



深圳市蓝宝安科电子有限公司

Shenzhen LanbaoAnke Electronics Co.,Ltd.

承 认 书

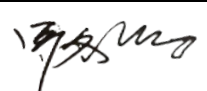
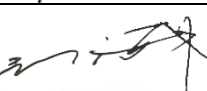
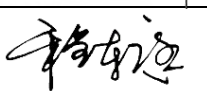
APPROVAL SHEET

编号 NO.	LB-1206TD-01
版次 Ver.	A/3

客户 Customer	
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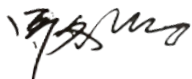
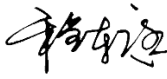
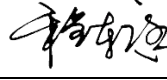
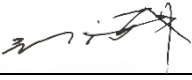
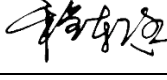
品名 Product	贴片保险丝 SMD FUSE
系列 Series	1206TD系列 1206TD Series

料号Part No.	规格描述Specification	备注Remark
蓝宝 LB FUSE		
客 户 Customer		

供应商-蓝宝 Supplier-LB fuse		零件承认章 Approval Signet	客户 Customer	零件承认章 Approval Signet
制作 Make				
审查 Check				
批准 Approval				

联络Contact			
业务Sales	电话Telephone	手机Cellphone	邮箱E-mail
			lanbaofuse@163.com
零件承认后敬请回签一份给我司留存。			

History of Change变更记录

NO.	日期 Date	描述 Description	版次 Edition	修改 modified by	审核 Checked by
1	2018.6.6	新制订	A/1		
2	2023.5.31	更改为新封面	A/2		
3	2023.12.15	增加9.2 PN编码规则	A/3		
4					
5					
6					
7					
8					
9					
10					
11					

1.适用范围 / SCOPE

本规格书适用于蓝宝公司1206TD系列慢熔断型过电流保护贴片保险丝。

This specification is applicable to over-current protection thick film fuse for 1206TD slow blow series produced by LANBAO corporation.

2.产品特点/ Features

高浪涌电流承受能力 / High inrush current withstanding capability

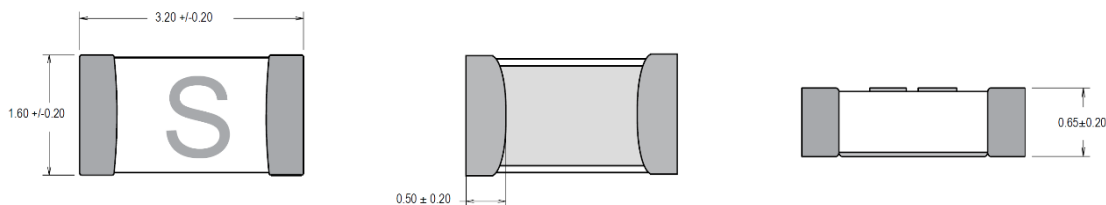
兼容回流焊和波峰焊 / Compatible with reflow and wave solder

陶瓷和玻璃结构 / Ceramic and glass construction

工作温度-55℃ to 125℃ / Operating temperature -55℃ to 125℃

无铅无卤素材料 / Lead Free and Halogen free material

3.产品尺寸/ Dimensions (mm)



说明：元件的陶瓷面印标示，保护玻璃与字符颜色均为绿色。

Notes: The element is marked with ceramic face print, Protective glass and character color are green.

4.基本信息/ ORDERING INFORMATION

Part NO. 料 号	Voltage Rating 额定电压	Current Rating 额定电流	Breaking Capacity 分断电流	Typical Cold Resistance (mΩ) 标准冷电阻	Typical Pre-Arcing I ² T (A ² Sec) 熔化热值	Marking 标记
1206TD750mA	24/32Vdc 36/48Vdc 63/125Vdc 125Vac	750mA	48Vdc@200A 125Vdc@50A 125Vac@50A	850	0.01	.75
1206TD1A		1A		480	0.11	H
1206TD1.5A		1.5A		230	0.15	K
1206TD2A		2A		135	0.41	N
1206TD2.5A	24/32Vdc 36/48Vdc 63/125Vdc 125Vac	2.5A	63Vdc@50A	75	0.68	O
1206TD3A		3A		47	1.50	P
1206TD3.5A		3.5A		38	2	R
1206TD4A		4A		34	2.5	S
1206TD4.5A		4.5A		29	2.65	X
1206TD5A		5A		24	4	T
1206TD6A	24/32Vdc 36/48Vdc 63/125Vdc 125VVac	6A	48Vdc@200A	16	12	F
1206TD7A		7A		12.3	14	7
1206TD8A		8A		8.3	16	M
1206TD10A		10A		6.5	22	U

