

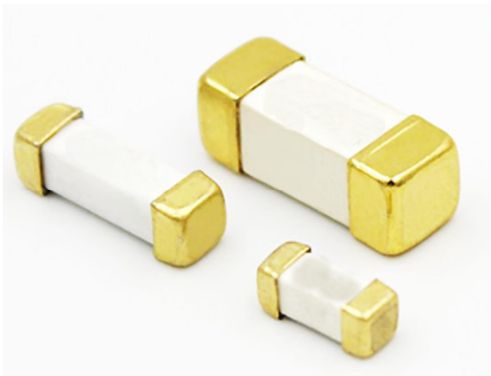
Product Specification

Number: L-KLS5-2410-25T-XXXXH/L-XXXV

Name: Micro Fuses (Time-Lag)

Customer: _____

Date: 2025-04-07



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NINGBO KLS ELECTRONIC CO; LTD

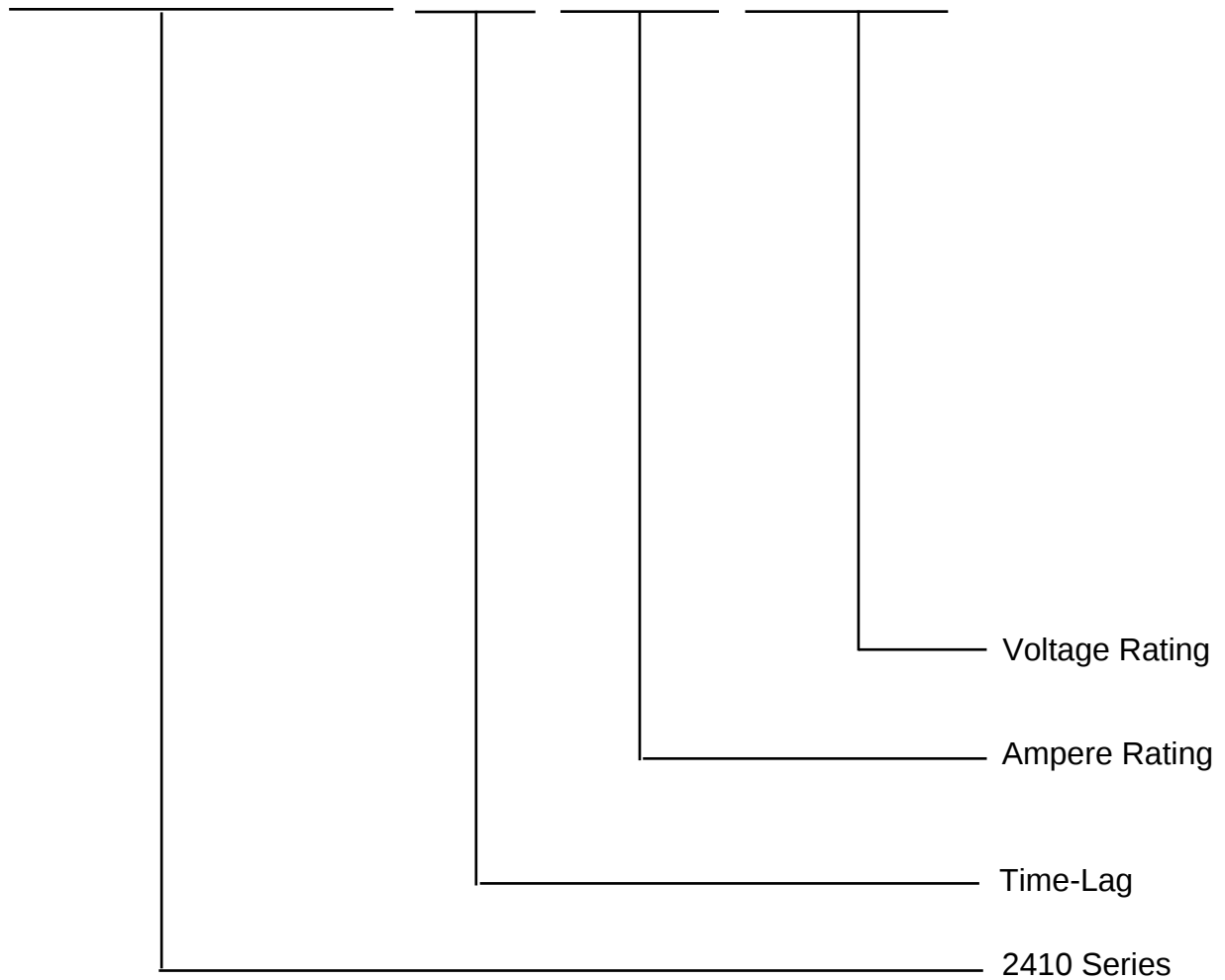
Tel : 0086-574-86828566
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ADD : NO. 8-1, RONGXIA RD. XIAPU SHANQIAN
INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.

Compi	Check	Review	Approva
Jenny	Jack.C		

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-XXXV	Edition	V1
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Order Information

L-KLS5-2410-25 T - XXXXH / L-XXXV



	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-63/72//125V	Edition	V1
	Department		Page	3 / 23

1. 产品特性及应用范围 / **Description, Features and Applications**

本产品适用于各类电子设备电路初、次级电路板的过流保护，广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC 电源供应、网络通信、医疗仪器及工业控制器等领域。

Descriptions:

slow-blow square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

Features:

- Time-Lag (Slow-Blow)
 - Wide range of current rating available
 - Low temperature de-rating
 - Tape and Reel for automatic placement
- Small size(6.1mm*2.5mm)
 - Wide operating temperature range
 - RoHS compliant
 - Conflict free metals

Applications:

- LED lighting
 - LCD backlight inverter
 - PC server
 - Wireless base station
 - Digital camera
- Notebook PC
 - Portable Devices
 - Cooling fan system
 - White goods
 - Industrial equipment
- Battery devices
 - Power supply
 - Storage system
 - Game console
 - Medical equipment
- LCD/PDP devices
 - Networking devices
 - Telecom system
 - Office equipment
 - Automotive devices

2. 安规认证标准及编号 / **Standards and Agency Approvals**

2.1 执行标准：遵循 UL 248-14。

Standards: In accordance with UL 248-14.

