



晶森电子科技(香港)有限公司
 东莞市健阳达电子有限公司
 DONGGUAN CHIPSEN ELECTRONICS TECHNOLOGY CO., LTD
 SPECIFICATION FOR APPROVAL

CUSTOMER No. :	A0679	CHIPSEN P/N:	MTEFD20-501-14573
NAME MODEL:	TRANSFORMER	CHIPSEN MODEL No. :	EFD20H 5uH
CUSTOMER P/N:		ISSUE DATE:	2022-11-11
CUSTOMER REV:	A0	CHIPSEN REV:	A1

确认并回签,如未回签此份承认书,已收到该零件的订单,则视为此零件已通过了贵司的认可。
 Please confirm and countersign. If we receive PO without acknowledgement,
 It is deemed to have been approved by your company.

CHIPSEN 厂商	APPROVED BY 批准	CHECKED BY 审核	DRAWN BY 制作
	谢晶成	刘小波	谭汉杨

CUSTOMER 客户	(CUSTOMER OPINION) 客户意见:
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地址:中国·广东省·东莞市常平镇桥沥村常黄路马屋村工业区 A 栋 1 号
 Address: No. 1, Building A, Mawucun Industrial Zone, Changhuang Road, Qiaoli Village, Changping Town,
 Dongguan City, Guangdong, China
 (TEL)电话:86-769-83979690 89308858 (FAX)传真:86-769-83823890
 (URL)网址: <http://www.chipsen.com.cn> E-mail 邮箱: sales@chipsen.com.cn



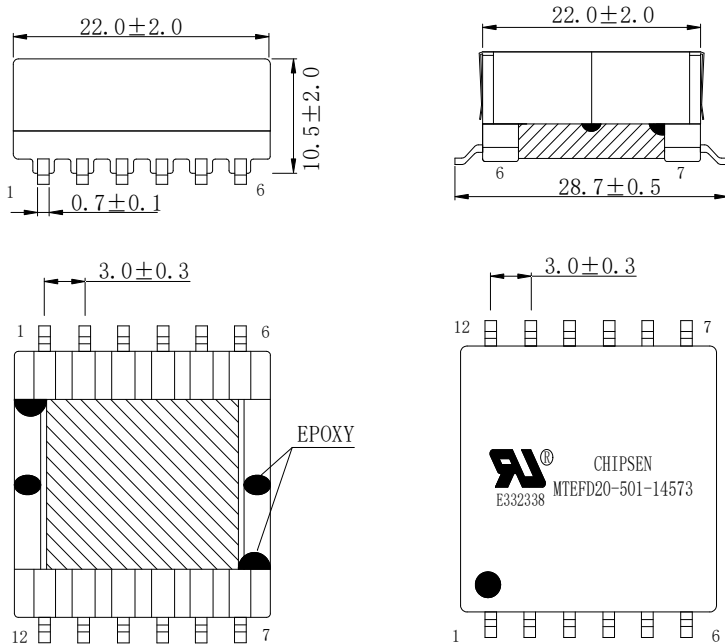


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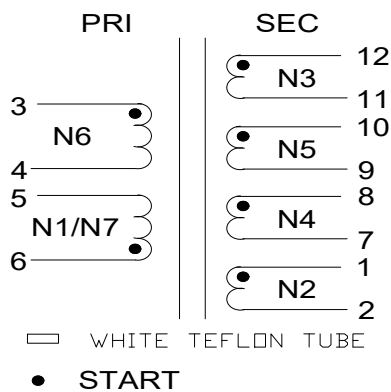
1: MECHANICAL DIMENSION 外型尺寸图 (UNIT: mm)



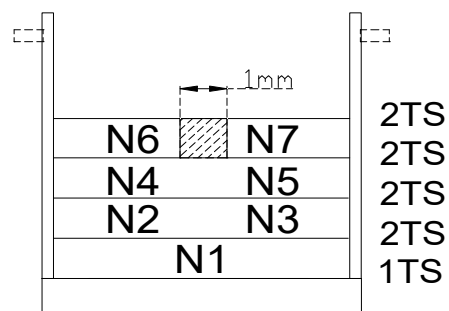
备注:

