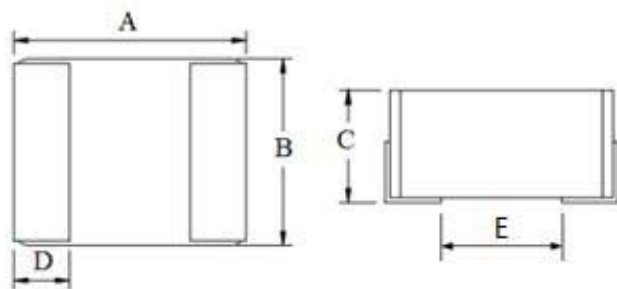


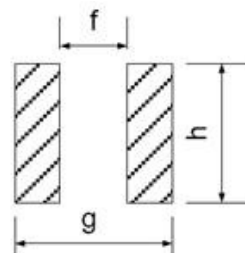
Features

- Metal material for large current and low loss.
- High performance (Isat) realized by metal dust core.
- Low loss realized with low Rdc.
- Closed magnetic circuit design reduces leakage flux.
- Vinyl thermal spray, better surface compactness.
- 100% lead (Pb) free meet RoHS standard.

CONFIGLRATIONS & DIMENSIONS (unit in mm)



Recommend Land Pattern



Series	A	B	C	D	E	f	g	h
HIM201210	2.00±0.20	1.20±0.20	1.00Max.	0.7±0.20	0.60±0.20	0.50Typ	2.10Typ	1.30Ref

Electrical Characteristics and Test Instruments

Part No.	Inductance L(μH) 1MHz/1V	DCR(Ω)		Isat(A)		Irms(A)	
		Typ.	Max.	Typ.	Max.	Typ.	Max.
HIM201210-1R0M	1.0±20%	0.055	0.063	4.00	3.50	3.90	3.50
HIM201210-2R2M	2.2±20%	0.135	0.150	2.70	2.40	2.00	1.70

Test instruments and remarks

- All test data is referenced to 25°C ambient.
- L test by CHROMA 3302 meter or equivalent.
- DCR test by Tonghui TH2516B meter or equivalent.
- CHROMA 3302 and 1320 meter for IDC.
- Isat: DC current (A) that will cause L0 to drop approximately 30%.
- Irms: DC current (A) that will cause an temperature rise ΔT approximate to 40°C.
- The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- Operating temperature: -40°C to +125°C(Including self-heating)
- The part temperature (ambient + temp rise) should not exceed 125°C under worse case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.
- Maximum rated voltage :DC 20 V

