WCAF2410F series

SMD Air Fuse

特征/General Information

特点/Main Characteristics

体积小，额定电压为 250 VAC/Extremely small size with 250 VAC rating

适用于交流应用的表面贴装保险丝/Surface mount fuses in AC applications

具有出色的浪涌电流承受能力/Excellent inrush current withstanding capability

材料/Materials

本体/Body：玻璃纤维增强环氧树脂/ Fiberglass enforced epoxy

端子/Termination：镀锡铜端子/Copper termination with tin plating



环保标准/Environment Standard

无铅/Lead-free，无卤/Halogen-free，RoHS

工作温度/Operating temperature

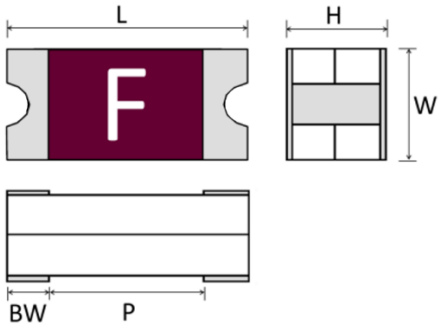
-55℃ to +125℃ (需降额/with de-rating)

产品认证/Certificates

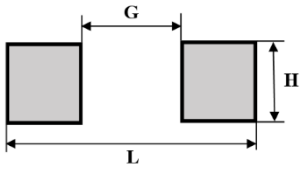
UL: E311435

产品尺寸与推荐焊盘/Dimensions and Recommended Land Pattern(mm)

产品尺寸/Dimensions	推荐焊盘/ Recommended Land Pattern



	Inch	mm
L	0.240±0.006	6.10±0.15
W	0.098±0.006	2.49±0.15
H	0.085±0.008	2.16±0.20
BW	0.053±0.015	1.35±0.38
P	≥0.118	≥3.00



\	2410	
	Inch	Mm
L	0.338	8.60
G	0.118	3.00
H	0.124	3.15

● 动作时间特性/Clear-Time Characteristics

% of current rating	Clear-time at 25 °C	
	Min	Max
100%	4 hours	-
200%（0.5~10.0A）	0.01 seconds	5 seconds
200%（12.0~20.0A）	0.01 seconds	20 seconds

● 命名规则/ Part Numbering

WC AF 2410 F 2000A 065V
(1) (2) (3) (4) (5) (6)

(1) 公司代码/Company code：维安贴片保险丝/Wayon Chip Fuse
(2) 产品代码/ Product code：中空保险丝/ Air Fuse
(3) 尺寸代码/Size code：标准 EIA 芯片尺寸/Standard EIA Chip Size
(4) 系列代码/Series code：快熔断/F-Fast Acting，慢熔断/S-Slow Blow
(5) 额定电流/Current rating code: 2000A-20A
(6) 额定电压/Voltage rating code: 065V-65VDC