1. 骨架为 6+6 卧式;
2. 研磨面磁芯装在骨架 PIN1-6 侧, 用 EFD20 铁夹固定;
3. 产品底部磁芯结合处点 2 点黑胶, 产品底部磁芯与骨架 PIN1, PIN7 接触位置各点 1 点黑胶;
4. 标签: 标签字脚朝 PIN1-6 侧贴 (方向, 位置如图所示);
5. 成品 PIN1 顶部磁芯上打白点标示;
6. 包装方式: 产品插珍珠棉, 天地盒包装, 装外箱, 并贴相对应的标签;
7. 产品单重: 11.5g.

2. SCHEMATIC DIAGRAM 原理图:



3. WINDING CONSTRUCTION 绕组结构:



PIN1-6 Bobbin PIN7-12

APPROVED BY 批准	CHECKED BY 审核	DRAWN BY 制作
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4: COMPUTER PERFORMANCE TESTING 电器性能检测

NO 序号	TEST ITEM 测试项目	MEASURED POINT 测量点	TECHNICAL PARAMETERS 技术参数	TEST CONDITION 测试条件	TEST INSTRUMENT 测试仪器
1	TURNS RATIO 匝比	N1/N7:N2	1:1.6	AT@20KHZ/1V	CH 3299
		N1/N7:N3	1:1.6		
		N1/N7:N4	1:1.6		
		N1/N7:N5	1:1.6		
		N1/N7:N6	1:1.6		
2	INDUCTANCE 电感量	L _s (6-5)	5uH±10%	F=100KHZ/0.3V Z=30Ω AT@25°C	CH1062
3	LEAKAGE 漏感	L _s (6-5)	0.5uH MAX SHORT 其它 PIN	F=100KHZ/0.3V Z=30Ω AT@25°C	CH1062
4	DCR 直流电阻	PIN6-5	17mΩ MAX	AT@25°C	CH502A
		PIN1-2	210mΩ MAX		
		PIN12-11	210mΩ MAX		
		PIN8-7	235mΩ MAX		
5	HI-POT 抗电强度	PRI-SEC	1500V AC	50HZ 5mA/3S	JKT2679D
		PRI-CORE	1000V AC		
		SEC-CORE	1500V AC		
6	INSULATION RESISTANCE 绝缘阻抗	PRI-SEC	≥100MΩ	500V/DC	JKT2679D
		PRI, SEC-CORE			

APPROVED BY 批准

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5: MATERIAL LIST 材料表

No 序号	MATERIAL NAME 材料名称	MATERIAL DESCRIPTION 材料描述	Class	MANUFACTURER 制造商	UL No
1	INSULATION SYSTEM	Electrical Insulation Systems (Table X)	130(B)	DONGGUAN CHIPSEN ELECTRONICS TECHNOLOGY LTD	E332338
2	BOBBIN 骨架	T375J V-0	150°C	CHANG CHUN PLASTICS CO LTD OR EQU	E59481
		PM-9820	150°C	SUMITOMO BAKELITE CO LTD OR EQU	E59481
3	CORE 磁芯	EFD20 TP44		TDG OR EQU	NA
		EFD20 M44		HAOBO OR EQU	NA
4	WIRE 铜线	UEWN/U	155°C	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD OR EQU	E201757
		xUEWF	155°C	DONGGUAN XINLONG VARNISHED WIRE CO LTD OR EQU	E171082
5	MYLAR TAPE 胶带	CT25#	130°C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD OR EQU	E165111
6	MARGIN TAPE 挡墙	WF* (c) (h)	130°C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD OR EQU	E165111
7	TRIPLE WIRE 三层线	TIW-B(F)	155°C	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD OR EQU	E357240
		TIW-M(F)	155°C	KBI COSMOLINK CO LTD OR EQU	E213764
8	VARNISH 绝缘漆	T-4260(a)	130°C	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD OR EQU	E228349

