

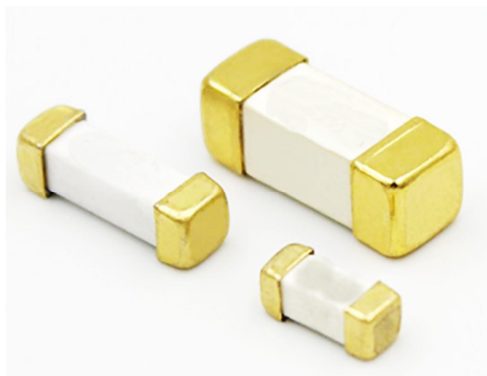
Product Specification

Number: L-KLS5-2410-25F-XXXX/L-XXXV

Name: Micro Fuses (Fast-Acting)

Customer: _____

Date: 2025-04-01



WWW.KLSELE.COM

NINGBO KLS ELECTRONIC CO; LTD

Tel : 0086-574-86828566

Fax : 0086-574-86824882

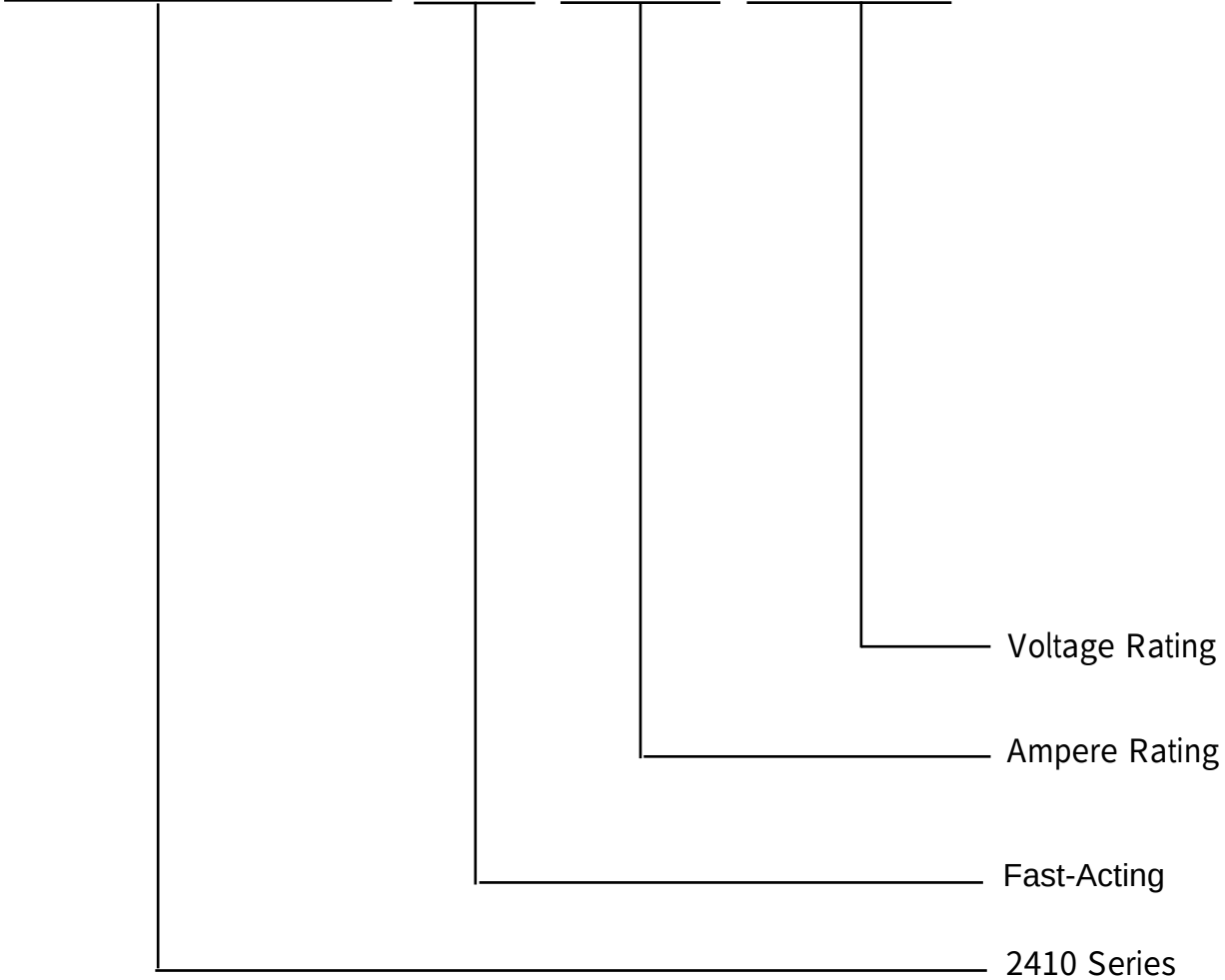
**ADD : NO. 8-1, RONGXIA RD. XIAPU SHANQIAN
INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.**

Compi	Check	Review	Approva
Jenny	Jack.C		

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/L-XXXV	Edition	V1
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Order Information

L-KLS5-2410-25 F - XXXX / L-XXXV



	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/L-63/72//125V	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:

Fast-Acting 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:

- Fast-Acting (Fast-Acting)
- 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 (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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		
								