2.2 认证范围 Certification:

安规标准 Agency	认证范围 Ampere Range	证书编号 Agency File Number
	50mA ~ 40A	E340427(JDYX2)
	50mA ~ 40A	E340427(JDYX8)

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-63/72//125V	Edition	V1
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2.3 目录编号 Catalogue No., ● 已认证 Approved / ○ 认证中 Pending

目录编号 Catalog No.	额定电流 Ampere Rating	额定电压 Voltage Rating	分断能力 Breaking Capacity	冷阻值 Nominal Cold Resistance (Ohms)	熔化热能 I ² T Melting Integral(A ² .S)	安规认证 Agency Approvals			
									
25T-0160	160mA	125VAC/DC	50A@300VAC 50A@250VAC 200A@125VAC	2.300	0.058	●	●	○	○
25T-0200	200mA			1.650	0.062	●	●	○	○
25T-0250	250mA			1.450	0.065	●	●	○	○
25T-0300	300mA			0.850	0.191	●	●	○	○
25T-0315	315mA			0.650	0.202	●	●	○	○
25T-0375	375mA			0.610	0.330	●	●	○	○
25T-0400	400mA			0.580	0.338	●	●	○	○
25T-0500	500mA			0.320	0.475	●	●	○	○
25T-0600	600mA			0.265	0.775	●	●	○	○
25T-0630	630mA			0.256	0.986	●	●	○	○
25T-0700	700mA			0.230	2.105	●	●	○	○
25T-0750	750mA			0.225	2.240	●	●	○	○
25T-0800	800mA			0.203	2.380	●	●	○	○
25T-010	1A			0.128	3.690	●	●	○	○
25T-013	1.25A			0.092	3.760	●	●	○	○
25T-015	1.5A			0.085	6.765	●	●	○	○
25T-016	1.6A			0.075	6.805	●	●	○	○
25T-020	2A			0.038	12.150	●	●	○	○
25T-025	2.5A			0.035	16.025	●	●	○	○
25T-030	3A			0.026	21.560	●	●	○	○
25T-032	3.15A			0.025	25.750	●	●	○	○
25T-035	3.5A			0.023	30.050	●	●	○	○
25T-040	4A			0.019	43.208	●	●	○	○
25T-050	5A			0.013	55.250	●	●	○	●
25T-060	6A			0.011	75.245	●	●	○	●
25T-063	6.3A			0.010	93.550	●	●	○	●
25T-070	7A			0.009	97.120	●	●	○	●
25T-080	8A			0.0078	108.750	●	●	●	●
25T-100	10A			0.0066	118.380	●	●	●	●
25T-120	12A			0.0045	140.080	●	●	○	●
25T-150	15A			0.0030	210.680	●	●	●	●
25T-160	16A	72VDC	500A@72VDC	0.0028	215.250	●	●	○	●
25T-200	20A	72VDC	500A@72VDC	0.0020	358.080	●	●	●	●
25T-250	25A	72VDC	500A@72VDC	0.00158	465.170	●	●	○	●
25T-300	30A	72VDC	500A@72VDC	0.00145	989.650	●	●	○	●
25T-400	40A	63VDC	500A@63VDC	0.00120	1050.780	●	●	○	●

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-63/72//125V	Edition	V1
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- *: These catalog no. cold resistance and I2t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃;
- Typical Pre-arching I2t are calculated at 10*In Current or 8ms;
- Min Interrupting Rating: 1.35*In.

3. 产品标示 / Product Marking

保险丝上需有下列标示 / The fuses shall have the following markings

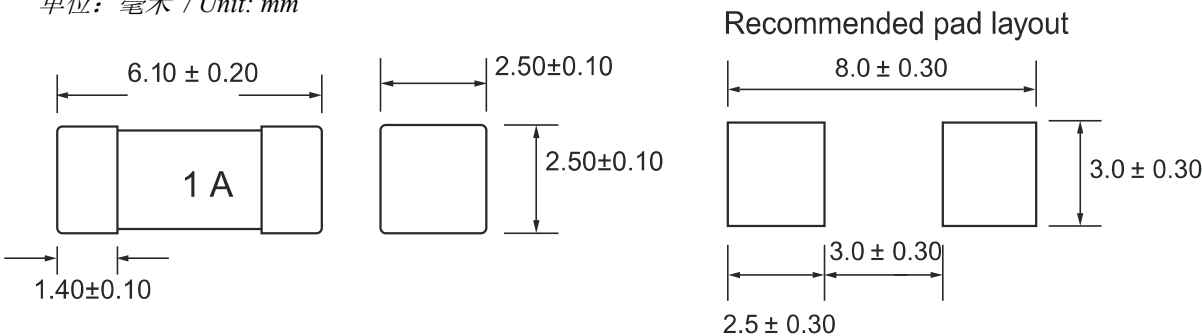
示例 Example:



注: 对于标示的大小和位置没有规定 / Note: Size and position of the markings shall not be provided.

4. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



5. 材料明细 / Material Details

编号 NO.	零件名称 Part Name	材质 Material
①	端帽 End caps	黄铜镀金 Au Plated Brass Cap
②	主体 Body	陶瓷管 Non-Transparent Square Ceramic Tube
③	熔丝 Fuse element	合金 Cu-Ag Alloy wire

6. 产品特性 / Product Characteristics

编号 NO.	项目 Item	内容 Content	参考标准 Reference standards
1	产品标识	Brand, Ampere Rating	marking standards

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-63/72//125V	Edition	V1
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	Product Marking		
2	工作温度 Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
3	可焊性 Solderability	T=240°C ± 5°C, t=3sec ± 0.5sec, Coverage ≥ 95%	MIL-STD-202, Method 208
4	耐焊接热 Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	绝缘阻抗 Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	热冲击 Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	机械冲击 Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	振动试验 Vibration	0.03" amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	耐湿性 Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	盐雾试验 Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

7. 电气特性 / Electrical Characteristics

7.1 实验条件: Test Condition

所有测试环境温度均为 25±5°C。

All electrical test is to be conducted with the ambient air at a temperature of 25±5°C.

7.2 分断能力 Interrupting Rating:

保险丝承受分断能力: 50A@250Vac, 200A@125Vac.

Breaking Capacity: 50A@250Vac, 200A@125Vac.