Part NO. 料 号	Voltage Rating 额定电压	Current Rating 额定电流	Breaking Capacity 分断电流	Typical Cold Resistance (mΩ) 标准冷电阻	Typical Pre-Arcing I ² T (A ² Sec) 熔化热值	Marking 标记
1206TD12A	24Vdc 32Vdc 36Vdc 48Vdc	12A	32VDC@200A	5	11.5	12
1206TD15A		15A		3.7	16.5	15
1206TD20A		20A		3.4	50	Q
1206TD25A		25A		1.6	60	L
1206TD30A		30A		1.3	100	Z
1206TD40A	24/32/36Vdc	40A	24VDC@200A	0.85	160	XL

说明/Notes :

- a. “典型电阻”是在通以小于额定电流的 10%的弱电流条件下量测的阻抗.

Nominal Resistance measured with < 10% rated current ;

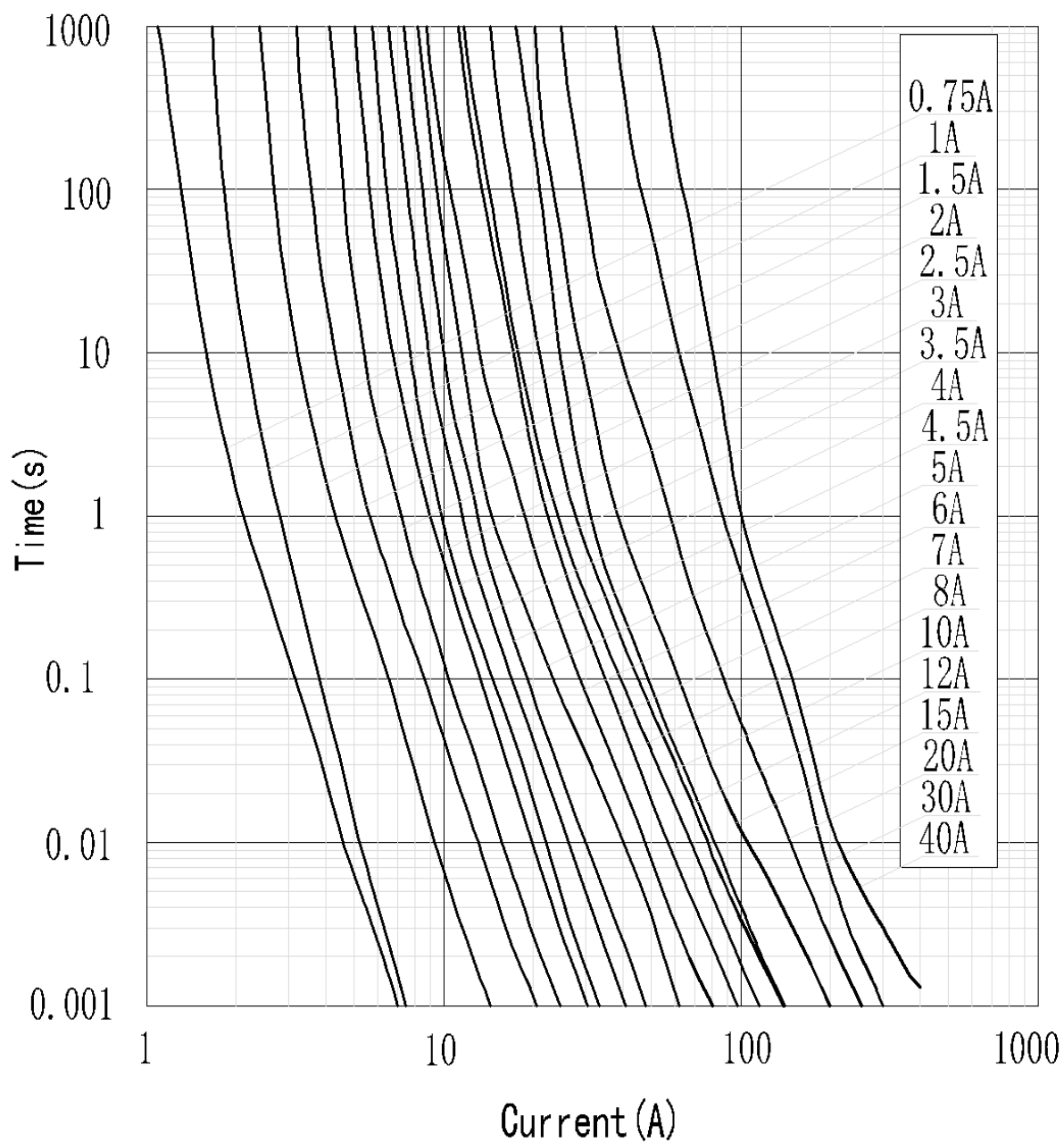
- b. “典型 I²t ”基于通电10倍额定电流时的测量.

