



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-322512-XXX-M

产品编号:

日 期: 2020-6-22

1、本承认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、本承认书在送达客户后，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	申核	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

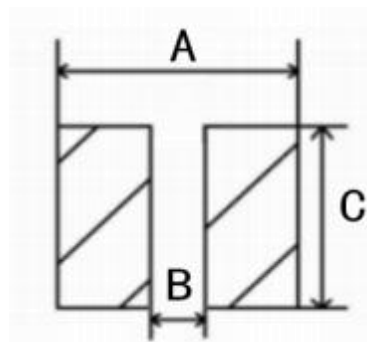
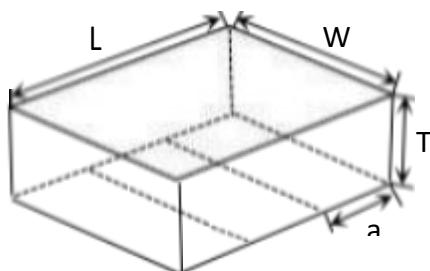
- Storage temperature range: -55°C to +125 °C
- Operating temperature range: -55 °C to +125 °C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 D compliant

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-322512	3.2 ± 0.2	2.5 ± 0.2	1.20Max.	1.15 ± 0.2	3.25	0.90	2.55

2. Specificationss

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-322512-R10-M	0.10	5.2	7.0	12.0	11.0	18.0	165
HCTC-322512-R22-M	0.22	6.6	10	9.2	8.7	11.5	11.0
HCTC-322512-R24-M	0.24	7.0	12	9.0	8.5	11	105
HCTC-322512-R33-M	0.33	9.0	14	8.4	8.1	10	9.5
HCTC-322512-R47-M	0.47	14	19	7.5	7.2	8.6	8.2
HCTC-322512-R68-M	0.68	12	15	7.0	6.5	8.0	7.5
HCTC-322512-1R0-M	1.0	26	30	5.3	4.8	6.6	5.8

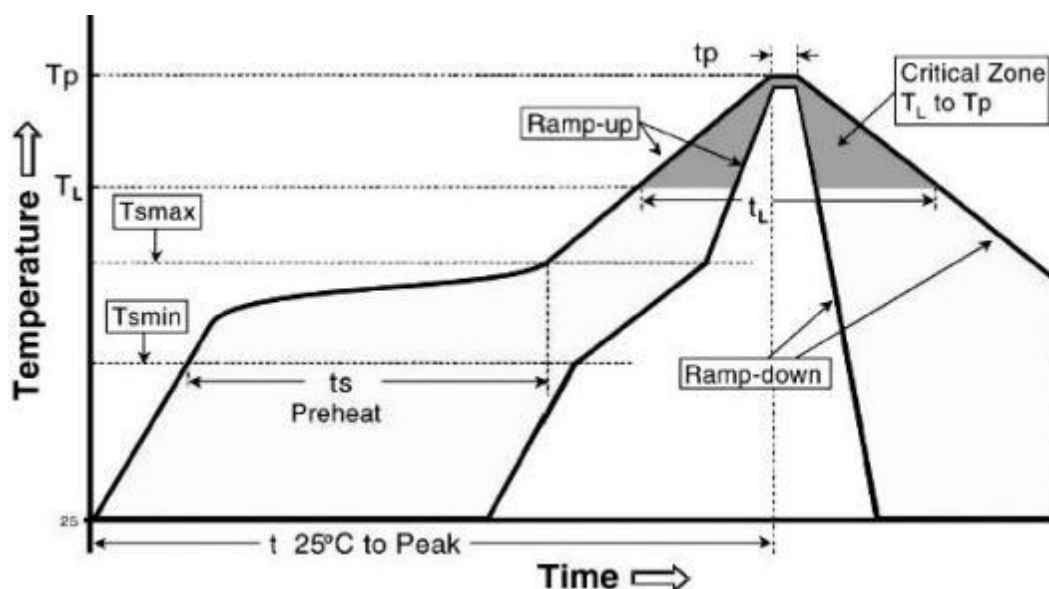
HCTC-322512-1R5-M	15	37	44	4.7	4.3	5.1	4.7
HCTC-322512-2R2-M	2.2	42	50	4.2	3.7	5.0	4.5
HCTC-322512-3R3-M	3.3	75	95	2.9	2.5	3.7	3.2
HCTC-322512-4R7-M	4.7	115	135	2.3	2.0	2.9	2.6
HCTC-322512-6R8-M	6.8	177	210	2.1	1.9	2.8	2.4
HCTC-322512-100-M	10.0	210	230	2.2	1.8	2.3	1.9

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 L_0 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

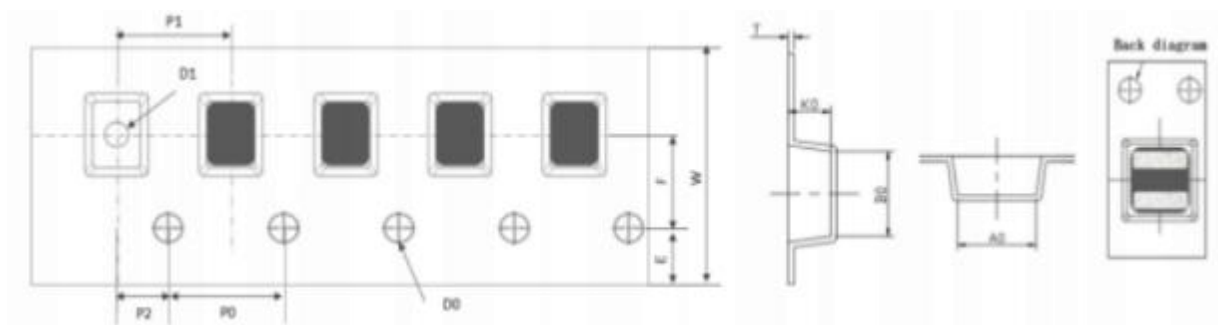
(This is for recommendation, please customer perform adjustment according to actual application) Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



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 _{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 (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	±0.10	±0.10	±0.10	+0.1/-0	±0.20	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.05	
322512	8.0	2.90	3.50	1.5	1.0	1.75	3.5	1.20	4.0	2.0	4.0	0.25	3K

Dimension of Reel : (Unit: mm)

Type	A ±2.0	B ±2.0	C ±2.0
All	178	90	13