7.3 熔断时限 / Operating Characteristics

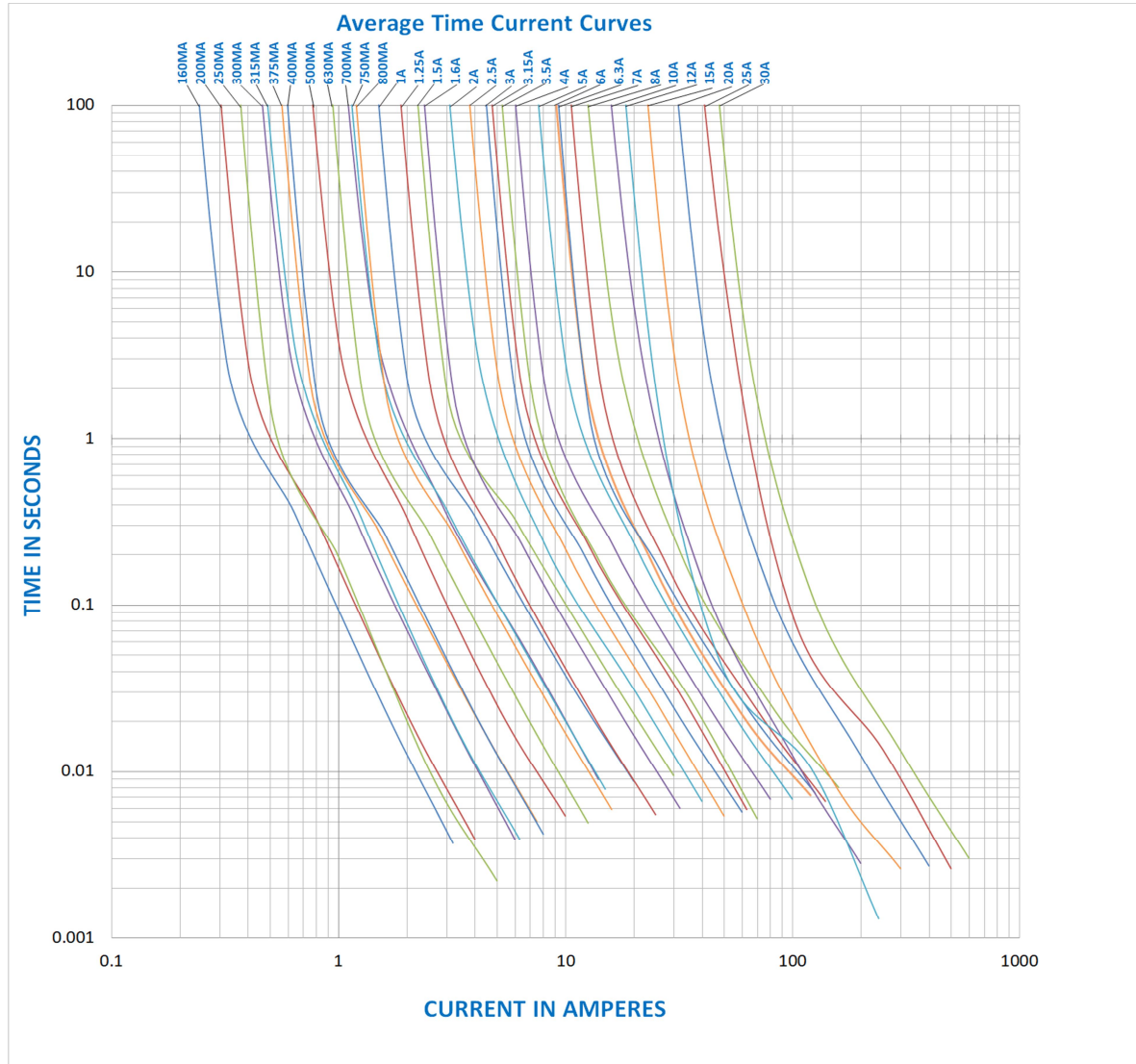
额定电流 Rated Current	额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
160mA-40A	100% * In	大于 4 小时(4 hours Min)
500mA-40A	200% * In	小于 120 秒 (120 sec Max)

160mA-400mA

210% * In

小于 120 秒 (120 sec Max)

7.4 平均时间电流曲线图 / Average Time Current Curves

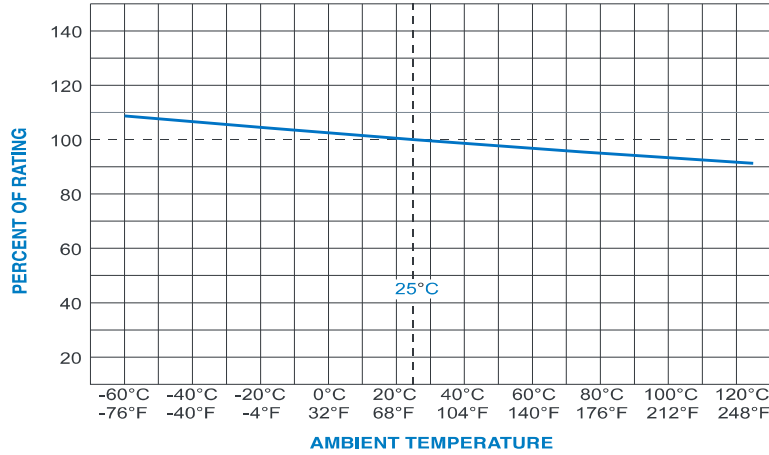


8. 环境特性 / Environmental Characteristic

若操作环境温度超出 $25 \pm 5^\circ\text{C}$ 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，请参照如下：温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from $20 \sim 30^\circ\text{C}$, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



9. 建议焊接参数 / Recommended Soldering Parameters

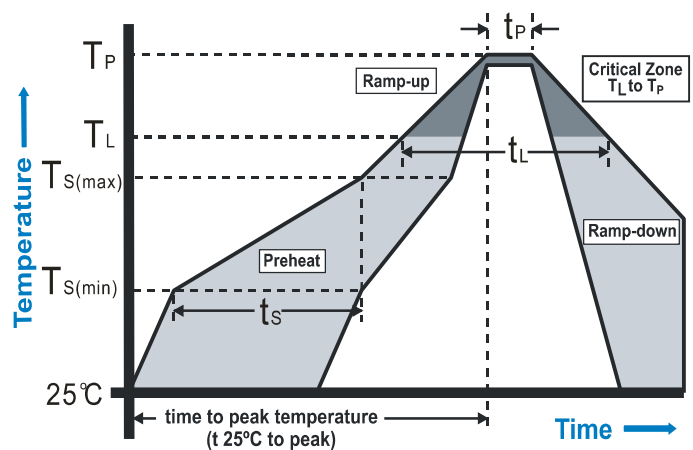
A. 波峰/回流焊参数 / Wave /Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260°C Max;

焊接时间 / Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max)to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (TL)	220°C
	Time Max (tL)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



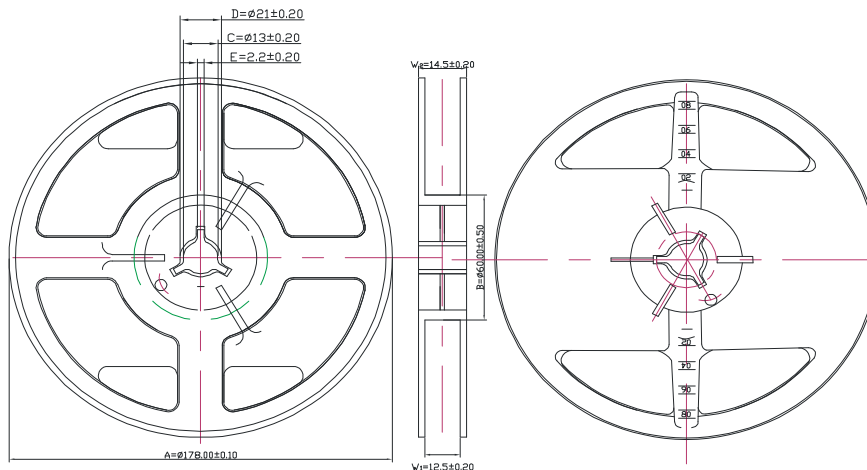
B. 手工焊参数 / Hand-Solder Parameters:

烙铁温度 / Solder Iron Temperature: 300±5°C

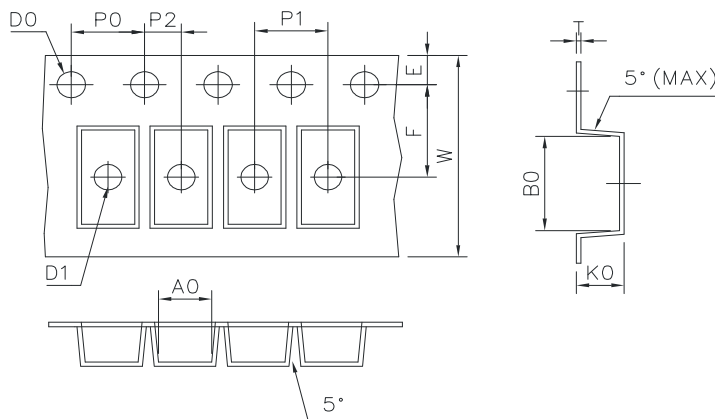
焊接时间 / Heating Time: 1~2 s Max

10. 包装 / Packaging

1500 个每卷/ 1,500 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481



Item	A	B	C	D	E	W1	W2
Spec.(mm)	178 ± 0.10	60 ± 0.50	13 ± 0.20	21 ± 0.20	2.2 ± 0.20	12.5 ± 0.20	14.5 ± 0.20



Item	A ₀	B ₀	D ₀	D ₁	E	F
Spec.(mm)	2.70 ± 0.10	6.40 ± 0.10	1.50 ± 0.10	1.50 ± 0.25	1.75 ± 0.10	5.50 ± 0.10

Item	K ₀	P ₀	P ₁	P ₂	W	t
Spec.(mm)	2.70 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	12.00 ± 0.15	0.25 ± 0.05

11. 其他 / Others

11.1 如果在使用中有超出本规格书的要求，须经双方协商确认。

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

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-250V	Edition	V1
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1. 产品特性及应用范围 / Description, Features and Applications

本产品适用于各类电子设备电路初、次级电路板的过流保护，广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC 电源供应、网络通信、医疗仪器及工业控制器等领域。

Descriptions:

slow -blow square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

Features:

- Time-Lag (Slow-Blow)
- Wide range of current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(6.1mm*2.5mm)
- Wide operating temperature range
- RoHS compliant
- Conflict free metals

Applications:

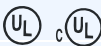
- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

2. 安规认证标准及编号 / Standards and Agency Approvals

2.1 执行标准：遵循 UL 248-14。

Standards: In accordance with UL 248-14.

2.2 认证范围 Certification:

安规标准 Agency	认证范围 Ampere Range	证书编号 Agency File Number
	50mA ~ 7A	E340427(JDYX2)/ E340427(JDYX8)
	500mA ~1A~ 2A 3A3.15A5A6.3A	CQC18012206754 CQC20012237230
	250mA ~500mA ~1A~ 2A 3A3.15A5A6.3A	SU05052-19001/19002 SU05052-20008
	500mA~ 1A~ 2A~3.15A	40050560

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-250V	Edition	V1
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2.3 目录编号 Catalogue No., ● 已认证 Approved / ○ 认证中 Pending

目录编号 Catalog No.	额定电流 Ampere Rating	额定电压 Voltage Rating	冷阻值 Nominal Cold Resistance (Ohms)	熔化热能 I ² T Melting Integral (A ² .S)	安规认证 Agency Approvals		安规认证 Agency Approvals			
										
25T-0160	160mA	250V	2.300	0.058	●	●	○	○	○	○
25T-0200	200mA	250V	1.650	0.062	●	●	○	○	○	○
25T-0250	250mA	250V	1.450	0.065	●	●	○	●	○	●
25T-0300	300mA	250V	0.850	0.191	●	●	○	○	○	○
25T-0315	315mA	250V	0.650	0.202	●	●	○	○	○	○
25T-0375	375mA	250V	0.610	0.330	●	●	○	○	○	○
25T-0400	400mA	250V	0.580	0.338	●	●	○	○	○	○
25T-0500	500mA	250V	0.320	0.475	●	●	●	●	●	●
25T-0600	600mA	250V	0.265	0.775	●	●	○	○	○	○
25T-0630	630mA	250V	0.256	0.986	●	●	○	○	○	○
25T-0700	700mA	250V	0.230	2.105	●	●	○	○	○	○
25T-0750	750mA	250V	0.225	2.240	●	●	○	○	○	○
25T-0800	800mA	250V	0.203	2.380	●	●	○	○	○	○
25T-010	1A	250V	0.128	3.690	●	●	●	●	●	●
25T-013	1.25A	250V	0.092	3.760	●	●	○	○	○	○
25T-015	1.5A	250V	0.085	6.765	●	●	○	○	○	○
25T-016	1.6A	250V	0.075	6.805	●	●	○	○	○	○
25T-020	2A	250V	0.038	12.150	●	●	●	●	●	●
25T-025	2.5A	250V	0.035	16.025	●	●	○	○	○	○
25T-030	3A	250V	0.026	21.560	●	●	○	●	○	●
25T-032	3.15A	250V	0.025	25.750	●	●	●	●	○	●
25T-035	3.5A	250V	0.023	30.050	●	●	○	○	○	○
25T-040	4A	250V	0.019	43.208	●	●	○	○	○	○
25T-050	5A	250V	0.013	55.250	●	●	○	●	○	●
25T-060	6A	250V	0.011	75.245	●	●	○	○	○	○
25T-063	6.3A	250V	0.010	93.550	●	●	○	●	○	●
25T-070	7A	250V	0.009	97.120	●	●	○	○	○	○

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-250V	Edition	V1
	Department		Page	12 / 23

- *: These catalog no. cold resistance and I2t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃;
- Typical Pre-arching I2t are calculated at 10*In Current or 8ms;
- Min Interrupting Rating: 1.35*In.

3. 产品标示 / Product Marking

保险丝上需有下列标示 / The fuses shall have the following markings

示例 Example:

1A

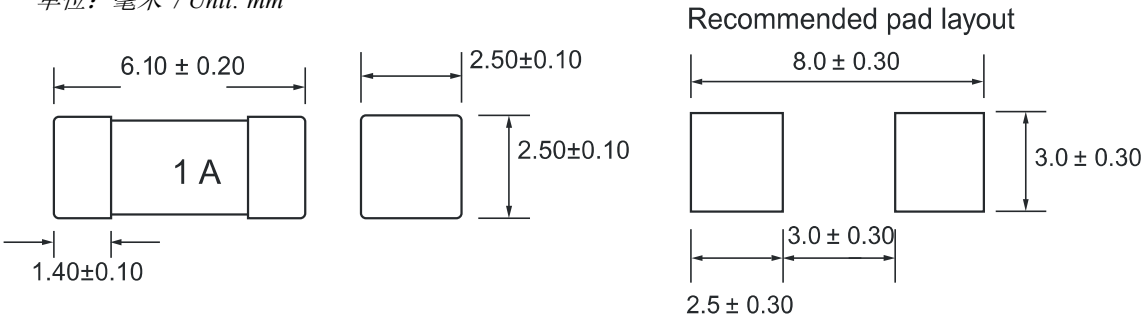
①

① 额定电流/Rated Current (A): ____A 或 or ____mA

注: 对于标示的大小和位置没有规定 / Note: Size and position of the markings shall not be provided.

4. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



5. 材料明细 / Material Details

编 号 NO.	零 件 名 称 Part Name	材 质 Material
①	端帽 End caps	黄铜镀金 Gold Plated Brass Cap
②	主体 Body	陶瓷管 Non-Transparent Square Ceramic Tube
③	熔丝 Fuse element	合金 Cu-Ag Alloy wire

6. 产品特性 / Product Characteristics

编号 NO.	项目 Item	内容 Content	参考标准 Reference standards
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	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-250V	Edition	V1
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1	产品标识 Product Marking	Brand, Ampere Rating	marking standards
2	工作温度 Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
3	可焊性 Solderability	T=240°C±5°C , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	耐焊接热 Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	绝缘阻抗 Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	热冲击 Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	机械冲击 Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	振动试验 Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	耐湿性 Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	盐雾试验 Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

7. 电气特性 / Electrical Characteristics

7.1 实验条件: Test Condition

所有测试环境温度为 25±5°C。

All electrical test is to be conducted with the ambient air at a temperature of 25±5°C.

7.2 分断能力 Interrupting Rating:

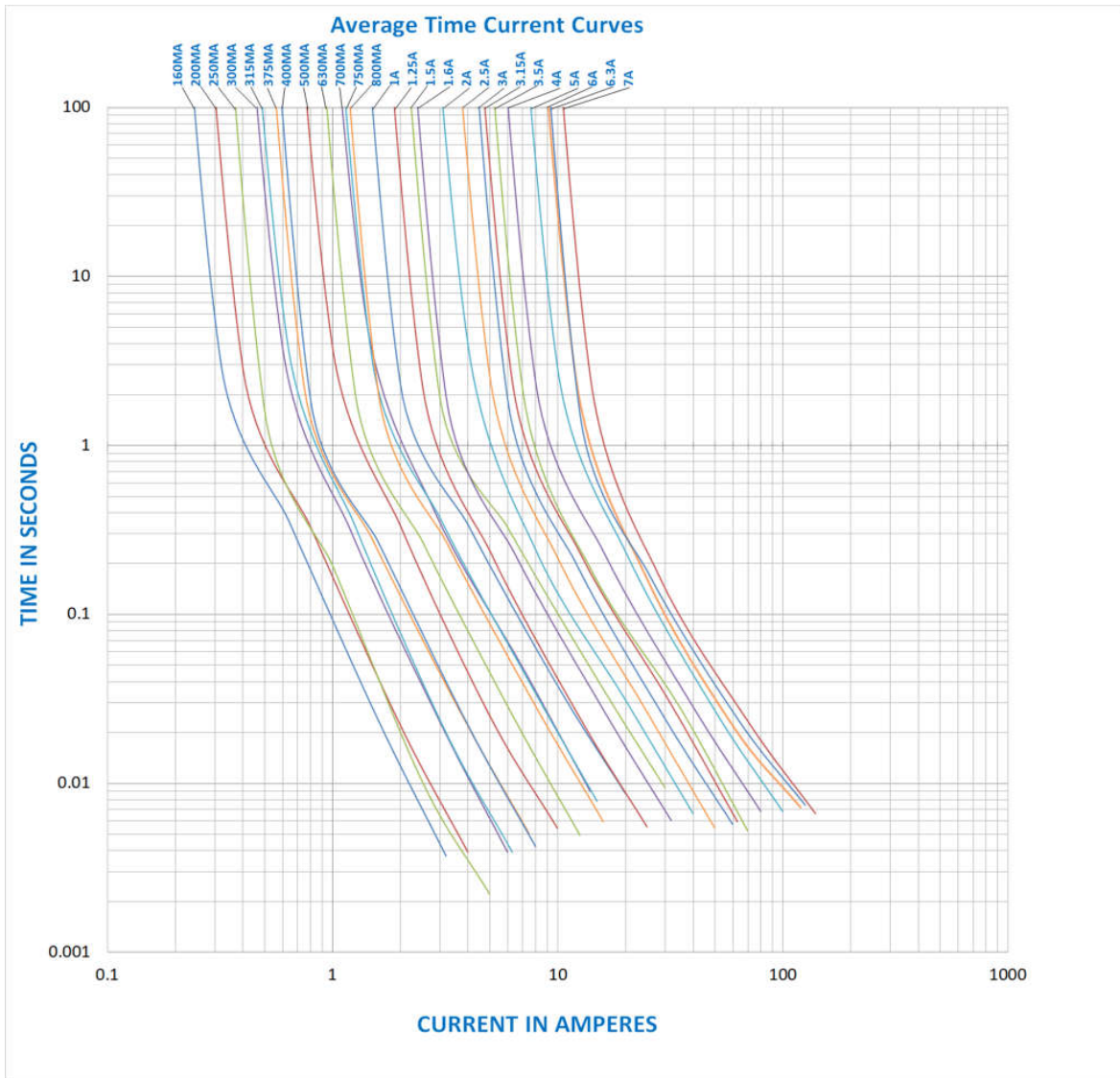
保险丝承受分断能力: 50A@250Vac, 200A@125Vac.

Breaking Capacity: 50A@250Vac, 200A@125Vac.

7.3 熔断时限 / Operating Characteristics

额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
100% * In	大于 4 小时(4 hours Min)
200% * In	小于 120 秒 (120 sec Max)

7.4 平均时间电流曲线图 / Average Time Current Curves

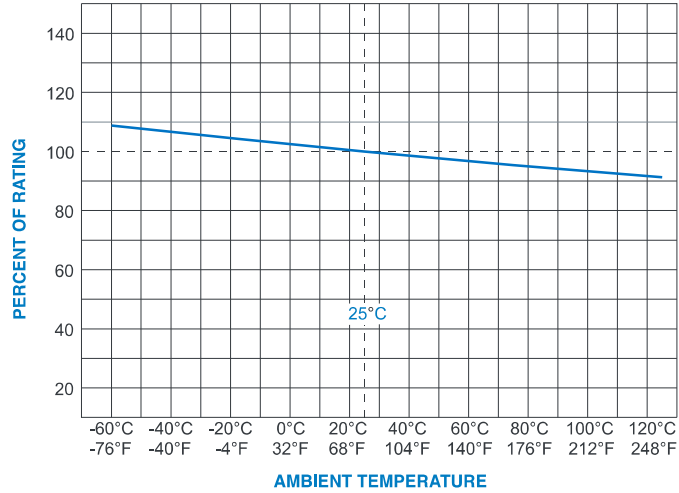


8. 环境特性 / Environmental Characteristic

若操作环境温度超出 $25 \pm 5^\circ\text{C}$ 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，请参照如下：温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from $20 \sim 30^\circ\text{C}$, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



