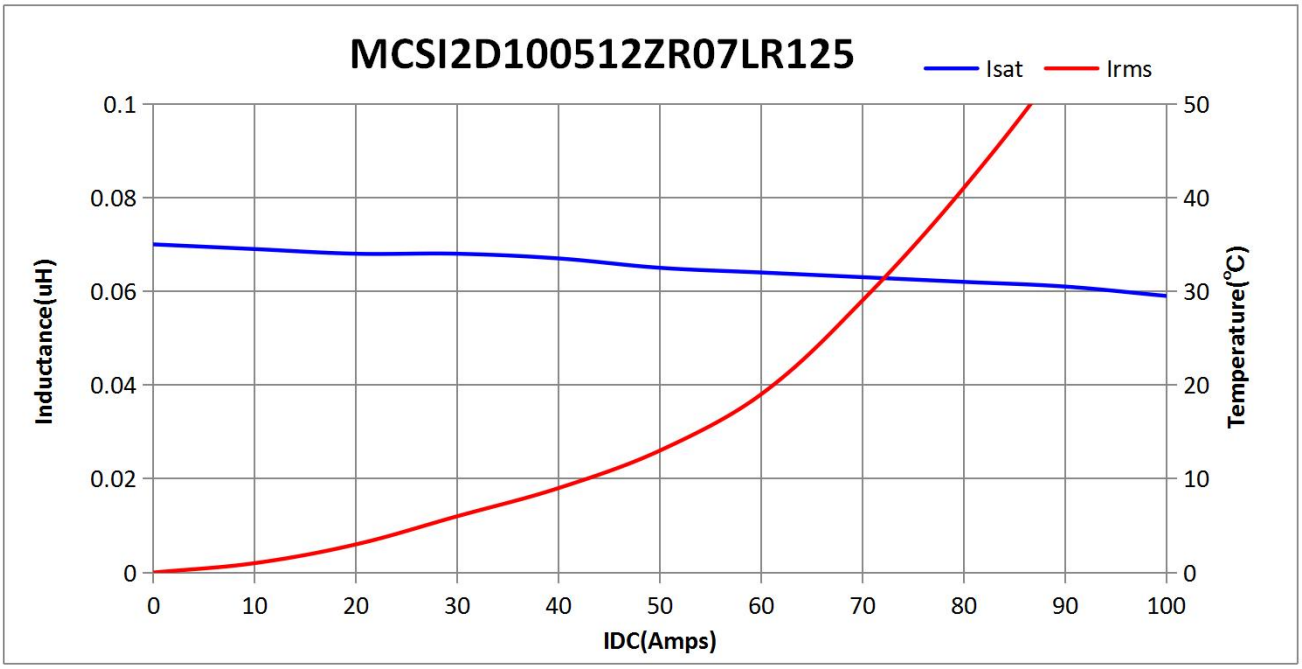


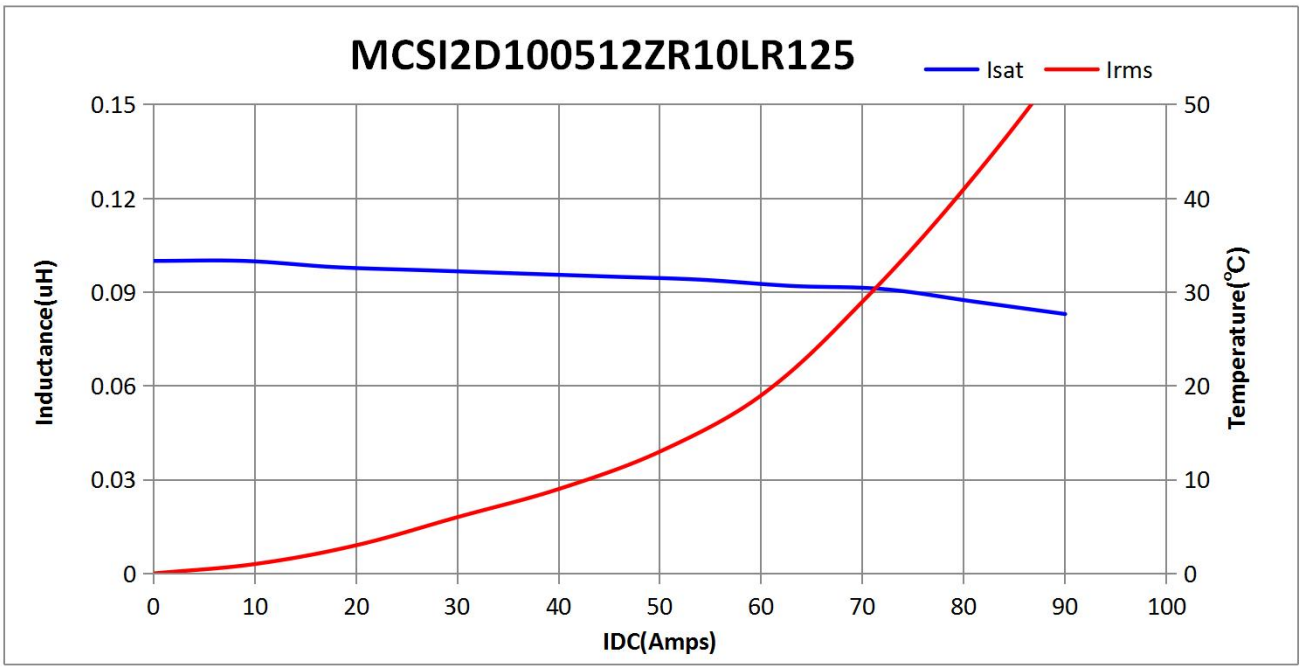


Electrical curve



Electrical curve





Electrical curve