25F-0160	160mA	125VAC/DC	50A@300VAC 50A@250VAC 200A@125VAC	2.308	0.056	●	●	○
25F-0200	200mA			1.655	0.060	●	●	○
25F-0250	250mA			1.456	0.063	●	●	○
25F-0300	300mA			0.855	0.190	●	●	○
25F-0315	315mA			0.656	0.200	●	●	○
25F-0375	375mA			0.605	0.328	●	●	○
25F-0400	400mA			0.580	0.335	●	●	○
25F-0500	500mA			0.302	0.471	●	●	○
25F-0600	600mA			0.268	0.771	●	●	○
25F-0630	630mA			0.259	0.982	●	●	○
25F-0700	700mA			0.233	2.102	●	●	○
25F-0750	750mA			0.227	2.230	●	●	○
25F-0800	800mA			0.205	2.375	●	●	○
25F-1100	1A			0.129	3.685	●	●	○
25F-1125	1.25A			0.095	3.755	●	●	○
25F-1150	1.5A			0.089	6.751	●	●	○
25F-1160	1.6A			0.078	6.800	●	●	○
25F-1200	2A			0.039	12.140	●	●	○
25F-1250	2.5A			0.036	16.005	●	●	○
25F-1300	3A			0.028	21.550	●	●	○
25F-1315	3.15A			0.027	25.740	●	●	○
25F-1350	3.5A			0.026	30.041	●	●	○
25F-1400	4A			0.020	43.201	●	●	○
25F-1500	5A			0.015	55.240	●	●	●
25F-1600	6A			0.013	75.205	●	●	●
25F-1630	6.3A			0.011	93.540	●	●	●
25F-1700	7A			0.010	97.110	●	●	●
25F-1800	8A			0.0080	108.700	●	●	●
25F-2100	10A			0.0072	118.320	●	●	●
25F-2120	12A			0.0050	140.050	●	●	●
25F-2150	15A			0.0035	210.630	●	●	●
25F-2160	16A	72VDC	500A@72VDC	0.0030	215.210	●	●	●
25F-2200	20A	72VDC	500A@72VDC	0.0028	358.020	●	●	●
25F-2250	25A	72VDC	500A@72VDC	0.00159	465.150	●	●	●
25F-2300	30A	72VDC	500A@72VDC	0.00148	980.610	●	●	●
25F-2400	40A	63VDC	500A@63VDC	0.00123	1040.720	●	●	●

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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

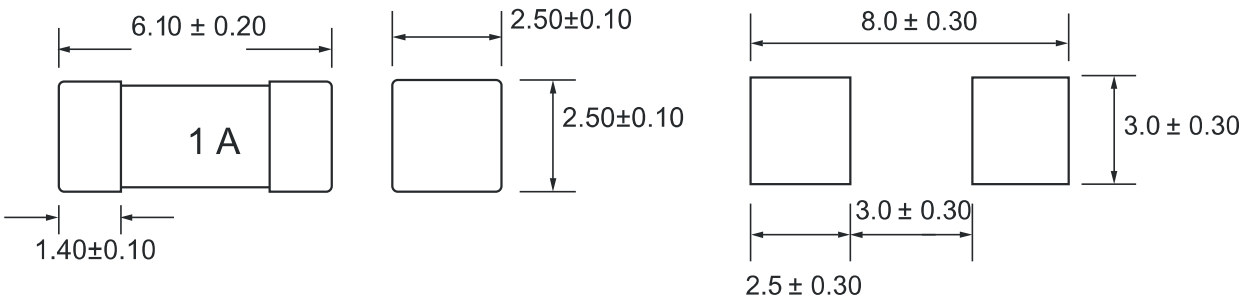
示例 Example:



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 (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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

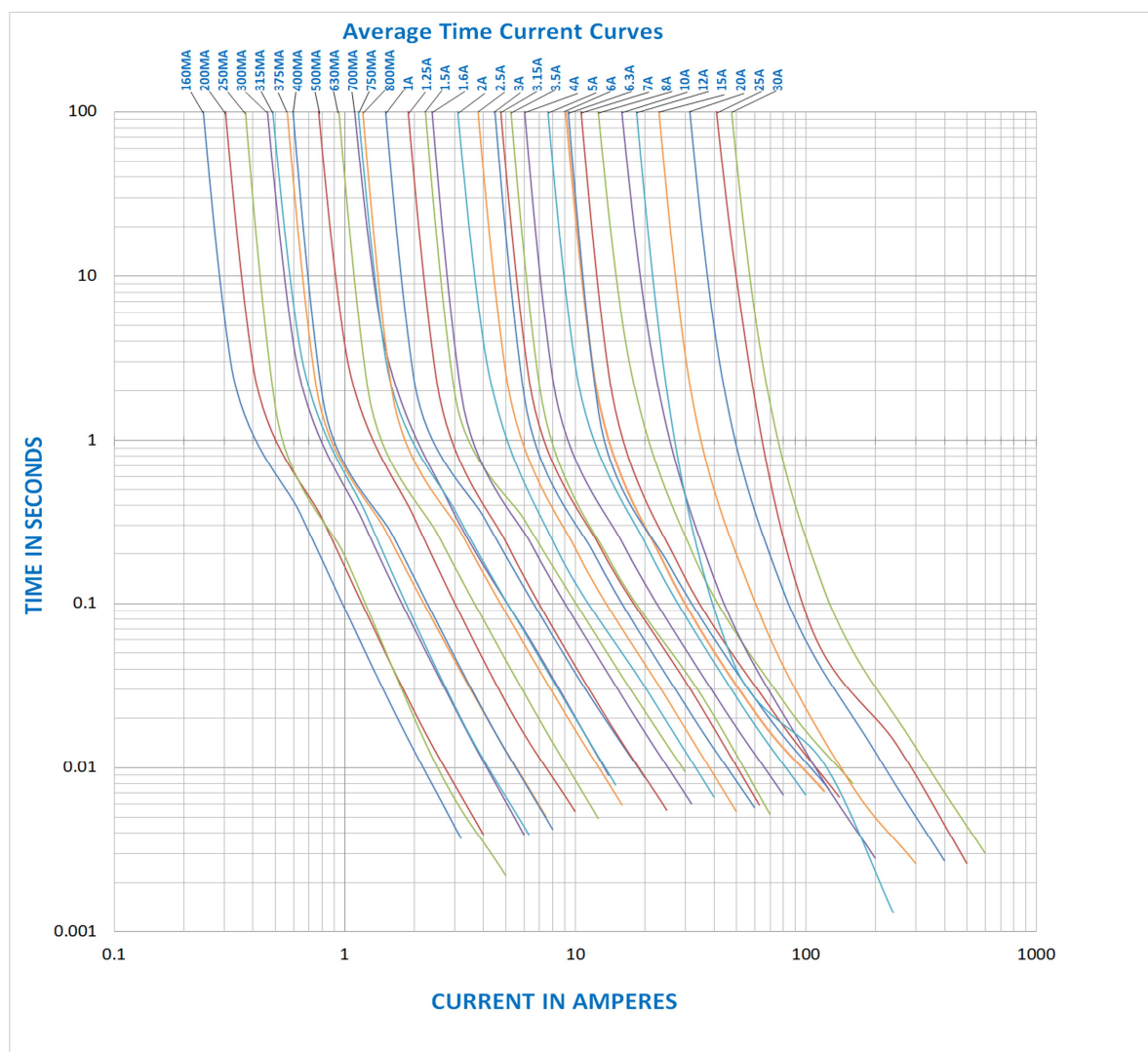
额定电流 Rated Current	额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
160mA-40A	100% * In	大于 4 小时(4 hours Min)
500mA-40A	200% * In	小于 120 秒 (120 sec Max)