9. 建议焊接参数 / Recommended Soldering Parameters

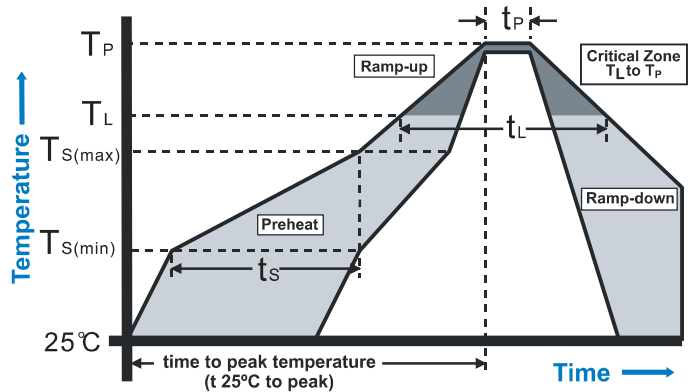
A. 波峰/回流焊参数 / Wave /Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260°C Max

焊接时间 / Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max) to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (TL)	220°C
	Time Max (tL)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



B. 手工焊参数 / Hand-Solder Parameters:

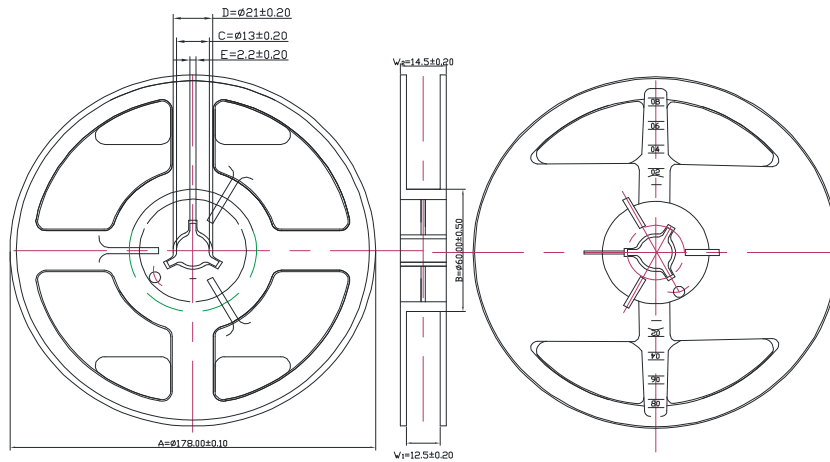
烙铁温度 / Solder Iron Temperature: 300±5°C

焊接时间 / Heating Time: 1~2 s Max

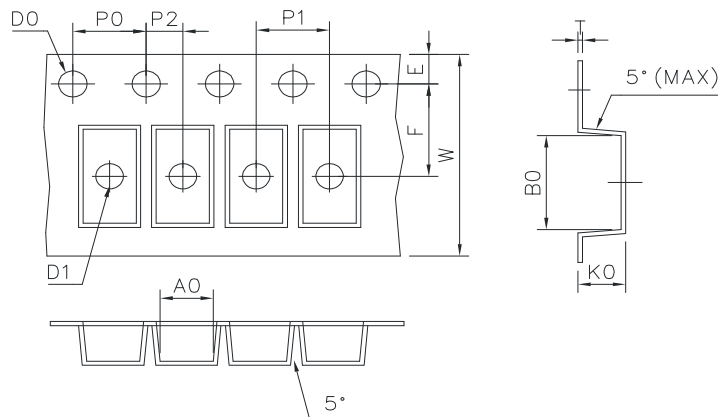
10. 包装 / Packaging

1000 个每卷/ 1,000 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481

Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
Part number	L-KLS5-2410-25T-XXXXH/L-250V	Edition	V1
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Item	A	B	C	D	E	W1	W2
Spec.(mm)	178±0.10	60±0.50	13±0.20	21±0.20	2.2±0.20	12.5±0.20	14.5±0.20



Item	A_0	B_0	D_0	D_1	E	F
Spec.(mm)	2.70±0.10	6.40±0.10	1.50±0.10	1.50±0.25	1.75±0.10	5.50±0.10
Item	K_0	P_0	P_1	P_2	W	t
Spec.(mm)	2.70±0.10	4.00±0.10	4.00±0.10	2.00±0.10	12.00±0.15	0.25±0.05

11. 其他 / Others

11.1 如果在使用中有超出本规格书的要求，须经双方协商确认。

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

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-300V	Edition	V1
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1. 产品特性及应用范围 / Description, Features and Applications

本产品适用于各类电子设备电路初、次级电路板的过流保护，广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC 电源供应、网络通信、医疗仪器及工业控制器等领域。

Descriptions:

slow-blow square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

Features:

- Time-Lag (Slow-Blow)
- Wide range of current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(6.1mm*2.5mm)
- Wide operating temperature range
- RoHS compliant
- Conflict free metals

Applications:

- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

2. 安规认证标准及编号 / Standards and Agency Approvals

2.1 执行标准：遵循 UL 248-14。

Standards: In accordance with UL 248-14.

2.2 认证范围 Certification:

安规标准 Agency	认证范围 Ampere Range	证书编号 Agency File Number
	50mA ~ 7A	E340427(JDYX2)
	50mA ~ 7A	E340427(JDYX8)

	Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
	Part number	L-KLS5-2410-25T-XXXXH/L-300V	Edition	V1
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2.3 目录编号 Catalogue No., ● 已认证 Approved / ○ 认证中 Pending

目录编号 Catalog No.	额定电流 Ampere Rating	额定电压 Voltage Rating	分断能力 Breaking Capacity	冷阻值 Nominal Cold Resistance (Ohms)	熔化热能 I ² T Melting Integral (A ² .S)	安规认证 Agency Approvals	
							
25T-0160	160mA	300VAC	50A@300VAC 50A@250VAC 200A@125VAC	2.300	0.058	●	●
25T-0200	200mA			1.650	0.062	●	●
25T-0250	250mA			1.450	0.065	●	●
25T-0300	300mA			0.850	0.191	●	●
25T-0315	315mA			0.650	0.202	●	●
25T-0375	375mA			0.610	0.330	●	●
25T-0400	400mA			0.580	0.338	●	●
25T-0500	500mA			0.320	0.475	●	●
25T-0600	600mA			0.265	0.775	●	●
25T-0630	630mA			0.256	0.986	●	●
25T-0700	700mA			0.230	2.105	●	●
25T-0750	750mA			0.225	2.240	●	●
25T-0800	800mA			0.203	2.380	●	●
25T-010	1A			0.128	3.690	●	●
25T-013	1.25A			0.092	3.760	●	●
25T-015	1.5A			0.085	6.765	●	●
25T-016	1.6A			0.075	6.805	●	●
25T-020	2A			0.038	12.150	●	●
25T-025	2.5A			0.035	16.025	●	●
25T-030	3A			0.026	21.560	●	●
25T-032	3.15A			0.025	25.750	●	●
25T-035	3.5A			0.023	30.050	●	●
25T-040	4A			0.019	43.208	●	●
25T-050	5A			0.013	55.250	●	●
25T-060	6A			0.011	75.245	●	●
25T-063	6.3A			0.010	93.550	●	●
25T-070	7A			0.009	97.120	●	●
25T-080	8A			0.009	102	○	○
25T-100	10A			0.007	113	○	○
25T-150	15A			0.003	205	○	○

- *: These catalog no. cold resistance and I2t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃;
- Typical Pre-arching I2t are calculated at 10*In Current or 8ms;

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➤ Min Interrupting Rating: 1.35*In.