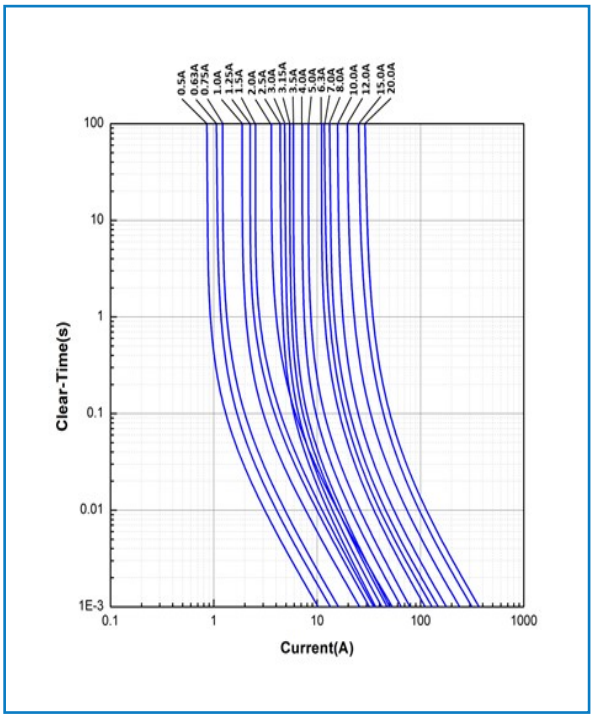
● 电气特性/Electrical Characteristics

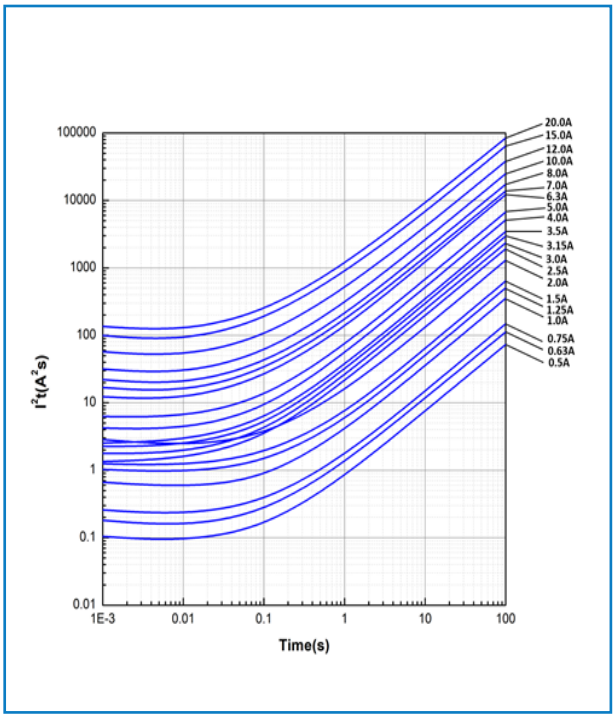
产品代码 Part number	额定电流 Current Rating	额定电压 Voltage Rating		分断能力 Interrupting Rating	冷态电阻 Nominal Cold DCR	标称 I^2t Nominal I^2t	字符 Marking Code
	A	AC	DC		Ω	(A^2s)	
WCAF2410F0050A250V	0.5	250	250	**0.5~2A:** 100A@250VAC 1500A@250VDC **2.5~8A:** 50A@125VAC 50A@125VDC 200A@86VDC 300A@32VDC` **10A:** 35A@125VAC 50A@125VDC 200A@86VDC 300A@32VDC **12~15A:** 50A@65VAC 200A@86VDC 300A@32VDC **20A:** 50A@65VAC 200A@86VDC 300A@32VDC	0.229	0.12	C
WCAF2410F0063A250V	0.63				0.171	0.16	S
WCAF2410F0075A250V	0.75				0.146	0.25	D
WCAF2410F0100A250V	1				0.092	0.64	E
WCAF2410F0125A250V	1.25				0.072	0.95	F
WCAF2410F0150A250V	1.5				0.063	1.16	G
WCAF2410F0200A250V	2				0.045	2.81	I
WCAF2410F0250A125V	2.5	125	125		0.031	1.21	J
WCAF2410F0300A125V	3				0.025	1.85	K
WCAF2410F0315A125V	3.15				0.023	2..25	V
WCAF2410F0350A125V	3.5				0.022	2.66	L
WCAF2410F0400A125V	4				0.017	4.34	M
WCAF2410F0500A125V	5				0.014	5.94	N
WCAF2410F0630A125V	6.3				0.011	12.87	O
WCAF2410F0700A125V	7				0.009	14.81	P
WCAF2410F0800A125V	8				0.008	21.11	R
WCAF2410F1000A125V	10				0.006	30.42	Q
WCAF2410F1200A065V	12	65	86		0.005	51.55	X
WCAF2410F1500A065V	15				0.004	106.53	Y
WCAF2410F2000A065V	20				0.003	130.14	Z

Notice:

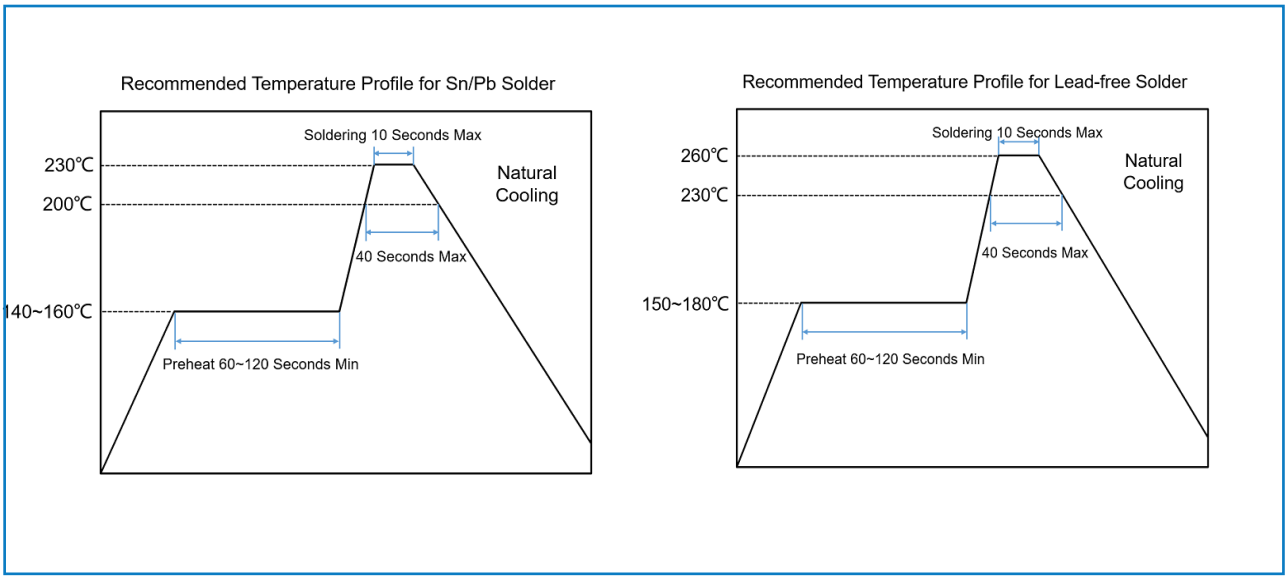
1. 在环境温度为 25℃时，以<10%的额定电流测量的。/ Measured at ≤10% rated current and 25℃ ambient.
2. 以 0.001 秒的预电弧时间熔化 I2t。。/ Melting I2t at 0.001 second pre-arcing time.

动作时间曲线/Average Clear-Time Curves





回流焊条件/Solder Reflow Recommendations



● 焊接推荐条件/Recommended conditions for soldering

1. 预热：150℃，60 秒（最低） 烙铁头适宜温度（最高）/焊接时间（最高）：280℃/10 秒 或 350℃/3 秒 烙铁头最高温度/焊接时间：350℃/9 秒 或 400℃/8 秒。/Preheating: 150℃, 60s (min) Appropriate temperature (max) of soldering iron tip/soldering time (max): 280℃/10s or 350℃/3s Maximum temperature of soldering iron tip/soldering time: 350℃/9s or 400℃/8s.

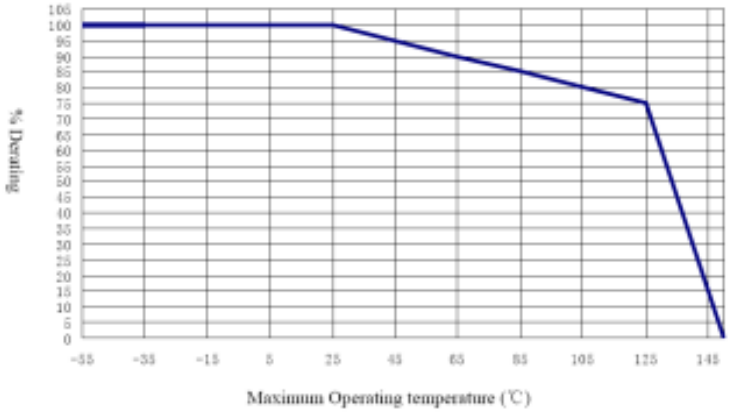
2. 强烈建议使用配备可同时熔化两个引脚焊点的热风工作台，切勿让烙铁头直接接触芯片引脚。/Using hot air rework station with tip that can melt the solder on both terminations of the same time is strongly recommended, don't directly contact the chip termination with the tip of soldering iron.

● 电气规格/Electrical Specifications

保险丝选型与温度降额指南/Fuse Selection and Temperature De-rating Guideline:

环境温度会影响熔断器的载流能力。当熔断器在高于 25℃的温度下工作时，需进行 “降额”（de-rated）使用。/The ambient temperature affects the current carrying capacity of fuses. When a fuse is operating at a temperature higher than 25℃, the fuse shall be "de-rated".

从产品目录中选型时，可遵循以下规则：目录fuse额定电流 = 标称工作电流/0.75/最高工作温度下的降额百分比。/To select a fuse from the catalog, the following rule may be followed: Catalog Fuse Current Rating = Nominal Operating Current / 0.75 / % De-rating at the maximum operating temperature.



