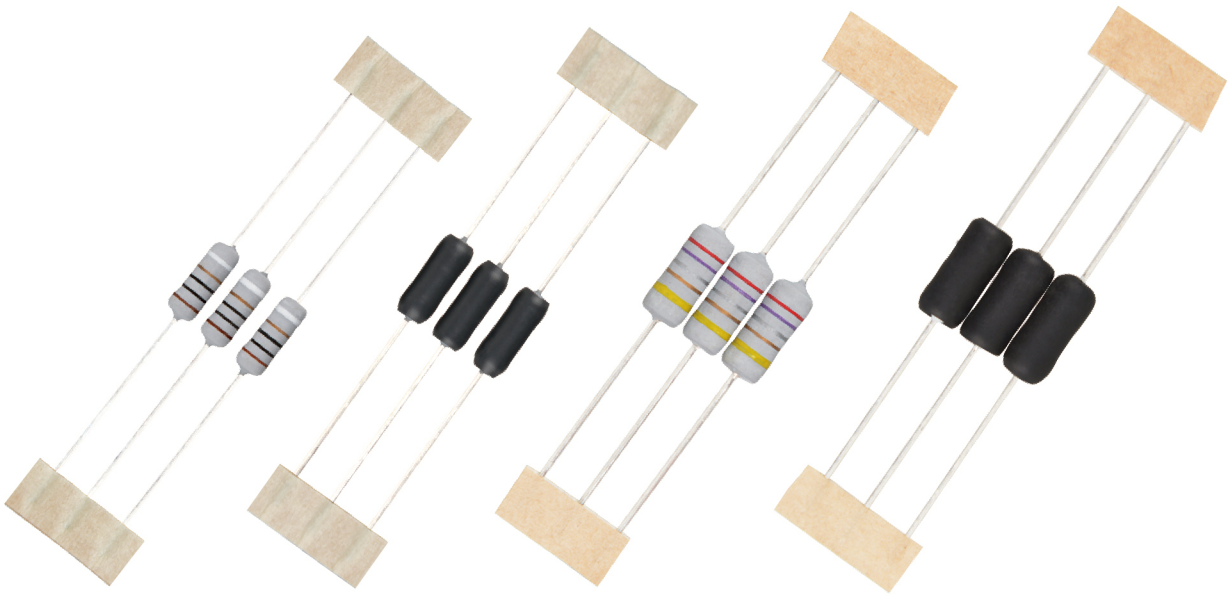
Fusible Wire wound Resistor

RXF

· Surge Protection
· Miniaturized Product
· Over Current Protection
· Inrush Current Protection
· Halogen free and RoHS compliant
Please refer to the datasheet of each series.



https://setsafe.com/Product/Over-Current-Protection/Fusible-Wirewound-Resistor-RXF.html

2024

SET safe | SET fuse

Providing a Total Solution for High Standard Safety Circuit Protection

Fusible Wirewound Resistor（RXF）

Fusible Wirewound Resistor (RXF) is a power resistor, which is made by winding a resistive element on a ceramic core, and the core is coated by insulation coating.

RXF is widely used in products such as general lighting, smart homes, small power home appliances, personal care application, security & protection. As a Protective Component, RXF works as a fixed resistor in normal operation, and is designed to open the circuit under the overload condition.

SETsafe | SETfuse RXF is attractive owing to its Miniaturized Size and Superior Properties. RXF covers Rated Resistance from 0.27 Ω to 1,000 Ω, safety certification includes cURus, VDE, CQC and complies with RoHS and REACH.

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Catalog

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2 Glossary 2

3 Attention 3

4 Product Series 4

Product Description, Features, Applications, Customization, Structure Diagrams, Dimensions, Agency Information, Lead Forming Types, Marking, Part Number System, Technical Parameter, Rated Power Derating Curve, Specifications, Fusing Time Curve, Packaging Information.