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SAMPLE TEST REPORT 样品检验报告

一: COMPUTER PERFORMANCE TESTING 电器性能检测

TEST ITEM 检测项目	UNIT 单位	TEST FOOT POSITION 测试脚位	SPECIFICATIONS 规格			TEST CONDITION 测试条件	MEASURED DATA OF SAMPLES 样品实测数据				
			MAX 上限	CENTER 中心	MIN 下限		①	②	③	④	⑤
电感量(LS)	uH	6-5	5.5	5.0	4.5	100KHz 0.3V	4.98	4.72	4.84	4.84	4.84
漏感(LK)	uH	6-5	0.5			100KHz 0.3V SHORT OTHER	0.1	0.1	0.1	0.1	0.1
DCR 直流电阻	mΩ	6-5	17			HK502BC	13.2	12.9	12.9	12.9	12.9
	mΩ	1-2	210				160	163	161	161	161
	mΩ	12-11	210				158	160	161	161	161
	mΩ	8-7	235				180	178	179	179	179
TURNS RATIO 相位 匝比	TS	1-2		1:1.6		FOOT POSITION 测试脚位:	OK	OK	OK	OK	OK
	TS	12-11		1:1.6		6-5	OK	OK	OK	OK	OK
	TS	8-7		1:1.6		条件 F=20KHz	OK	OK	OK	OK	OK
	TS	10-9		1:1.6		U=1V CH3250	OK	OK	OK	OK	OK
HI-POT 抗电强度	PRI---SEC		5mA			1500V AC/3S	OK	OK	OK	OK	OK
	PRI---CORE		5mA			1000V AC/3S	OK	OK	OK	OK	OK
	SEC---CORE		5mA			1500V AC/3S	OK	OK	OK	OK	OK

二: EXTERNAL DIMENSIONS 外形尺寸

TEST ITEM 检测项目	UNIT 单位	TEST FOOT POSITION 测试脚位	SPECIFICATIONS 规格			TEST CONDITION 测试条件	MEASURED DATA OF SAMPLES 样品实测数据				
			MAX 上限	CENTER 中心	MIN 下限		①	②	③	④	⑤
DIMENSION CHECK 尺寸 检查	mm	长度	23.0			卡尺±0.02mm	21.02	21.05	21.02	21.02	21.02
	mm	宽度	23.0				20.88	20.86	20.83	20.83	20.83
	mm	高度	12.0				10.02	9.99	10.05	10.02	10.02
	mm	脚距	3.3	3.0	2.7		3.03	3.05	3.02	3.02	3.02
	mm	排距	29.2	28.7	28.2		28.88	28.92	28.89	28.89	28.89
	mm	针径	0.8	0.7	0.6		0.70	0.70	0.70	0.70	0.70
	mm	脚长									

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L332338-111-31809002-0
Report Reference E332338-20090813
Date 23-Sep-2021

Issued to: DONGGUAN CHIPSEN ELECTRONICS TECHNOLOGY LTD
No. 1 Building A Mawucun Industrial Zone
Changhuang Road Qiaoli Village
Changping Town Dongguan, GUANGDONG
China 523000

**This is to certify that
representative samples of**

OBJY2 - Systems, Electrical Insulation - Component
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: ANSI/CAN/UL1446

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC



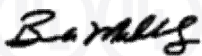
Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/about/locations/>

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L332338-111-31809002-0
Report Reference E332338-20090813
Date 23-Sep-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
CHIPSEN	Class 130(B) Electrical Insulation Systems



Bruce Mahrenholz, Director North American Certification Program



UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2136912-0
Report Reference E332338-20090813
Date 23-Sep-2021

Issued to: DONGGUAN CHIPSEN ELECTRONICS TECHNOLOGY LTD
No. 1 Building A Mawucun Industrial Zone
Changhuang Road Qiaoli Village
Changping Town Dongguan, GUANGDONG
China 523000

This is to certify that representative samples of OBJY8 - Systems, Electrical Insulation Certified for Canada - Component
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: ANSI/CAN/UL 1446:2020, 8th Ed., Issue Date: 2019-11-13, Revision Date: 2020-11-19

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

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Report Reference E332338-20090813
Date 23-Sep-2021

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Model	Category Description
CHIPSEN	Class 130(B) Electrical Insulation Systems



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