Typical Pre-arcing I²t are measured at 10I_n Current

5. 时间-电流特性/ Pre-Arcing Time-Current Characteristics (limits)

Rated Current	% of Current Rating	Clearing Time at 25℃	
		Min	Max
750mA-40A	100%	4hours	/
	200%	1s	120s
	350%	/	3s

Time-Current Characteristics



6. 信赖性测试规范 RELIABILITY TEST STANDARD

#	项目 Item	内容 Contain	判断标准 Criteria
1	分断能力测试 Breaking capacity	参照规格书第4项 Refer to item 4 of the specification	没有持续电弧、燃烧、爆炸现象 No a permanent arcing, ignition, bursting UL248-1/-14
2	可焊性 Solder ability	锡炉温度 $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 浸入深度 $2.0\text{mm} \pm 0.5\text{mm}$, 浸锡时间 $5 \pm 0.5\text{s}$, 放在20X放大镜下检查锡覆盖率 $T=245^{\circ}\text{C} \pm 5^{\circ}\text{C}$, $t=5\text{s} \pm 0.5\text{s}$; magnifier: 20X	锡覆盖率 $\geq 95\%$ Cover $\geq 95\%$ MIL-STD-202 Method 208
3	抗焊性测试 Soldering heat resistance	1.将样品焊在对应的PCB板上进行三次回流焊接 /N=3 times 2.测试前后记录样品阻值/Record the resistance	无裂纹/损伤, 标识清晰可辨; 前后阻值偏差 $\leq 15\%$; No crack and damage, Marking is easily legible $\Delta R < 15\%$ MIL-STD-202 Method 210F
4	冷热冲击 Thermal Shock	-65 $^{\circ}\text{C}$ 停留15min, $\rightarrow 25^{\circ}\text{C}$ 停留5min, $\rightarrow 125^{\circ}\text{C}$ 停留15min; 循环次数为100次 -65 $^{\circ}\text{C}$ 15min $\rightarrow 25^{\circ}\text{C}$ 5min $\rightarrow +125^{\circ}\text{C}$ 15min ; 100 cycles	外观无裂纹/损伤, 前后阻值偏差 $< 10\%$ No crack and damage, $\Delta R < 10\%$ MIL-STD-202, Method 213B
5	振动测试 Vibration	频率范围:10~15~10Hz/min 振动振幅:1.5mm Frequency range:10~15~10Hz/min Vibration amplitude:1.5mm	无明显机械损伤 $\Delta R < 10\%$ No mechanical damages MIL-STD-202, Method 201A
6	盐雾试验 Salt spray test	溶液浓度: $5 \pm 0.1\%$; 连续放置48小时 5% salt solution, 48hr	$\Delta R < 10\%$ Legible appearance MIL-STD-202, Method 101
7	弯曲试验 Bending test	以1mm/s的速度将试验板弯曲1mm, 保持时间60s Bending: 1mm, time: 60s	试验前后阻值变化 $\leq 15\%$; 保险丝焊盘无明显的裂缝 $\Delta R < 15\%$, No mechanical damages IEC 60127-4