160mA-400mA

 $210\% \cdot I_n$

小于 120 秒 (120 sec Max)

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

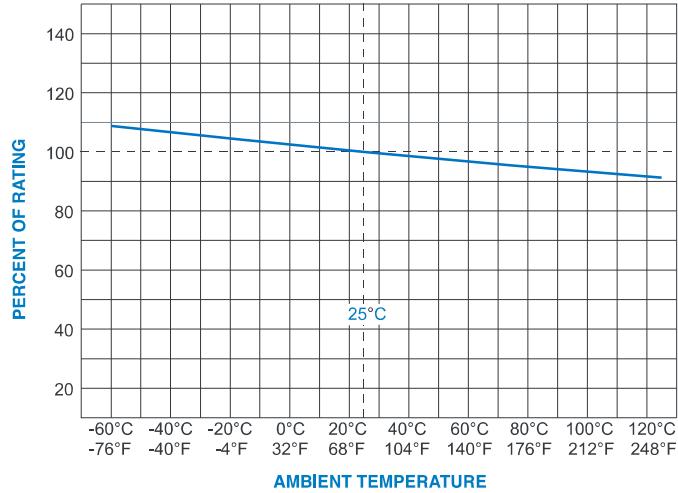


8. 环境特性 / Environmental Characteristic

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

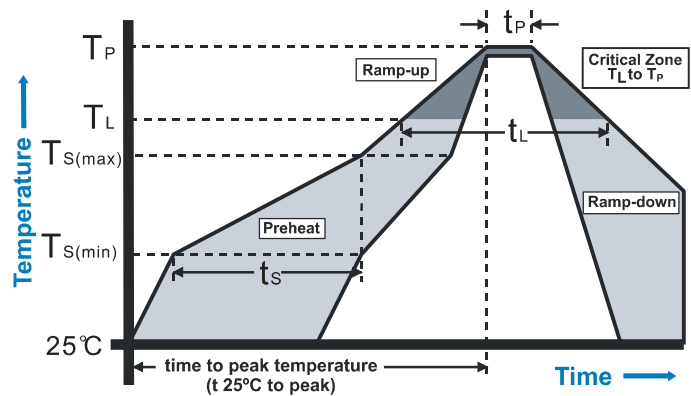
A. 波峰/回流焊参数 / Wave /Reflow Soldering Parameters:

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 (T _L)	220°C
	Time Max (t _L)	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



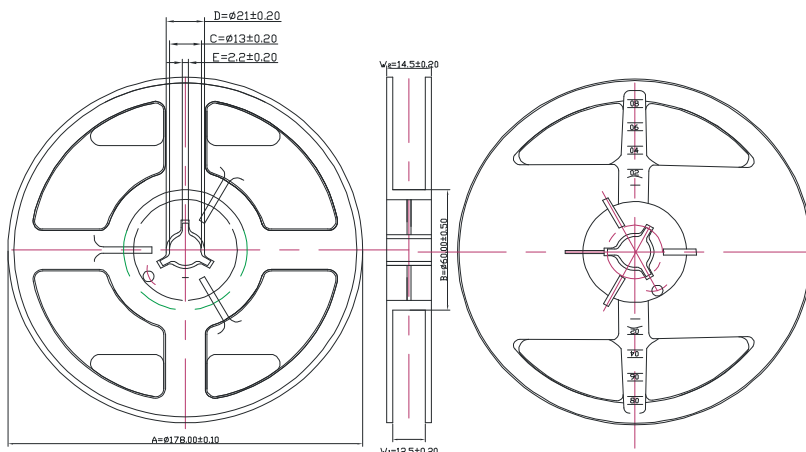
B. 手工焊参数 / Hand-Solder Parameters:

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

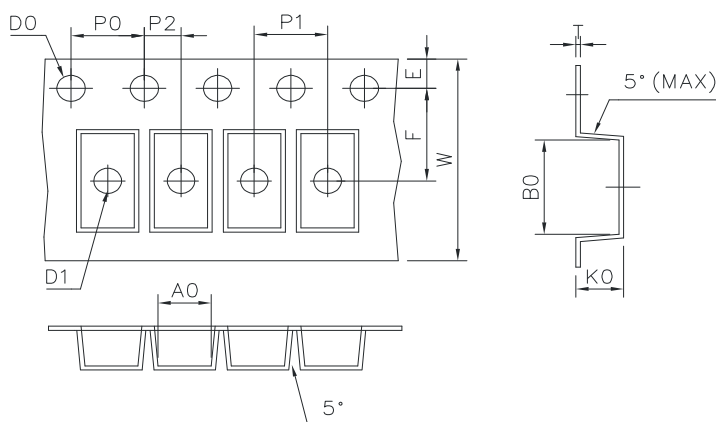
焊接时间 / Heating Time: 1~2 s Max

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 (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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:

Fast-Acting 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:

- Fast-Acting (Fast-Acting)
- 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
UL	50mA ~ 7A	E340427(JDYX2)
cUL	50mA ~ 7A	E340427(JDYX8)

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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	分断能力 Breaking Capacity	冷阻值 Nominal Cold Resistance (Ohms)	熔化热能 I ² TMelting Integral(A ² .S)	安规认证 Agency Approvals		
								
25F-0160	160mA	250VAC	50A@300VAC 50A@250VAC 200A@125VAC	2.308	0.058	●	●	○
25F-0200	200mA			1.655	0.062	●	●	○
25F-0250	250mA			1.456	0.065	●	●	○
25F-0300	300mA			0.855	0.191	●	●	○
25F-0315	315mA			0.656	0.202	●	●	○
25F-0375	375mA			0.605	0.330	●	●	○
25F-0400	400mA			0.580	0.338	●	●	○
25F-0500	500mA			0.302	0.475	●	●	○
25F-0600	600mA			0.268	0.775	●	●	○
25F-0630	630mA			0.259	0.986	●	●	○
25F-0700	700mA			0.233	2.105	●	●	○
25F-0750	750mA			0.227	2.240	●	●	○
25F-0800	800mA			0.205	2.380	●	●	○
25F-1100	1A			0.129	3.690	●	●	○
25F-1125	1.25A			0.095	3.760	●	●	○
25F-1150	1.5A			0.089	6.765	●	●	○
25F-1160	1.6A			0.078	6.805	●	●	○
25F-1200	2A			0.039	12.150	●	●	○
25F-1250	2.5A			0.036	16.025	●	●	○
25F-1300	3A			0.028	21.560	●	●	○
25F-1315	3.15A			0.027	25.750	●	●	○
25F-1350	3.5A			0.026	30.050	●	●	○
25F-1400	4A			0.020	43.208	●	●	○
25F-1500	5A			0.015	55.250	●	●	●
25F-1600	6A			0.013	75.245	●	●	●
25F-1630	6.3A			0.011	93.550	●	●	●
25F-1700	7A			0.010	97.120	●	●	●
25F-1800	8A			0.0080	108.750	○	○	●
25F-2100	10A			0.0072	118.380	○	○	●
25F-2120	12A			0.0050	140.080	○	○	●
25F-2150	15A			0.0035	210.680	○	○	●
25F-2160	16A			0.0032	215.080	○	○	●
25F-2200	20A			0.0020	358.080	○	○	●

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/L-250V	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:

1A

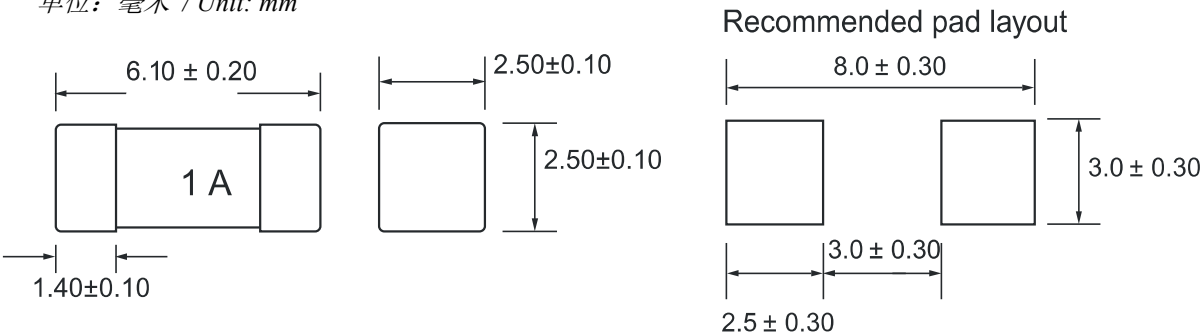
①

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 (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/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℃。

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，200A@125Vac.