3. 产品标示 / Product Marking

保险丝上需有下列标示 / The fuses shall have the following markings

示例 Example:

1A

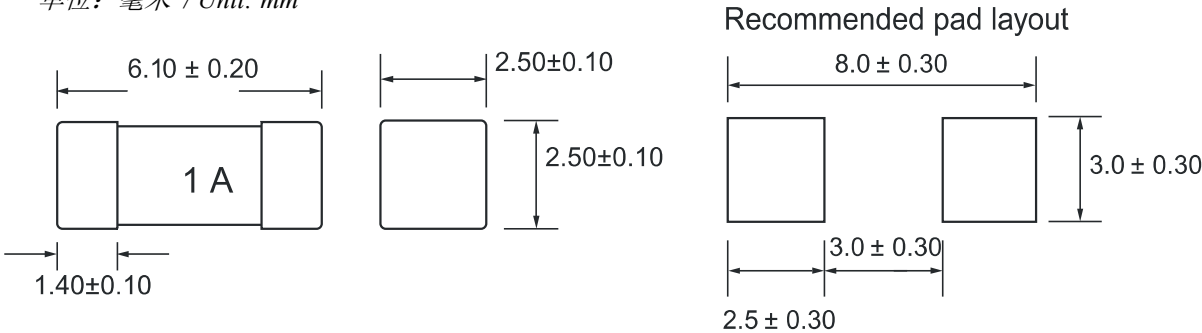
①

① 额定电流/Rated Current (A): __A 或 or__mA

注: 对于标示的大小和位置没有规定 / Note: Size and position of the markings shall not be provided.

4. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



5. 材料明细 / Material Details

编号 NO.	零件名称 Part Name	材质 Material
①	端帽 End caps	黄铜镀金 Gold Plated Brass Cap
②	主体 Body	陶瓷管 Non-Transparent Square Ceramic Tube
③	熔丝 Fuse element	合金 Cu-Ag Alloy wire

6. 产品特性 / Product Characteristics

编号 NO.	项目 Item	内容 Content	参考标准 Reference standards
1	产品标识 Product Marking	Brand, Ampere Rating	marking standards

KLS

electronic

Part name	Micro Fuses (Time-Lag)	Date	2025-04-07
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2	工作温度 Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
3	可焊性 Solderability	T=240°C±5°C , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	耐焊接热 Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	绝缘阻抗 Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	热冲击 Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	机械冲击 Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	振动试验 Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	耐湿性 Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	盐雾试验 Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

7. 电气特性 / Electrical Characteristics

7.1 实验条件：Test Condition

所有测试环境温度为 25±5℃。

All electrical test is to be conducted with the ambient air at a temperature of 25±5℃.

7.2 分断能力 Interrupting Rating:

保险丝承受分断能力：50A@250Vac，50A@300Vac.

Breaking Capacity: 50A@250Vac，50A@300Vac.

7.3 熔断时限 / Operating Characteristics

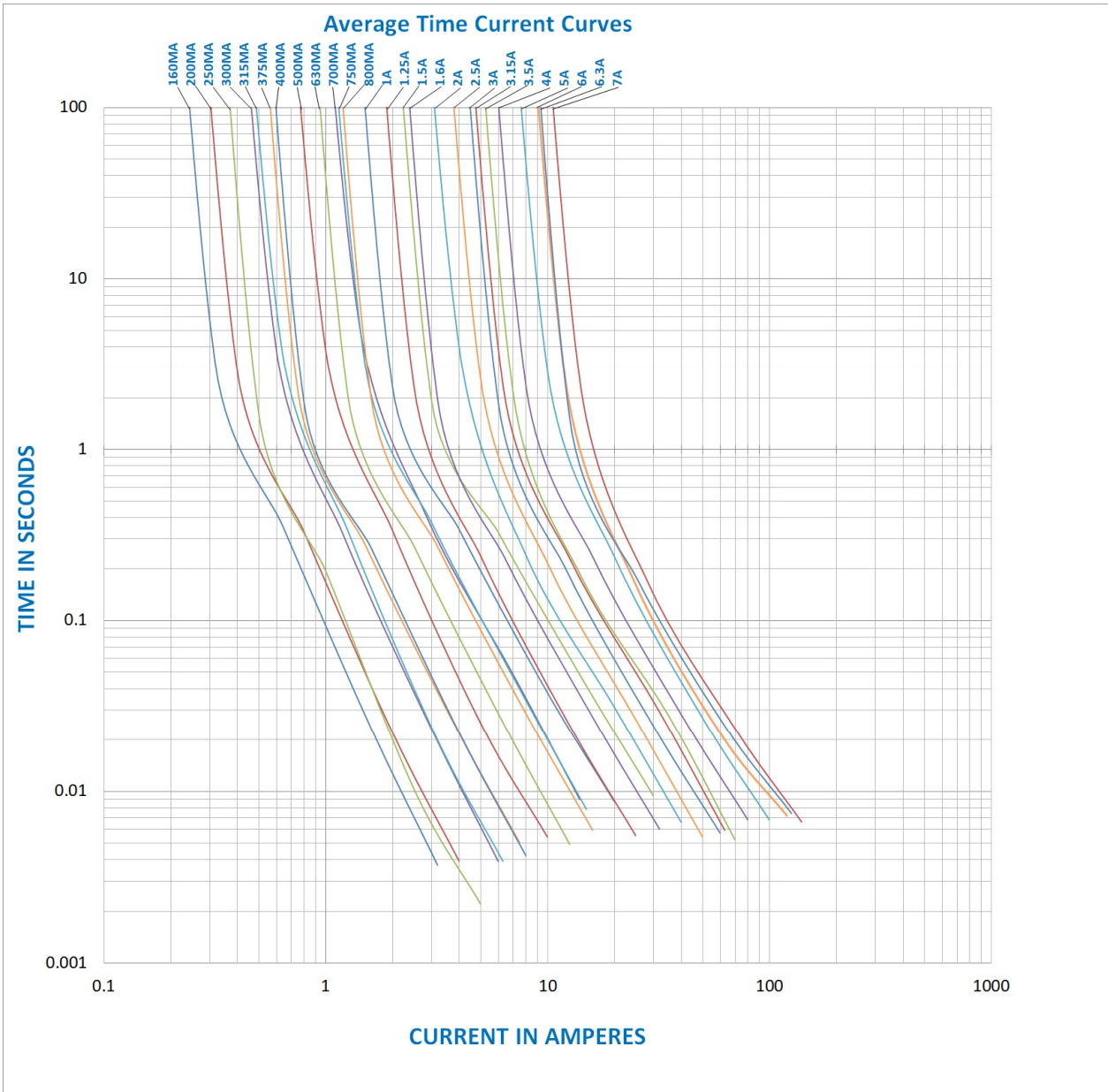
额定电流 Rated Current	额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
160mA-7A	100% * In	大于 4 小时(4 hours Min)
500mA-7A	200% * In	小于 120 秒 (120 sec Max)