● 包装与储存/Packaging and Storage

储存/Storage

环境最高温度不得超过 40℃。超过 40℃的储存温度可能导致包装材料变形。建议的储存最高相对湿度为 70%。高温高湿环境会加速端子上镀层的氧化，降低元器件的可焊性。应使用含干燥剂的密封塑料袋储存，以减少端子氧化，且仅在使用前打开密封袋。产品不得储存在含有硫或氯的有害气体环境中。

The maximum ambient temperature shall not exceed 40℃. Storage temperatures higher than 40℃ could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

包装/Packaging

维安（WAYON）贴片保险丝采用卷带包装，适用于自动贴片机；特殊应用场景下也提供散装包装。卷带包装和散装包装的产品均采用含干燥剂的塑料袋密封。

WAYON's chip fuse are provided on tape-and-reel for use in pick-and-place machines or in bulk for special applications. Both tape-and-reel and bulk products are sealed in plastic bags with desiccant.

包装数据/Packaging Data

每卷数量/Quantity per reel　　2000pcs

● 注意事项与警告/Cautions and warnings

1、操作处理/Handling

- 贴片保险丝严禁掉落。在保险丝操作处理过程中，不得造成芯片破损。/CHIP FUSE must not be dropped. Chip-offs must not be caused during handling of FUSEs.
- 严禁用徒手接触元器件，建议佩戴手套操作。/Components must not be touched with bare hands. Gloves are recommended.
- 操作处理期间，应避免保险丝表面受到污染。/Avoid contamination of fuse surface during handling.

2、焊接/Soldering

- 应使用树脂型助焊剂或非活性助焊剂。/Use resin-type flux or non-activated flux.
- 预热不充分可能导致陶瓷开裂。/Insufficient preheating may cause ceramic cracks.
- 不建议通过浸入溶剂的方式进行快速冷却。/Rapid cooling by dipping in solvent is not recommended.
- 建议彻底清除助焊剂。/Complete removal of flux is recommended.

3、安装/Mounting

- 在安装前、安装过程中及安装后，均不得刮伤电极。
  Electrode must not be scratched before/during/after the mounting process.
- 用于与保险丝组装的触点和外壳，在安装前必须保持清洁。
  Contacts and housings used for assembly with fuses have to be clean before mounting.
- 工作过程中，保险丝表面温度可能会非常高。需确保相邻元器件与保险丝保持足够距离，以保证保险丝能正常散热。
  During operation, the fuse's surface temperature can be very high (ICL). Ensure that adjacent components are placed at a sufficient distance from the fuse to allow for proper cooling of the fuses.
- 需确保相邻材料的设计工作温度与保险丝表面温度相匹配，且周围部件及材料必须能够承受该温度。
  Ensure that adjacent materials are designed for operation at temperatures comparable to the surface temperature of the fuse. Be sure that surrounding parts and materials can withstand this temperature.
- 加工过程中，应避免保险丝表面受到污染。
  Avoid contamination of fuse surface during processing.

4、使用/Operation

- 保险丝仅可在规定的工作温度范围内使用。
  Use fuses only within the specified operating temperature range.
- 环境条件不得对保险丝造成损害，保险丝仅可在正常大气环境下使用。
  Environmental conditions must not harm the fuses. Use fuses only in normal atmospheric conditions.
- 应防止贴片保险丝接触任何液体和溶剂。必须确保没有水分进入贴片保险丝内部（例如，通过插头端子进入）。若用于测量（如检测规定的电阻 - 温度特性），不得将元器件浸入水中，而应使用适宜的液体（如氟化液 ）。
  Contact of chip fuses with any liquids and solvents should be prevented. It must be ensured that no water enters the chip fuse (e.g. through plug terminals). For measurement purposes (checking the specified resistance vs. temperature), the component must not be immersed in water but in suitable liquids.
- 应避免结露和凝露现象。
  Avoid dewing and condensation.

Contact Information

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For additional information, please contact your local Sales Representative.
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Product Specification Statement

1.The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

2.The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

3.WAYON strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, WAYON cannot guarantee that the information provided in the product specification is entirely accurate and error-free. WAYON shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications. WAYON reserves the right to revise or update the product specification and the products at any time without prior notice, and the user's continued use of the product specification is considered an acceptance of these revisions and updates. Prior to purchasing and using the product, users should verify the above information with WAYON to ensure that the product specification is the most current, effective, and complete. If users are particularly concerned about product parameters, please consult WAYON in detail or request relevant product test reports. Any data not explicitly mentioned in the product specification shall be subject to separate agreement.

4.Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

5.The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

6.Users should also comply with relevant laws, regulations, policies, and standards when using the product specification. Users are responsible for the risks and liabilities arising from the use of the product specification and must ensure that it is not used for illegal purposes. Additionally, users should respect the intellectual property rights related to the product specification and refrain from infringing upon any third-party legal rights. WAYON shall assume no responsibility for any disputes or controversies arising from the above-mentioned issues in any form.