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

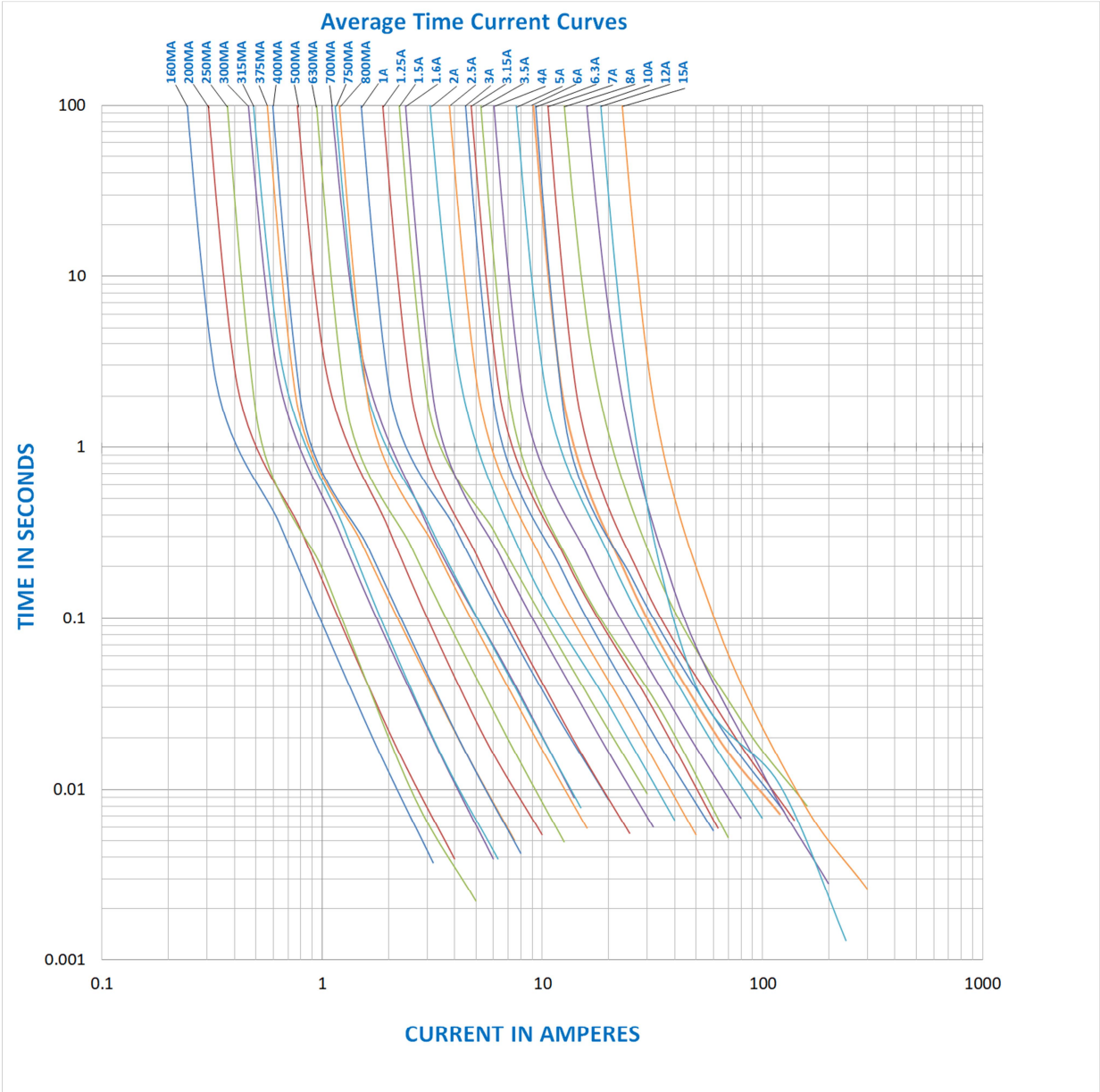
7.3 熔断时限 / Operating Characteristics

额定电流 Rated Current	额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
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	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
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160mA-20A	100% * In	大于 4 小时(4 hours Min)
500mA-20A	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

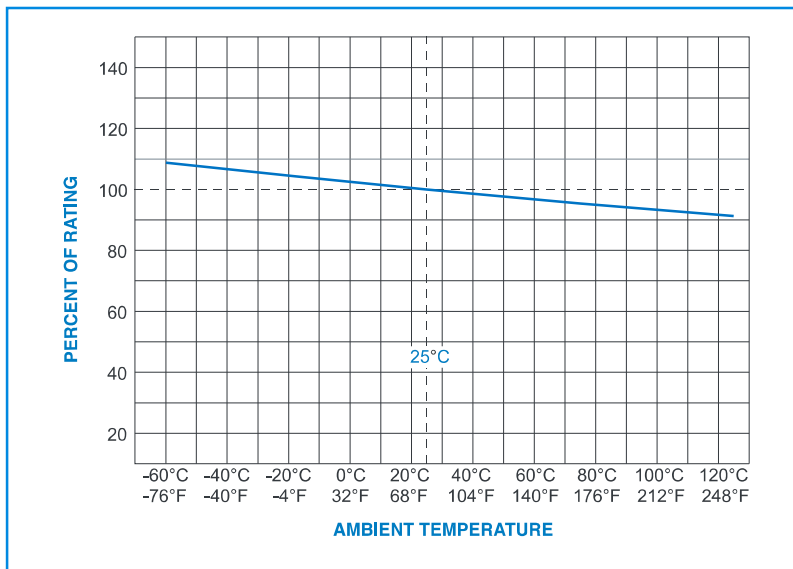


8. 环境特性 / Environmental Characteristic

若操作环境温度超出 25±5℃ 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 20~30°C, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Derating Curve:



9. 建议焊接参数 / Recommended Soldering Parameters

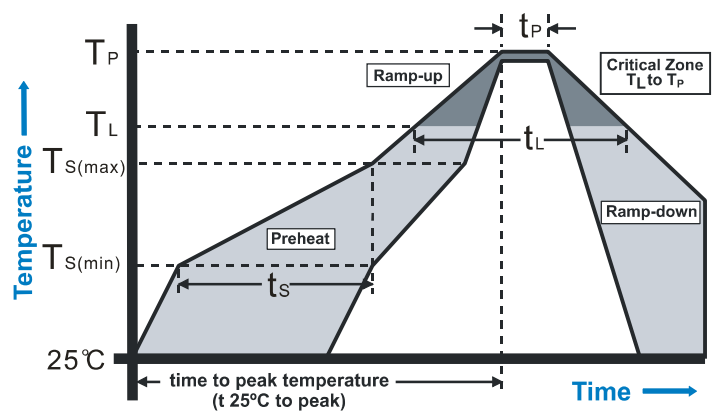
A. 波峰/回流焊参数 / Wave / Reflow Soldering Parameters:

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 (T _L)	220°C
	Time Max (t _L)	60 seconds
Peak Temperature(T _p)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T _p)		8 minutes max



B. 手工焊参数 / Hand-Solder Parameters:

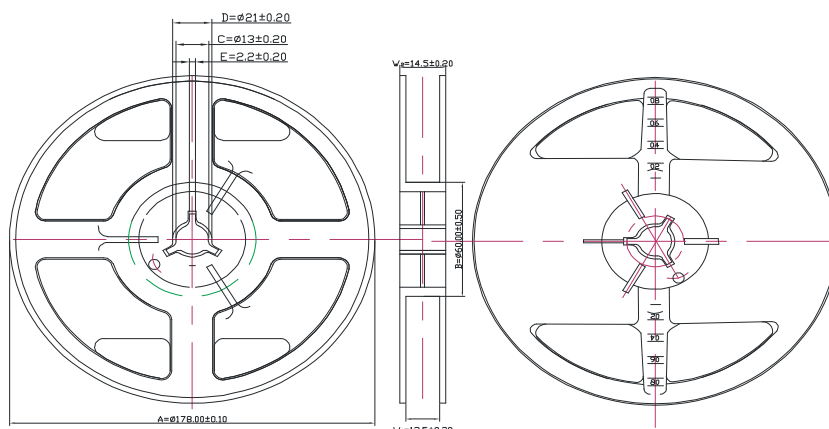
Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
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烙铁温度 / Solder Iron Temperature: $300 \pm 5^{\circ}\text{C}$

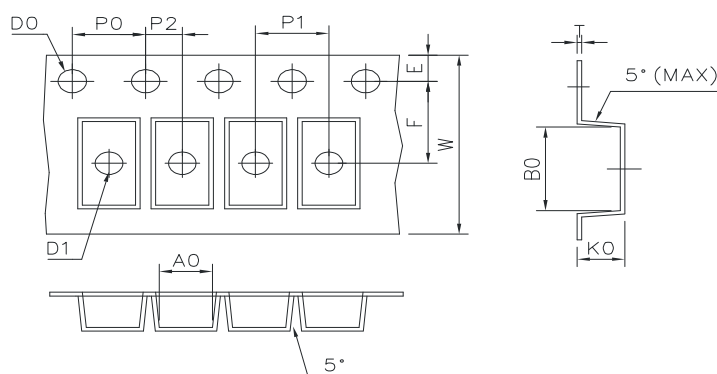
焊接时间 / Heating Time: 1~2 s Max

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 (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/L-300V	Edition	V1
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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:

Fast-Acting 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:

- *Fast-Acting (Fast-Acting)*
- *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

1. 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 (Fast-Acting)	Date	2025-04-01
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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 TMelting Integral(A ² .S)	安规认证 Agency Approvals	
							
25F-0160	160mA	300VAC	50A@300VAC 50A@250VAC 200A@125VAC	2.308	0.056	●	●
25F-0200	200mA			1.655	0.060	●	●
25F-0250	250mA			1.456	0.063	●	●
25F-0300	300mA			0.855	0.190	●	●
25F-0315	315mA			0.656	0.200	●	●
25F-0375	375mA			0.605	0.328	●	●
25F-0400	400mA			0.580	0.335	●	●
25F-0500	500mA			0.302	0.471	●	●
25F-0600	600mA			0.268	0.771	●	●
25F-0630	630mA			0.259	0.982	●	●
25F-0700	700mA			0.233	2.102	●	●
25F-0750	750mA			0.227	2.230	●	●
25F-0800	800mA			0.205	2.375	●	●
25F-1100	1A			0.129	3.685	●	●
25F-1125	1.25A			0.095	3.755	●	●
25F-1150	1.5A			0.089	6.751	●	●
25F-1160	1.6A			0.078	6.800	●	●
25F-1200	2A			0.039	12.140	●	●
25F-1250	2.5A			0.036	16.005	●	●
25F-1300	3A			0.028	21.550	●	●
25F-1315	3.15A			0.027	25.740	●	●
25F-1350	3.5A			0.026	30.041	●	●
25F-1400	4A			0.020	43.201	●	●
25F-1500	5A			0.015	55.240	●	●
25F-1600	6A			0.013	75.205	●	●
25F-1630	6.3A			0.011	93.540	●	●
25F-1700	7A			0.010	97.100	●	●
25F-1800	8A			0.009	102	○	○
25F-2100	10A			0.007	113	○	○

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
	Part number	L-KLS5-2410-25F-XXXX/L-300V	Edition	V1
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2. 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

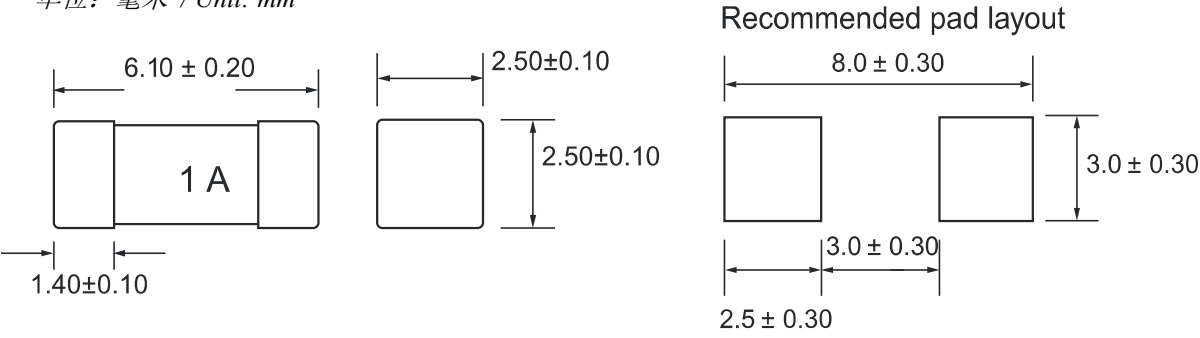
①

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.