4.1 RXF21SB Series 4

4.2 RXF21SC Series 11

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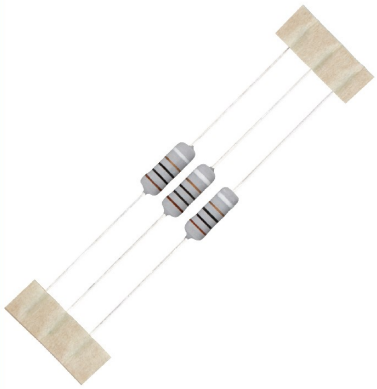
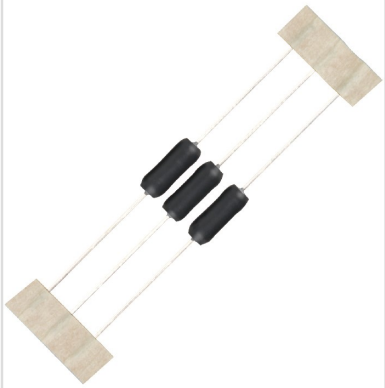
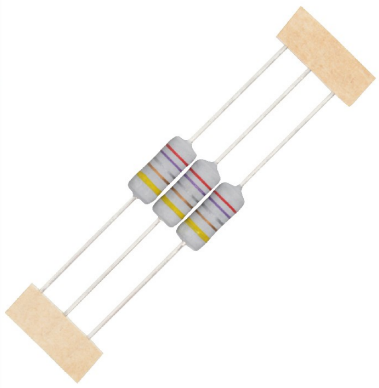
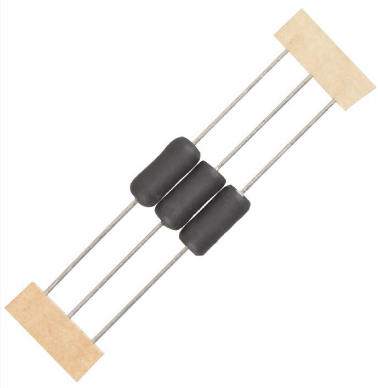
Fusible Wirewound Resistor (RXF) Features Overview

Page	4	4	11	11
Shape				
Structure	Coating	With Tube	Coating	With Tube
R Resistance Range	0.27 Ω - 800 Ω		0.27 Ω - 1000 Ω	
	According to IEC60063-2015，resistance can be customized.			
P Power Type	1 W		2 W	
Dimensions	Φ3.5 mm × 9.0 mm	Φ3.8 mm × 10 mm	Φ4.5 mm × 11 mm	Φ4.8 mm × 12 mm
	The forming modes can be customized.			

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Glossary

Item	Description
RXF	**Fusible Wirewound Resistor** A power resistor which is made by winding a resistive element on a ceramic core, and the core is coated by insulation coating. It intends to interrupt a current flow at a predetermined time when the current exceeds a predetermined value. Fusible Wirewound Resistor is disposable fuse elements and is non-recoverable. — (SETsafe | SETfuse Standards)
R	**Rated Resistance** Resistance value for which the resistor has been designed, and which is generally used for denomination of the resistor. — (IEC 60115-1)
I_N	**Rated Current** $I_N = \sqrt{P_0 / R}$ — (SETsafe | SETfuse Standards)
U_N	**Rated Voltage** The d.c. or a.c. r.m.s. voltage calculated from the square root of the product of the rated resistance and the rated dissipation. — (IEC 60115-1)
TCR	**Temp. Coefficient of Resistance** Relative variation of resistance between two given temp. divided by the difference in the temp. producing it. — (IEC60115-1)

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ATTENTION

Cold Resistance Test

1. If product TCR is not less than 350 (10^{-6}/°C), the measured resistance value shall be corrected as the relative resistance value under 25 °C according to TCR formula.
2. Resistance Measurement (4-terminal test)

Replacement

As RXF is a non-resettable product, for safety sake, please use the same type of RXF for replacement.

Usage

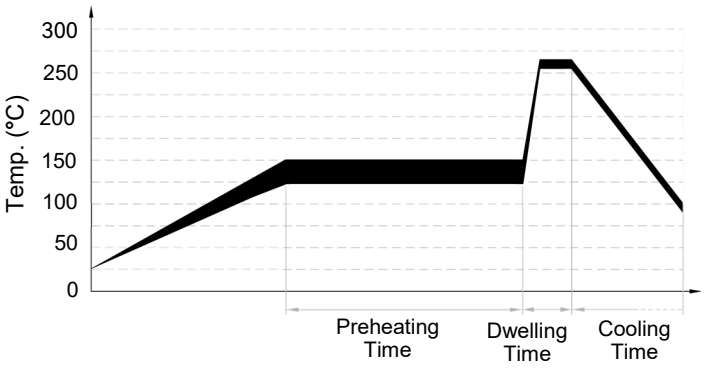
1. Do not touch the resistor body or pins directly when power is on, to avoid burn or electric shock.
2. When air pressure is from 80 kPa to 106 kPa, the relative altitude shall be +2000 m to - 500 m.

Storage

1. Please store RXF with ambient temp. 10 °C ~ 30 °C and relative humidity 30% ~ 75%.
2. Do not store the RXF at the high temp., high humidity or corrosive gas environment, avoid influencing the solderability of the pins, please use them up within 1 year after receiving the goods.