7. 环境特性 / ENVIRONMENTAL CHARACTERISTIC

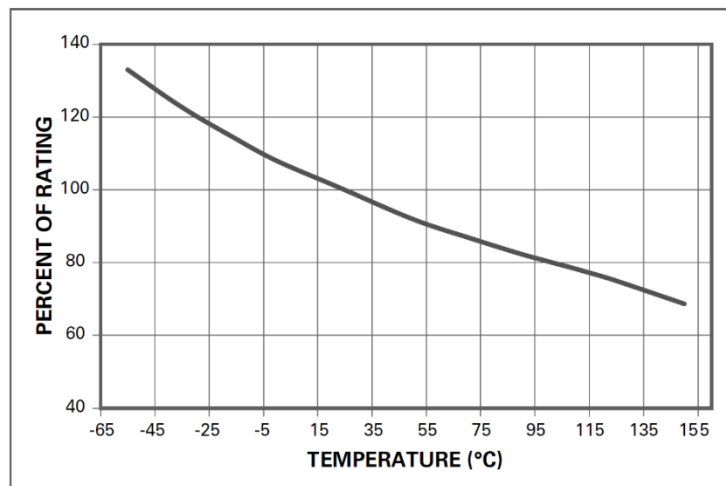
7-1 工作温度范围: $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ / Operating Temperature: $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ 。

若贵司工作环境温度超出 $23 \pm 3^{\circ}\text{C}$ 范围, 在选用保险丝规格时, 需考虑操作环境温度对保险丝的影响。

请参照: 温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from $20 \sim 26^{\circ}\text{C}$, you should consider the environmental temperature's affection to fuses.
please refer:

Temperature Re-rating Curve



7-2 存储条件 / Storage Conditions

在温度10°C~40°C、相对湿度≤75%的密闭条件下可存放2年。

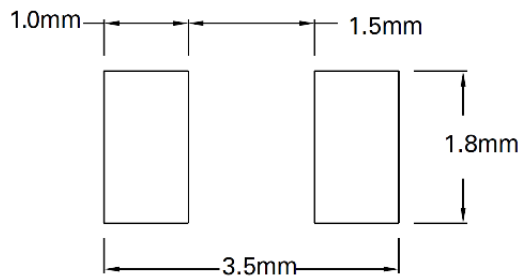
在温度10°C~40°C、相对湿度为95%的非露天下最多可存放30天。

Under airtight in temperature10°C~40°C、relative humidity ≤75% can store 2 years.

Without dew in temperature10°C~40°C、relative humidity be 95% maximum value for 30days.

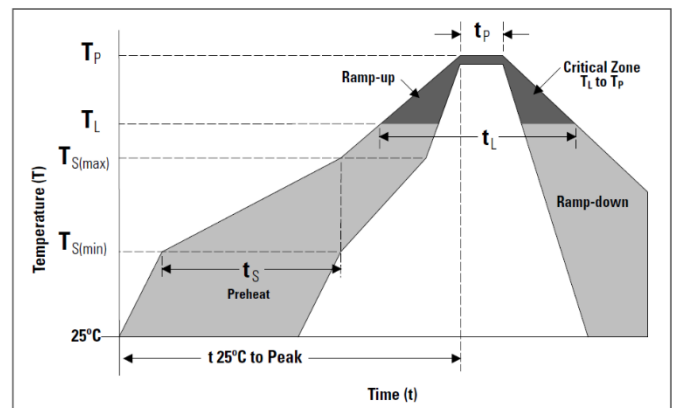
8. 焊盘尺寸及焊接条件 / SOLDER PAD SIZE AND WELDING CONDITIONS

8-1 焊盘尺寸建议 / Recommended Size of the Pad.



8-2 焊接参数/Soldering Parameters

Reflow Condition		Pb – free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (Min to Max) (t_s)	60 – 180 seconds
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		3°C/second max.
$T_{s(max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C
Wave Soldering		260°C, 10 seconds max.



9. 包装规格/PN编码规则/PACKINGSPECIFICATION/PN ENCODING RULES

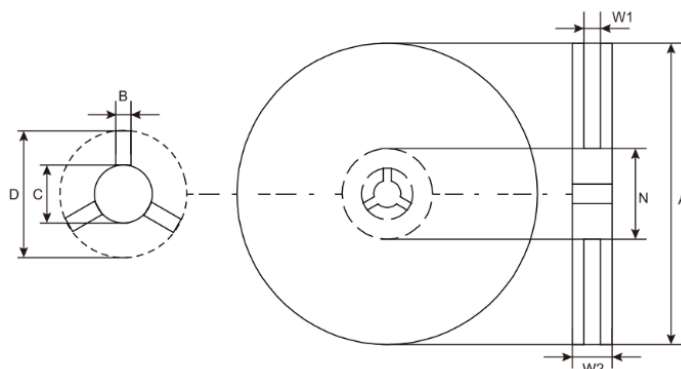
9-1 包装数量、重量 / QUANTITY & WEIGHT

系列 Series	数量Quantity	重量Weight
1206TD	3000pcs/Reel	98±20 (g)

