



深圳市佑驰电子有限公司

Specification for Approval

产品名称: T-core系列电感

规格型号: HCTC-303020-XXX-M

产品编号:

日期: 2026-05-24

- 1、本承诺书的内容更改需经过双方确认，任一方单独的修改均视为无效。
- 2、本承诺书在送达客户后，请给予承认并即签回，如无签回下订单的，我司有权以此承认书标准生产，并表示购买方默认许可。

核准	审核	制作
	Aaron	Ada

High Current, Power Inductors



Description

- Halogen Free
- 125°C maximum total temperature operation
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 5 MHz
- RoHS compliant

Features

- 1.1 Metal material for large current and low loss.
- 1.2 High performance (Isat) realized by metal dust core.
- 1.3 Low loss realized with low Rdc.
- 1.4 Closed magnetic circuit design reduces leakage flux.
- 1.5 Vinyl thermal spray, better surface compactness.
- 1.6 Environmental requirements must comply with the QESP-44 document
- 1.7 100% lead (Pb) free meet RoHS2.0 and Halogen, Reach and other legal and regulatory requirements standard.

Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

Environmental Data

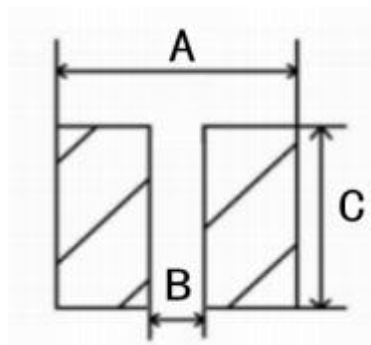
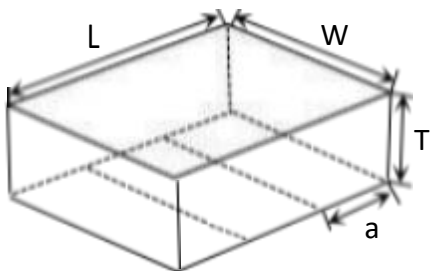
- Storage temperature range: -55°C to +125 °C
- Operating temperature range: -55 °C to +125 °C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 D compliant

Packaging

- Supplied in tape and reel packaging.

1. SHAPE AND DIMENSIONS

T-CORE 工艺大电流电感



单位: mm

产品系列	L	W	T	a	A	B	C
HCTC-303020	3.0 ± 0.1	3.0 ± 0.1	2.0Max.	1.0	3.0TyP	0.90TyP	3.0TyP

2. Specifications

产品类别 单位	感值 μH	直流电阻 DCR($\text{m}\Omega$)		温升电流 $I_{\text{rm}}(\text{A})$		饱和电流 $I_{\text{a}}(\text{A})$	
		-Typ.	Max.	-Typ.	Min.	-Typ.	Min.
HCTC-303020-R10-M	0.1	3.3	4.5	17	16	25	23
HCTC-303020-R15-M	0.15	4.0	5.0	13	12	18	17
HCTC-303020-R22-M	0.22	5.0	6.5	11	10	17.5	16
HCTC-303020-R33-M	0.33	7.5	9.0	10	9.0	17	15
HCTC-303020-R36-M	0.36	7.5	9.0	10	9.0	16.5	14.5
HCTC-303020-R47-M	0.47	8.0	11	9.0	8.0	15	13.5
HCTC-303020-R50-M	0.5	9.0	12	9.0	8.0	15	13
HCTC-303020-R68-M	0.68	13	16	8.5	7.8	13	11
HCTC-303020-1R0-M	1.0	14	20	6.5	6	8.0	7.3