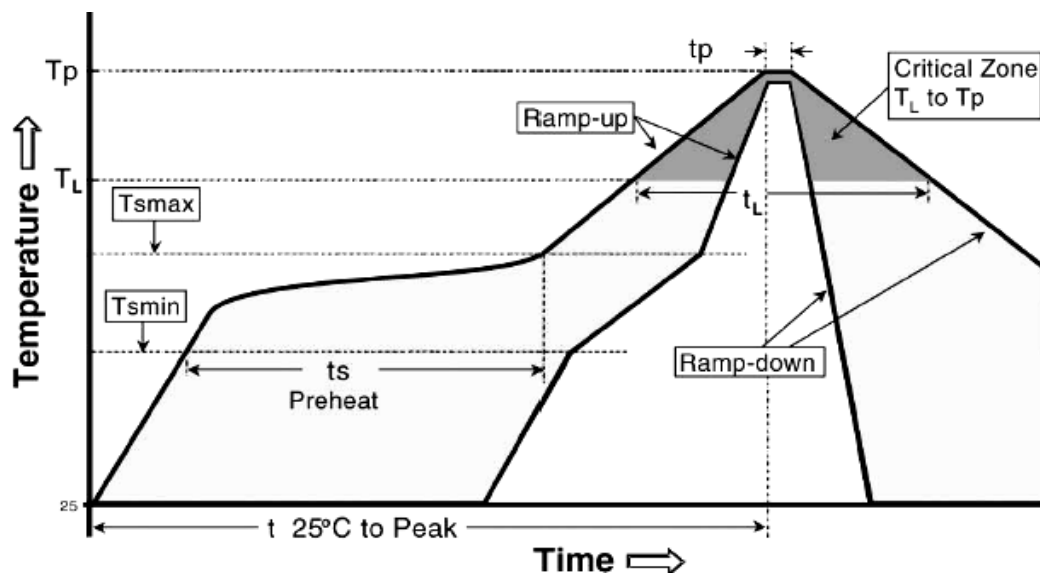
Reliability

Item	Requirements	Test Methods and Remarks
Insulation Resistance	$\geq 100M\Omega$	100 VDC between inductor coil and The middle of the top surface of the body for 60 seconds.
Solderability	90% or more of electrode area shall be coated by new solde.	Dip pads in flux . Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free). Solder Temperature: $245\pm 5^{\circ}C$. Immersion Time: (5 ± 1) s.
Resistance to Soldering Heat	No visible mechanical damage. Inductance change: Within $\pm 10\%$.	Dip pads in flux. Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free). Solder Temperature: $260\pm 5^{\circ}C$. Immersion Time: 10 ± 1 sec.
Adhesion of teral electrode	Strong bond between the pad and the core, without come off PCB.	Inductors shall be subjected to $(260\pm 5)^{\circ}C$ for (20 ± 5) s Soldering in the base whit 0.3mm solder. And then aplombelectrode way plus tax 10 N for (10 ± 1) seconds.
High temperature	No case deformation or change in appearance. Inductance change: Within $\pm 10\%$	Temperature: $125\pm 2^{\circ}C$. Time : 1000 hours. Measurement at 24 ± 4 hours after test conclusion.
Low temperature	No visible mechanical damage. Inductance change: Within $\pm 10\%$	Temperature: $-40\pm 2^{\circ}C$. Time : 1000 hours. Measurement at 24 ± 4 hours after test conclusion.
Thermal shock	No visible mechanical damage. Inductance change: Within $\pm 10\%$	The test sample shall be placed at $(-55\pm 3)^{\circ}C$ and $(125\pm 3)^{\circ}C$ for (30 ± 3) , different temperature conversion time is 2~3 utes. The temperature cycle shall be repeated 32 cycles. Placed at room temperature for 2 hours, within 48 ± 4 hours of testing.
Temperature characteristic	Inductance change Pc-b,Pc-d: Within $\pm 10\%$	a: $+20^{\circ}C$ (30~45) → b: $-40^{\circ}C$ (30~45) → c: $+20^{\circ}C$ (30~45) → d: $+125^{\circ}C$ (30~45) → e: $+20^{\circ}C$ (30~45) $P_{c-b} = \frac{L_b - L_c}{L_c} \times 100\% \quad ; \quad P_{c-d} = \frac{L_d - L_c}{L_c} \times 100\%$
Static Humidity	No visible mechanical damage. Inductance change: Within $\pm 10\%$	Inductors shall be subjected to $(95\pm 3)\%RH$. at $(60\pm 2)^{\circ}C$ for (1000 ± 4) h.Placed at room temperature for 2 hours, within 48 hours of testing.
Life	No visible mechanical damage. Inductance change: Within $\pm 10\%$	Inductors shall be store at $(85\pm 2)^{\circ}C$ for (1000 ± 4) hours with Irms applied. Placed at room temperature for 2 hours, within 48 hours of testing

Soldering Condition

(This is for recommendation, please customer perform adjustment according to actual application)

Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Profile Feature	Lead (Pb)-Free solder
Preheat:	
Temperature Min (T _{smin})	150°C
Temperature Max (T _{smax})	200°C
Time (T _{smin} to T _{smax}) (t _s)	60 -120 seconds
Average ramp-up rate: (T _{smax} to T _p)	3°C / second max.
Time maintained above :	
Temperature (T _L)	217°C
Time (t _L)	60-150 seconds
Peak Temperature (T _p)	260°C
Time within $\begin{matrix} +0^{\circ}\text{C} \\ -5 \end{matrix}$ of actual peak Temperature (t _p) ²	10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8minutes max.

Allowed Re-flow times : 2 times

Remark : To avoid discoloration phenomena of chip on terminal electrodes, please use N₂ Re-flow furnace .