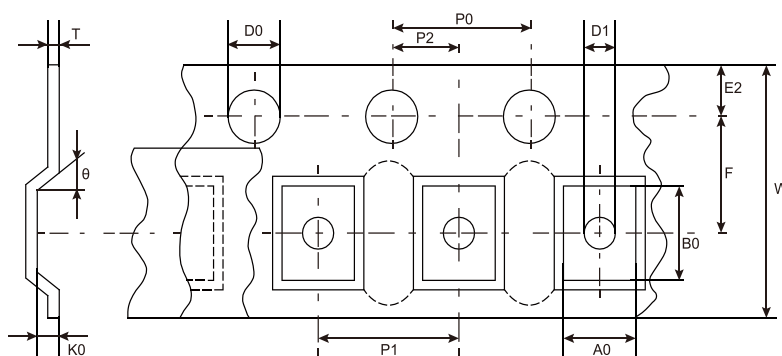
9-2 PN编码规则/PNENCODINGRULES

1 Part Numbering System (编码结构)						
2	FULL DESCRIPTION FORMAT (详细内容描述格式)					
	制造商Manufacturer	Series系列	Rated current额定电流	Rated voltage额定电压	Packaging包装	- 补充码
	xx	xxxxx	xxxx	x	xx	XX
	LB	0603FF	0100=100mA	E=24V	00=Tape & Reel 编带+卷盘	01=XX客制化要求
		0603TD	1100=1A	F=32V		02=低阻产品
		1206FF	2100=10A	G=36V		
		1206TD		H=48V		
				I=63V		
				J=72V		
				B=125V		
3	Example例如:		P/N	LB1206TD1100B00		
	规格描述		LB品牌 1206TD 1A125V 编带包装			

9-2 卷轮规格 / Reel & Tape specifications



Item	A	B	C	D	N	W1	W2
Spec.(mm)	178±5	1.6 Min.	12.8 Min.	20.8 Min.	58±2	8.4 Min.	12.4 Max.



Item	A0	B0	D0	D1	E2	F	K0
Spec.(mm)	1.92±0.10	3.62±0.10	1.5 ^{+0.1} ₀	1.0 min.	1.75 ± 0.10	3.50 ± 0.05	0.87±0.10
Item	P0	P1	P2	T	W	θ	
Spec.(mm)	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.25 ± 0.05	8.00 ± 0.30	6° max	

10. 其他 / OTHERS

10-1 如果在使用中有超出本规格书的要求，必须经由双方协商确认。

In the event that an impropriety is found beyond this specification, it shall be fixed by mutual agreement between the parties.

10-2 如果本规格书有不适当的情况，必须通过双方协商并由本公司修改。

In the event that an impropriety is found in this specification, LANBAO ELECTRICAL shall amend it by mutual agreement between the parties.

Attachment: UL Certification

2023/6/5 09:48

UL Certification: E213695 - Fuses



UL **iQ** for Fuses



Fuses

E213695

Guide Information

ZHONG SHAN LANBAO ELECTRICAL APPLIANCES CO LTD

West Xing Pu Rd, Huang Pu, Zhongshan Guangdong 528429 CN

1206FF, 1206HI, 1206HV or 1206TD

Supplemental micro fuses: surface mount

<u>Size</u> <u>mm(in)</u>	<u>Amps</u> <u>(A)</u>	<u>Volts</u> <u>(V)</u>	<u>Interrupting</u> <u>Rating_(A)</u>
3.2 x 1.6 x 0.5 (0.13 x 0.06 x 0.02)	0.25 - 10	125Vac	50
	0.25 - 10	63Vdc	50
	0.25 - 10	72Vdc	50
	0.25 - 10	125Vdc	50
	0.25 - 30	48Vdc	200
	0.25 - 50	24Vdc	200
	0.25 - 50	32Vdc	200
	0.25 - 50	36Vdc	200

Report Date: 2022-01-07

Last Revised: 2022-01-07

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