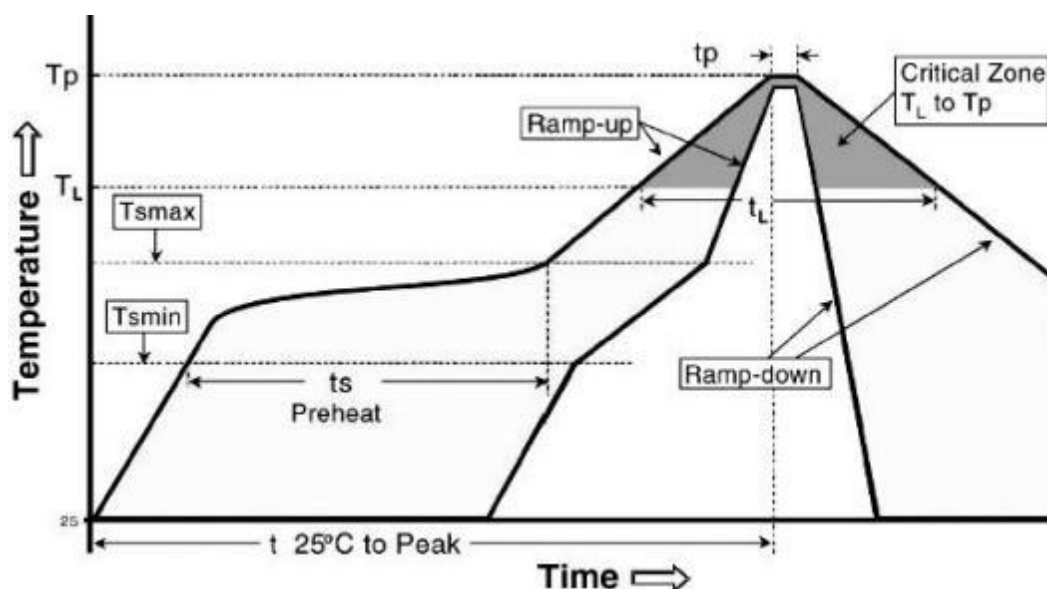
HCTC-303020-1R2-M	1.2	16	21	7.0	6.5	7.5	7.0
HCTC-303020-1R5-M	1.5	19	25	6.3	5.8	7.0	6.5
HCTC-303020-2R2-M	2.2	37	45	4.7	4.3	6.0	5.5
HCTC-303020-3R3-M	3.3	52	63	4.5	4.0	5.9	5.4
HCTC-303020-4R7-M	4.7	60	73	4.2	3.8	4.8	4.0
HCTC-303020-6R8-M	6.8	107	135	3.2	3.0	4.5	3.8
HCTC-303020-100-M	10	135	160	2.5	2.2	3.8	3.3
HCTC-303020-150-M	15	235	260	1.8	1.5	2.6	2.2

Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. $I_{dc}(A)$: DC current (A) that will cause an approximate ΔT of 40 °C (reference ambient temperature is 25 °C)
4. $I_{sat}(A)$: DC current (A) that will cause L0 to drop approximately 30 %
5. 50V DC shall be applied for 60s between the terminal and the Core
6. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

3. Soldering Condition

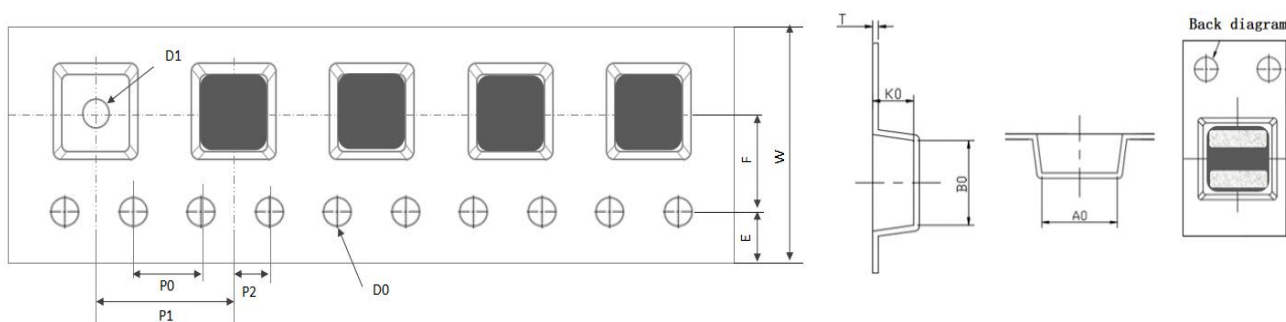
(This is for recommendation, please customer perform adjustment according to actual application) Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



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

4. Packing

The following dimensions are related to the actual fit of the machine , for reference only.



Series	W	A0	B0	D0	D1	E	F	K0	P0	P2	P1	T	Packing quantity
Tolerance	±0.30	±0.10	±0.10	+0.1/-0	±0.20	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	
303020	12.0	3.40	3.40	1.5	1.5	1.75	5.5	2.20	4.0	2.0	8.0	0.30	3K

Dimension of Reel : (Unit: mm)

Type	A ±2.0	B ±2.0	C ±2.0
All	330	100	13.0

