



深圳市佑驰电子有限公司

Specification for Approval

产品名称: T-core小颗系列

规格型号: HCTC-201610-XXX-M

产品编号:

日 期: 2020-6-22

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。

	审核	制作

批准	审核	检验



REVISION					
REV	DESCRIPTION	DATE	DESIGNED	CHECKED	APPROVED
A0	文件建立	2020/06/22	吕秀秀	Bowen	Darren

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

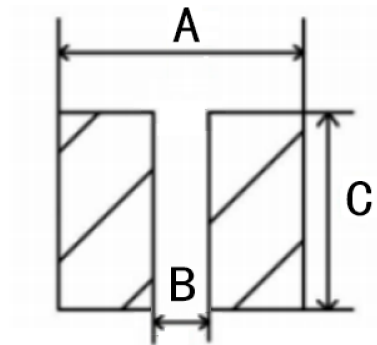
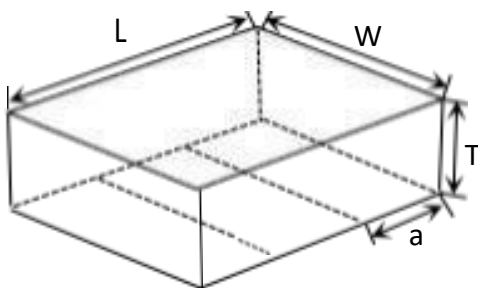
- Storage temperature range: -55°C to +125 °C
- Operating temperature range: -55 °C to +125 °C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 D compliant

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-201610	2.0 ± 0.2	1.6 ± 0.2	1.00Max	0.75 ± 0.2	2.10	0.50	1.70

2. Specifications

产品类别 单位	感值 μH	直流电阻 DCR(m Ω)		温升电流 I _{rm} -(A)		饱和电流 I _a -(A)	
		-Typ.	Max.	-Typ.	Min.	-Typ.	Min.
HCTC-201610-R10-M	0.10	7.0	12	8.5	8.0	9.0	8.4
HCTC-201610-R11-M	0.11	7.5	13	8.0	7.5	8.9	8.2
HCTC-201610-R15-M	0.15	8.0	14	7.6	7.0	8.7	8.0
HCTC-201610-R22-M	0.22	11	18	6.9	6.3	8.2	7.5
HCTC-201610-R24-M	0.24	12	19	6.8	6.2	8.0	7.4
HCTC-201610-R33-M	0.33	17	22	5.7	5.3	7.0	6.5
HCTC-201610-R47-M	0.47	22	25	5.5	5.0	6.3	5.5
HCTC-201610-R56-M	0.56	19	23	7.5	7.0	5.5	5.0

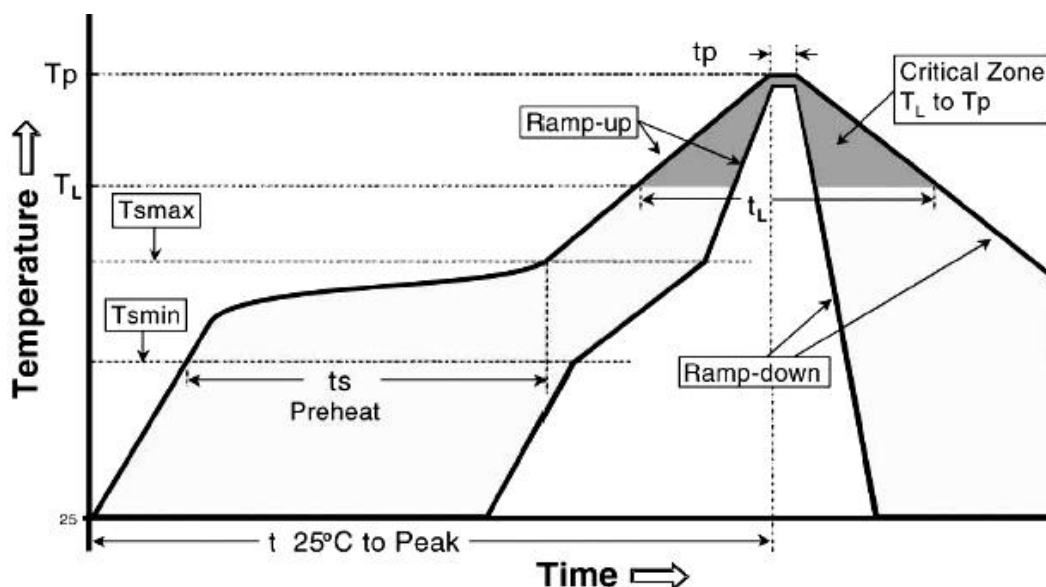
HCTC-201610-R68-M	0.68	25	32	4.6	4.3	5.2	4.7
HCTC-201610-1R0-M	1.0	35	43	4.5	4.1	4.6	4.2
HCTC-201610-1R5-M	1.5	80	100	2.6	2.3	3.2	2.9
HCTC-201610-2R2-M	2.2	120	130	2.5	2.1	3.0	2.8
HCTC-201610-3R3-M	3.3	140	170	1.7	1.5	2.3	2.0
HCTC-201610-4R7-M	4.7	190	220	1.6	1.4	2.0	1.8
HCTC-201610-6R8-M	6.8	320	350	1.7	1.5	1.7	1.5
HCTC-201610-100-M	10.0	483	580	1.0	0.7	1.4	1.1
HCTC-201610-150-M	15.0	800	960	0.9	0.6	1.1	0.9

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

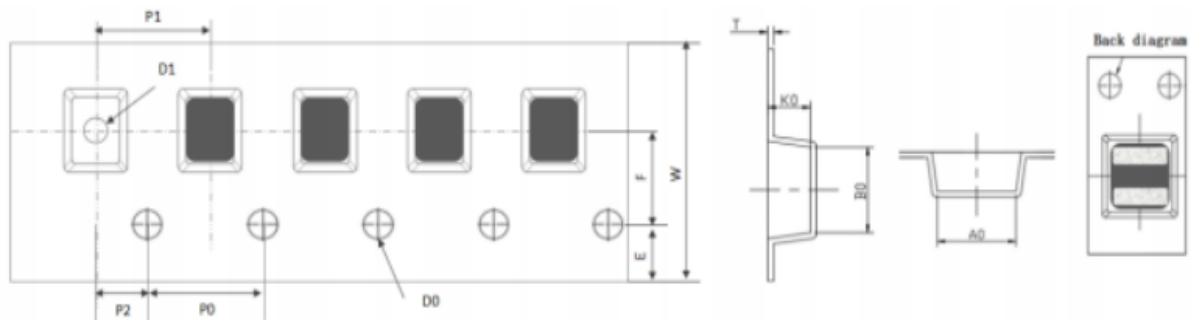
(This is for recommendation, please customer perform adjustment according to actual application) Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Profile Feature	Lead (Pb)-Free solder
Preheat:	
Temperature Min (T _{smin})	150°C
Temperature Max (T _{smax})	200°C
Time (T _{smin} to T _{smax}) (ts)	60 -120 seconds
Average ramp-up rate: (T _{smax} 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 (tp) -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	±0.10	±0.10	±0.10	+0.1/-0	±0.20	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	
201610	8.0	1.95	2.35	1.5	1.0	1.75	3.5	1.15	4.0	2.0	4.0	0.25	3K

Dimension of Reel : (Unit: mm)

Type	A	B	C
All	178	60	13