Soldering Parameters

Wave Soldering Parameters (For Reference Only)



Item	Temp. (°C)	Time (s)
Preheating	120 ~ 150	60 ~ 100
Dwelling	260 ± 5	4 ~ 5

Hand-Soldering Parameters

Solder Iron Temp.: (350 ± 5) °C

Soldering Time: ≤5 s

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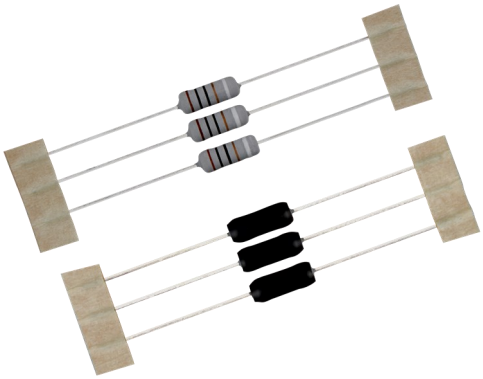


Description

Fusible Wirewound Resistor (RXF) is a power resistor, which is made by winding a resistive element on a ceramic core, and the core is coated by insulation coating.

RXF is widely used in products such as general lighting, smart homes, small power home appliances, personal care application, security & protection. As a Protective Component, RXF works as a fixed resistor in normal operation, and is designed to open the circuit under the overload condition.

SETsafe | SETfuse RXF is attractive owing to its Miniaturized Size and Superior Properties. RXF21SB series Rated Resistance from 0.27 Ω to 800 Ω, safety certification includes cURus, VDE, CQC and complies with RoHS and REACH.

Features

- Over Current Protection
- Surge Protection
- Inrush Current Protection
- RoHS & REACH Compliant

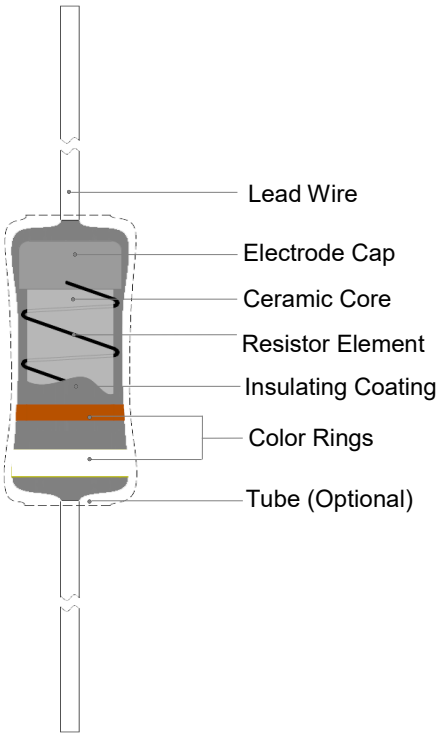
Applications

- Adapters
- Switched-Mode Power Supplies
- LED Drives
- Small Power Home Appliances
- Security & Protection

Customization

- Vertical Taping Available
- Leads Forming Types
- Body with Tube

Structure Diagrams



Dimensions（mm）

Coating Type

L	L_1	D	d
9.0 ± 1.0	60.0 ± 2.0	Φ3.5 ± 0.5	Φ0.56 / Φ0.50 ± 0.05

With Tube

L	L_1	D	d
10.0 ± 1.0	60.0 ± 2.0	Φ3.8 ± 0.5	Φ0.56 / Φ0.50 ± 0.05

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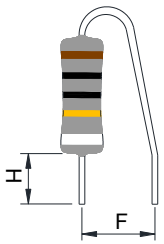
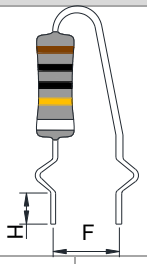
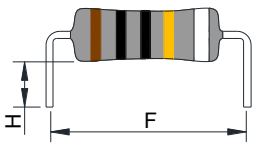
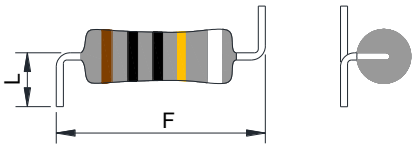
Agency Information

Agency Symbol		Standards	The File No. and certification No. obtained by SETsafe | SETfuse	Rated Resistance (Ω)
c UL us	cURus	UL 1412	E324712	0.27 to 800
VDE REG E012	VDE	IEC 62368-1	40035527	0.27 to 800
cqc	CQC	SJ 2865	CQC10001049759	0.47 to 51

Leads Forming Types

A		B		C		D	
							
H (mm)	F (mm)	H (mm)	F (mm)	H (mm)	F (mm)	L (mm)	F (mm)
3.5 ± 0.5	5.0 / 7.5 ± 2	3.5 ± 0.5	6 ± 2	3.5 ± 0.5	(14.0 ~ 18.0) ± 0.5	3.0 ± 0.5	13 ± 1
The forming modes and length of lead wires can be customized.							