3. 结构及尺寸 / Dimensions and Structure

单位: 毫米 / Unit: mm



4. 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

5. 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
2	工作温度	-55°C to 125°C	IEC60068-2-1/2

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
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	Operating Temperature		
3	可焊性 Solderability	$T=240^{\circ}\text{C} \pm 5^{\circ}\text{C}$, $t=3\text{sec} \pm 0.5\text{sec}$, Coverage $\geq 95\%$	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, $-65^{\circ}\text{C} / +125^{\circ}\text{C}$, 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

6. 电气特性 / Electrical Characteristics

7.1 实验条件: Test Condition

所有测试环境温度为 $25 \pm 5^{\circ}\text{C}$ 。

All electrical test is to be conducted with the ambient air at a temperature of $25 \pm 5^{\circ}\text{C}$.

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

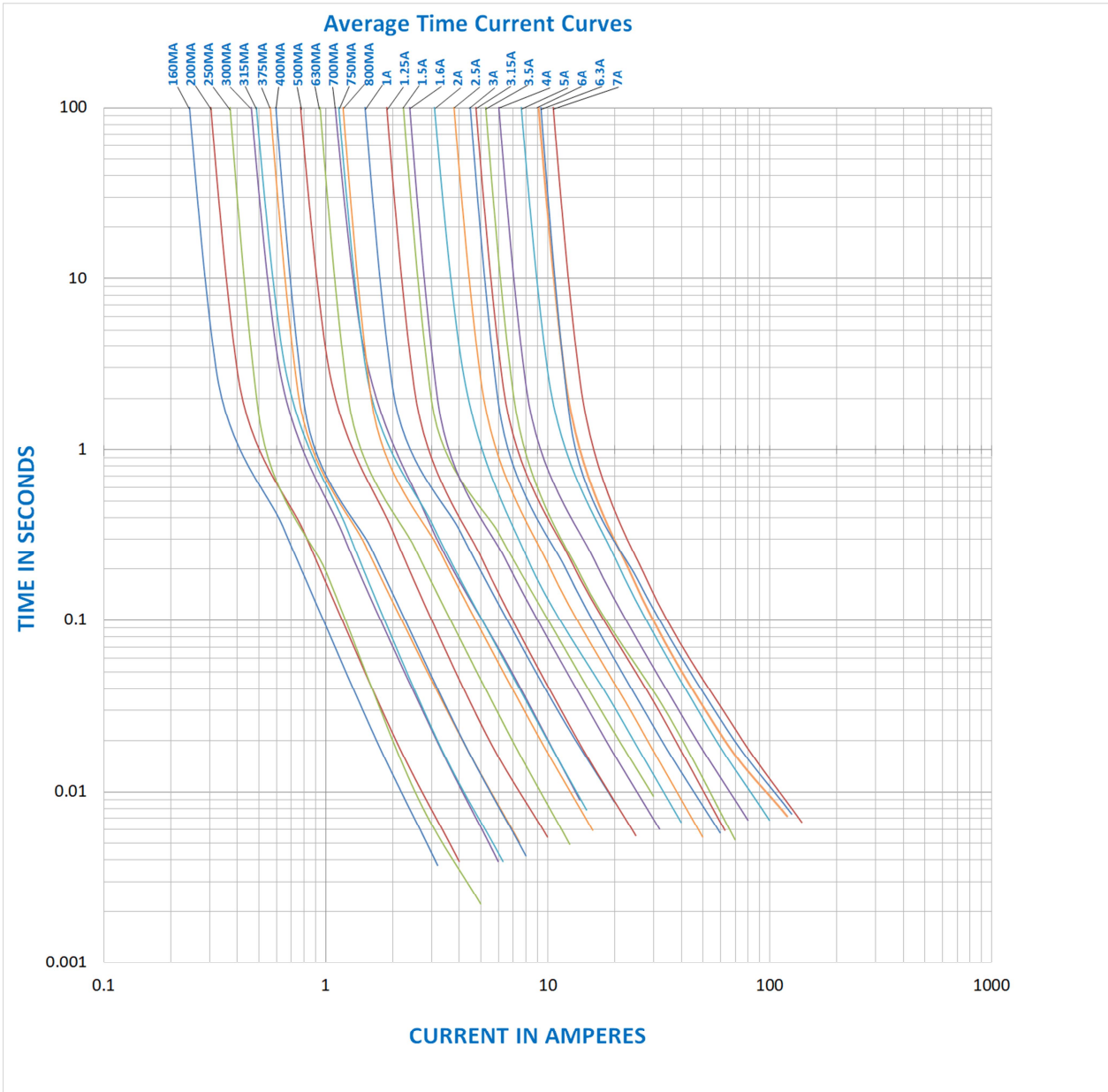
额定电流 Rated Current	额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
160mA-7A	100% * In	大于 4 小时(4 hours Min)
500mA-7A	200% * In	小于 120 秒 (120 sec Max)