160mA-400mA

210% * In

小于 120 秒 (120 sec Max)

7.4 平均时间电流曲线图 / Average Time Current Curves

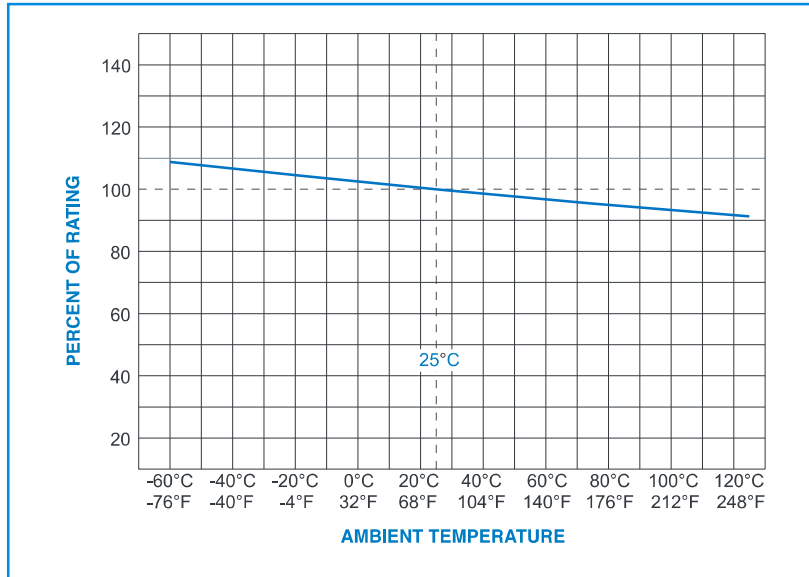


8. 环境特性 / Environmental Characteristic

若操作环境温度超出 $25 \pm 5^{\circ}\text{C}$ 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，请参照如下：温度-电流曲线图。

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from $20 \sim 30^{\circ}\text{C}$, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



9. 建议焊接参数 / Recommended Soldering Parameters

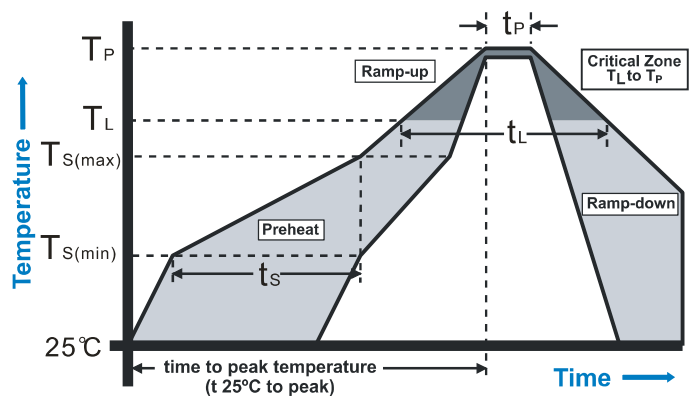
A. 波峰/回流焊参数 / Wave /Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260°C Max

焊接时间 / Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max) to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (TL)	220°C
	Time Max (tL)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



B. 手工焊参数 / Hand-Solder Parameters:

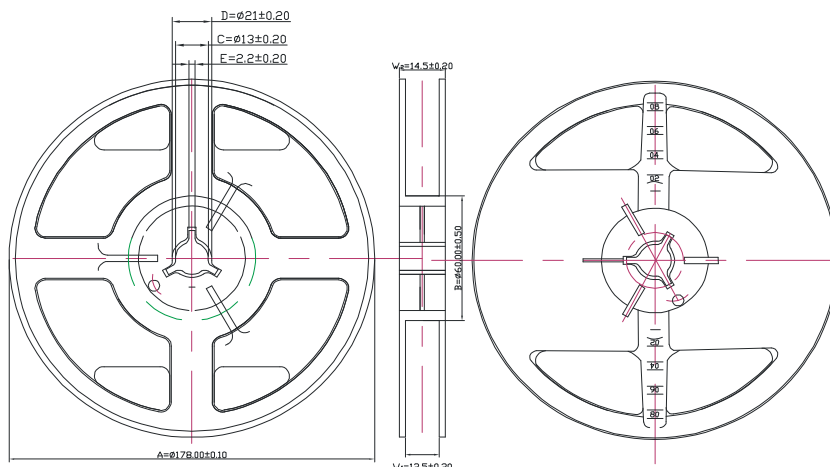
烙铁温度 / Solder Iron Temperature: 300±5°C

焊接时间 / Heating Time: 1~2 s Max

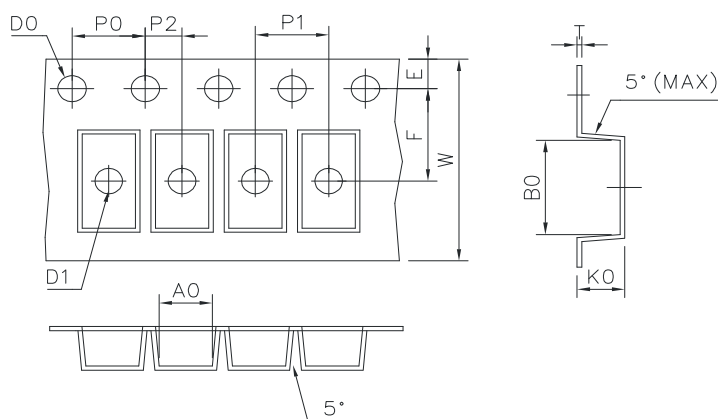
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10. 包装 / Packaging

1500 个每卷/ 1,500 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481



Item	A	B	C	D	E	W1	W2
Spec.(mm)	178 ± 0.10	60 ± 0.50	13 ± 0.20	21 ± 0.20	2.2 ± 0.20	12.5 ± 0.20	14.5 ± 0.20



Item	A ₀	B ₀	D ₀	D ₁	E	F
Spec.(mm)	2.70 ± 0.10	6.40 ± 0.10	1.50 ± 0.10	1.50 ± 0.25	1.75 ± 0.10	5.50 ± 0.10
Item	K ₀	P ₀	P ₁	P ₂	W	t
Spec.(mm)	2.70 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	12.00 ± 0.15	0.25 ± 0.05

11. 其他 / Others

11.1 如果在使用中有超出本规格书的要求，须经双方协商确认。

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