Marking

Color		The First Number	The Second Number	Multiple	Resistance Tolerance	Power
	Black	0	0	10^0	N/A	N/A
	Brown	1	1	10^1	N/A	N/A
	Red	2	2	10^2	N/A	N/A
	Orange	3	3	10^3	N/A	N/A
	Yellow	4	4	10^4	N/A	2
	Green	5	5	10^5	N/A	N/A
	Blue	6	6	10^6	N/A	N/A
	Purple	7	7	10^7	N/A	N/A
	Grey	8	8	10^8	N/A	N/A
	White	9	9	10^9	N/A	1
	Gold	N/A	N/A	10^{-1}	J: ±5%	N/A
	Silver	N/A	N/A	10^{-2}	K: ±10%	N/A

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Part Numbering System

RXF21S B 4R7 J - T 60 M A - 001

Other Options

Tube

A :	Coating Type
B :	With Tube

TCR (10^{-6}/°C)

M :	±350	T :	800 to 5000

Total Length

60 :	60 mm	72 :	72 mm

Packaging

T :	Taping	B :	Bulk

Tolerance

J :	±5%	K :	±10%

Rated Resistance (Ω)

R47 :	0.47	47R :	47
4R7 :	4.7	470R :	470

Rated Power

B:	1 W

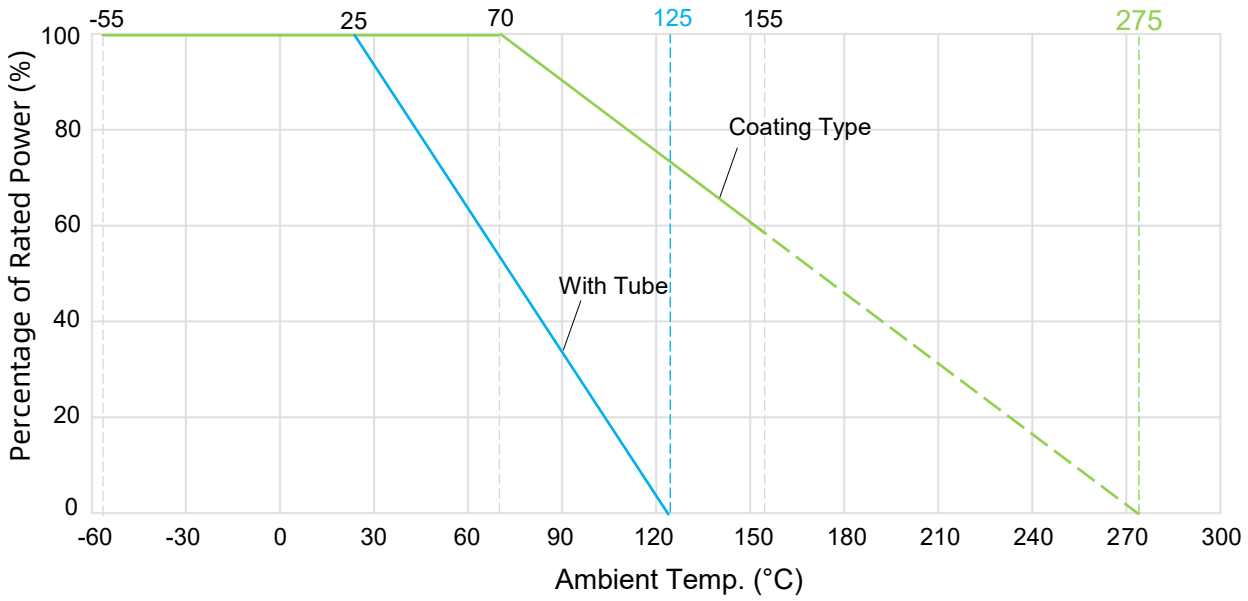
Product Category

Technical Parameter

Item	Parameter
Power Type (*P*)	1 W
Rated Resistance (*R*)	0.27 Ω ~ 800 Ω
Resistance Tolerance	5% (E24) , 10% (E12)
Rated Current (I_N)	$I_N = \sqrt{P/R}$
Rated Voltage (U_N)	$U_N = \sqrt{P \times R}$
Surge (For Reference) **Note: Combination Wave**	2.0 kV (R > 10 Ω)
	1.0 kV (R ≤ 10 Ω)

Rated Power Derating Curve (For Reference Only)

When the ambient temp. exceeds 25 ºC, the rated power value declines as the following curve.
(The Max. working temp. of polyolefin tube is 125 °C)



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Specifications

Series	Power Type	Rated Resistance (R)	Resistance Tolerance	Operating Temp. Range	Agency Approvals			Environmental Status	
					cURus	VDE REG E012	CQC	RoHS	REACH
	(W)	(Ω)	(%)	(°C)	cURus	VDE	CQC		
RXF21SB	1	0.47 ~ 51	±5, ±10	-55 ~ 155	●	●	●	●	●
		0.27 ~ 800			●	●	N/A		

Note: ”●"Means certificated, RoHS & REACH Compliant .