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



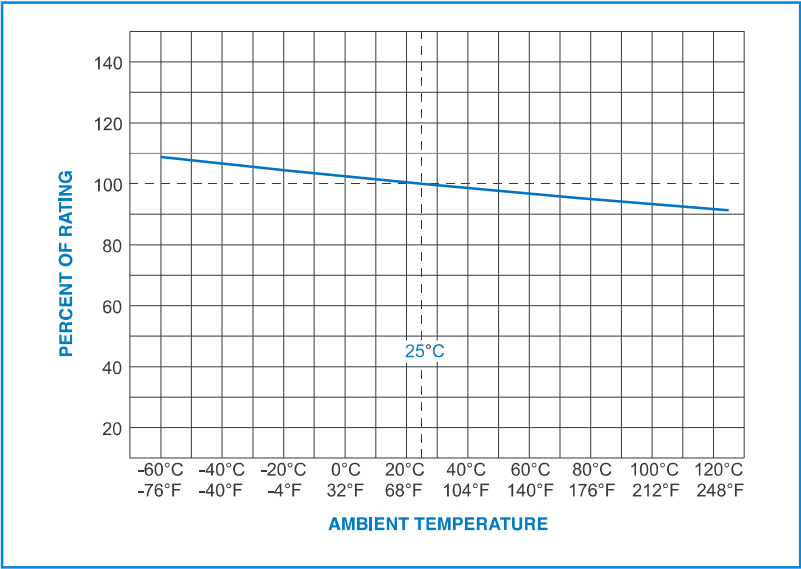
7. 环境特性 / Environmental Characteristic

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.

	Part name	Micro Fuses (Fast-Acting)	Date	2025-04-01
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Please refer: Temperature Rerating Curve:

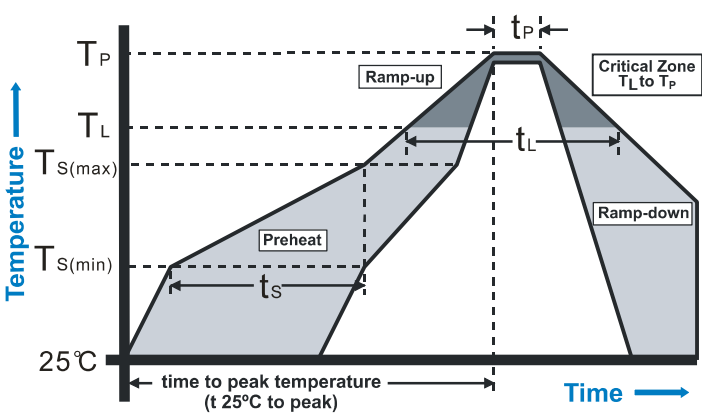


8. 建议焊接参数 / Recommended Soldering Parameters

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
Reflow	Time (Min to Max) (ts)	60-120 seconds
	Temperature (T _L)	220°C
Peak Temperature(Tp)	Time Max (t _L)	60 seconds
		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max

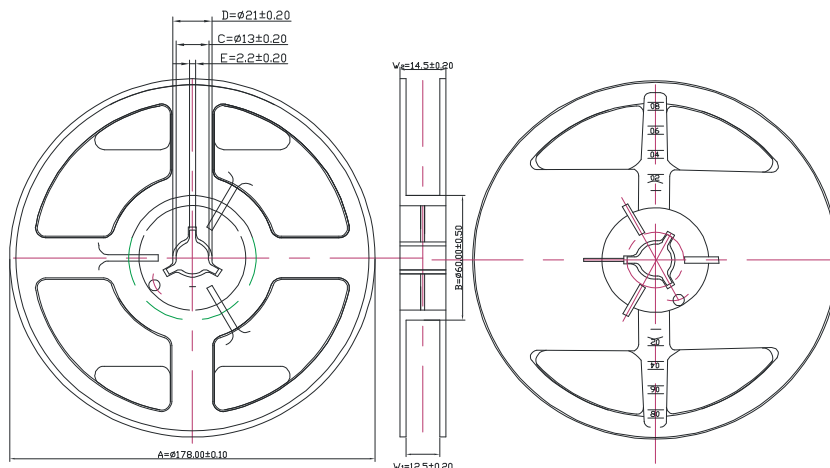


B. 手工焊参数 / Hand-Solder Parameters:

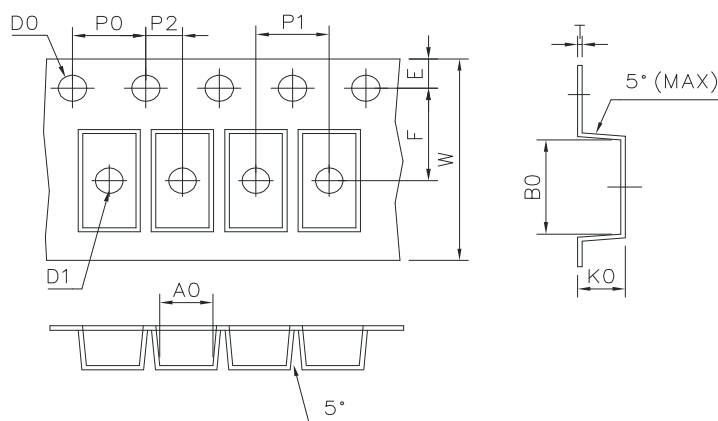
- 烙铁温度 / Solder Iron Temperature: 300±5°C
- 焊接时间 / Heating Time: 1~2 s Max

9. 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

10. 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.