Resistance Selection Table (According to IEC60063-2015, blue font is SETsafe | SETfuse common resistance).

Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code
0.10	R10	1.0	1R0	10	10R	100	100R
0.11	R11	1.1	1R1	11	11R	110	110R
0.12	R12	1.2	1R2	12	12R	120	120R
0.13	R13	1.3	1R3	13	13R	130	130R
0.15	R15	1.5	1R5	15	15R	150	150R
0.16	R16	1.6	1R6	16	16R	160	160R
0.18	R18	1.8	1R8	18	18R	180	180R
0.20	R20	2.0	2R0	20	20R	200	200R
0.22	R22	2.2	2R2	22	22R	220	220R
0.24	R24	2.4	2R4	24	24R	240	240R
0.27	R27	2.7	2R7	27	27R	270	270R
0.30	R30	3.0	3R0	30	30R	300	300R
0.33	R33	3.3	3R3	33	33R	330	330R
0.36	R36	3.6	3R6	36	36R	360	360R
0.39	R39	3.9	3R9	39	39R	390	390R
0.43	R43	4.3	4R3	43	43R	430	430R
0.47	R47	4.7	4R7	47	47R	470	470R
0.51	R51	5.1	5R1	51	51R	510	510R
0.56	R56	5.6	5R6	56	56R	560	560R
0.62	R62	6.2	6R2	62	62R	620	620R
0.68	R68	6.8	6R8	68	68R	680	680R
0.75	R75	7.5	7R5	75	75R	750	750R
0.82	R82	8.2	8R2	82	82R	800	800R
0.91	R91	9.1	9R1	91	91R	N/A	N/A

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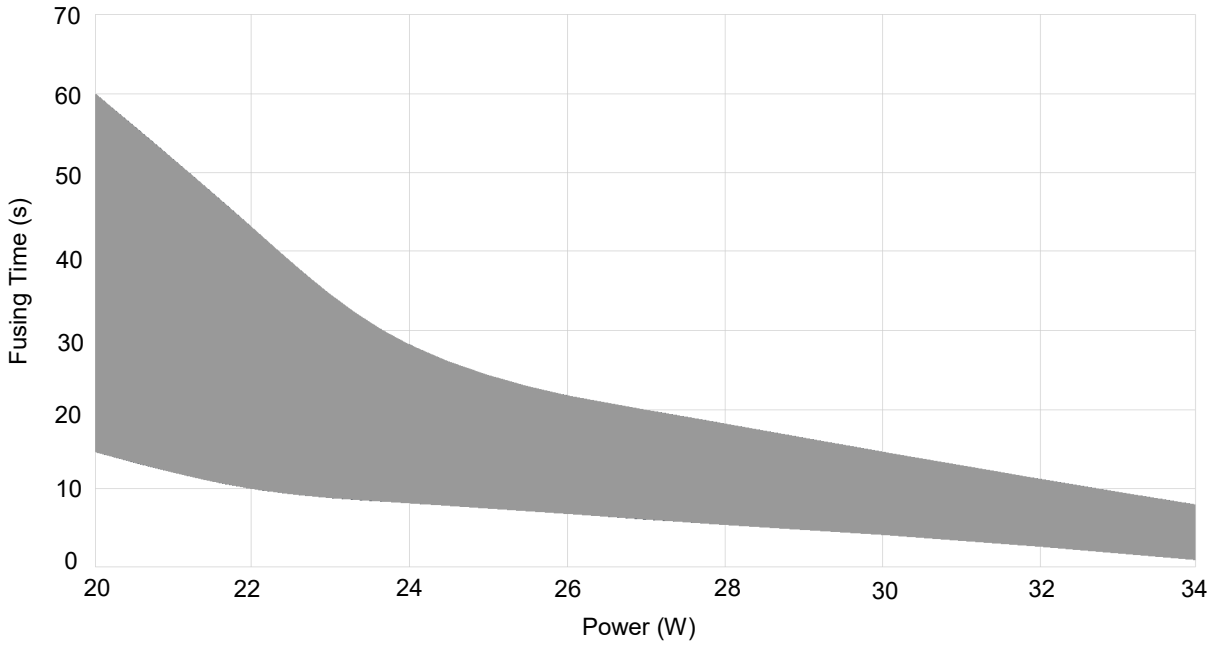
Fusing Time Curve (For Reference Only)

Power & Time curve, showing fusing time at multi-times rated power in the condition of ambient temp. 25 °C ± 2 °C.



Note : please refer to the corresponding specifications.

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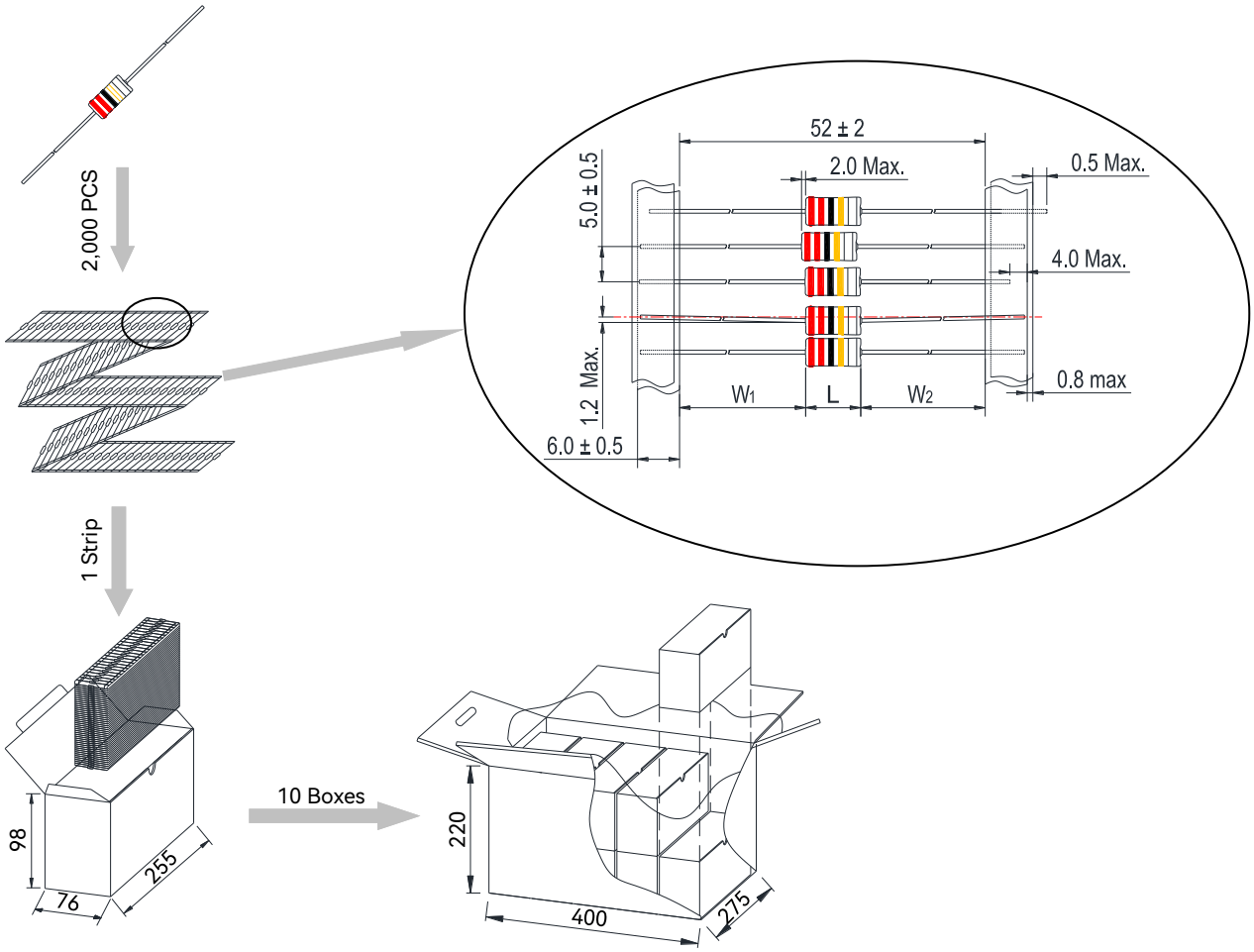
Packaging Information

Horizontal Taping

Item	Box	Carton
Quantity (PCS)	2,000	20,000
Gross Weight (kg)	8.4 ± 10%	

Tape Dimensions (mm)		
L	Coating Type	9.0 ± 1.0
	With Tube	10.0 ± 1.0
$\lvert W_1 - W_2 \rvert$		2.0 Max.

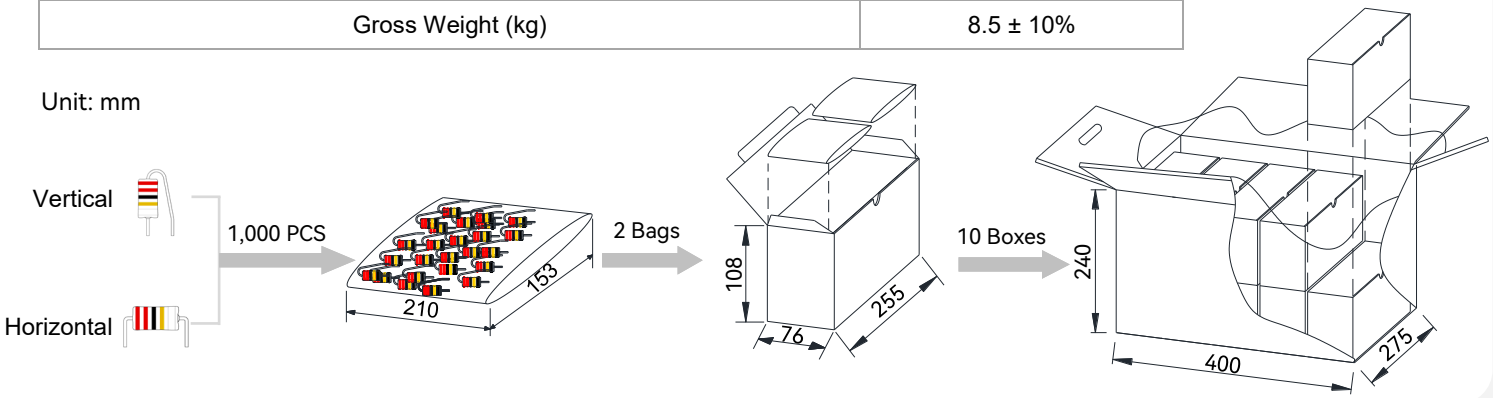
Unit: mm



Bulk

Item	PE Bag	Box	Carton
Quantity (PCS)	1,000	2,000	20,000
Gross Weight (kg)			8.5 ± 10%

Unit: mm



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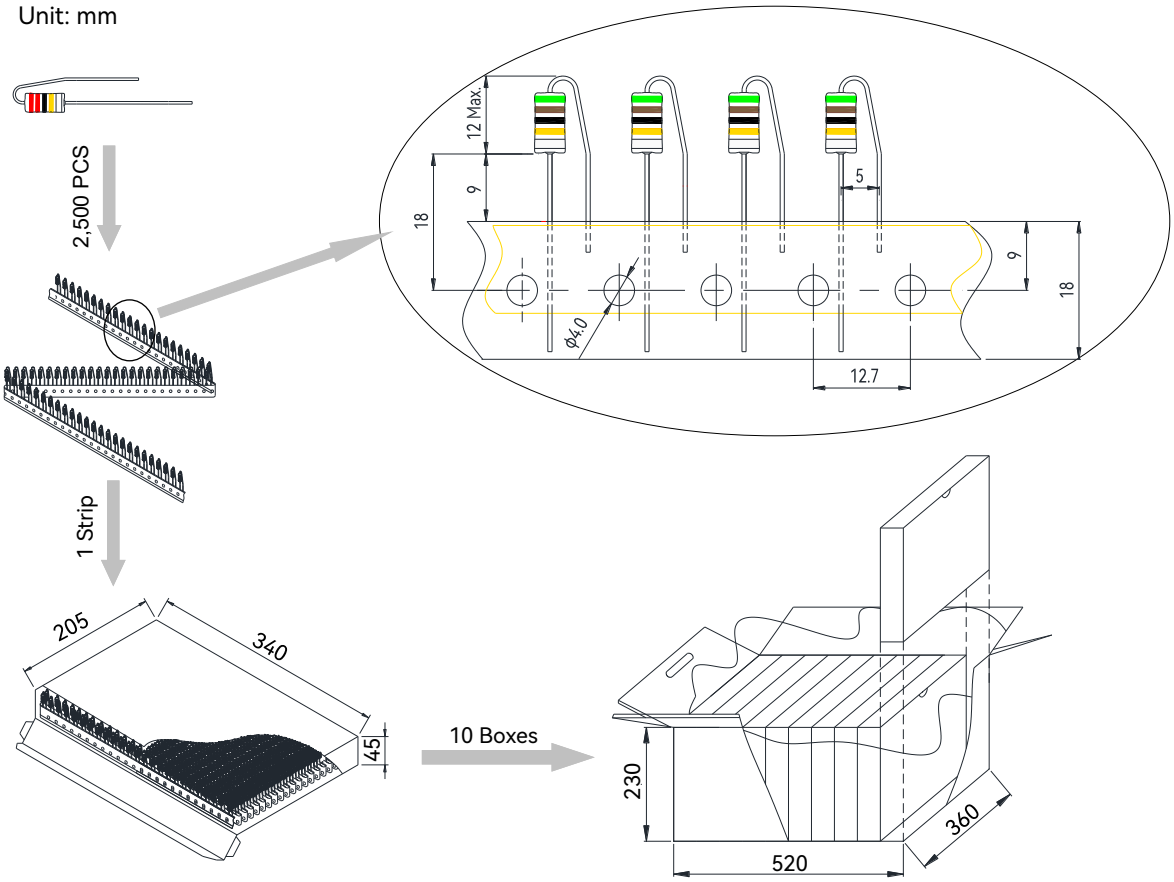
Packaging Information

Vertical Taping

Item	Box	Carton
Quantity (PCS)	2,500	25,000
Gross Weight (kg)		9.2 ± 10%

Unit: mm



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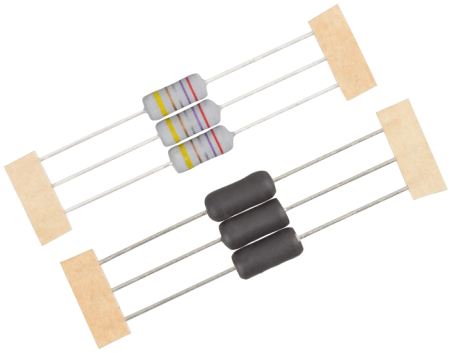
RXF

Fusible Wirewound Resistor

RXF21SC Series



Description

Fusible Wirewound Resistor (RXF) is a power resistor, which is made by winding a resistive element on a ceramic core, and the core is coated by insulation coating.

RXF is widely used in products such as general lighting, smart homes, small power home appliances, personal care application, security & protection. As a Protective Component, RXF works as a fixed resistor in normal operation, and is designed to open the circuit under the overload condition.

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Features

- Over Current Protection
- Surge Protection
- Inrush Current Protection
- RoHS & REACH Compliant

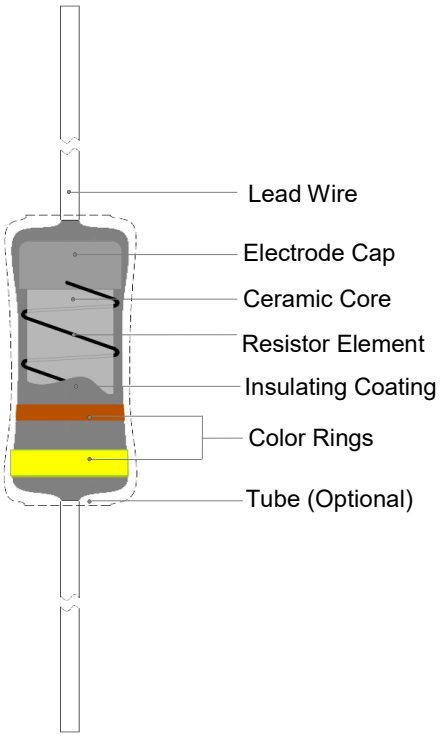
Applications

- Adapters
- Switched-Mode Power Supplies
- LED Drives
- Small Power Home Appliances
- Security & Protection

Customization

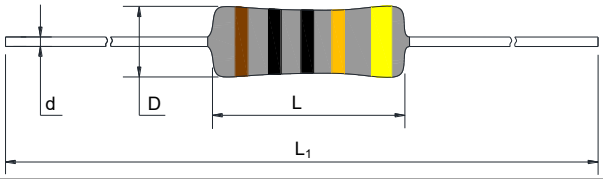
- Vertical Taping Available
- Leads Forming Types
- Body with Tube

Structure Diagrams



Dimensions（mm）

Coating Type



L	L_1	D	d
11.0 ± 1.0	60.0 / 72.0 ± 2.0	Φ4.5 ± 0.5	Φ0.70 / Φ0.55 ± 0.05

With Tube

L	L_1	D	d
12.0 ± 1.0	60.0 / 72.0 ± 2.0	Φ4.8 ± 0.5	Φ0.70 / Φ0.55 ± 0.05

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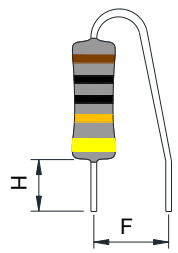
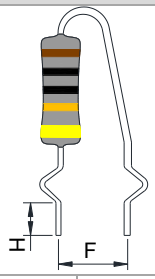
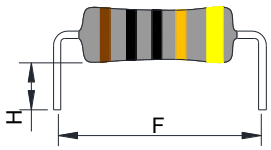
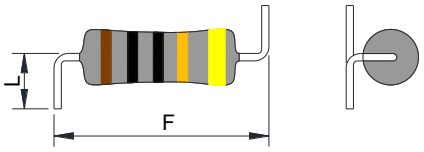
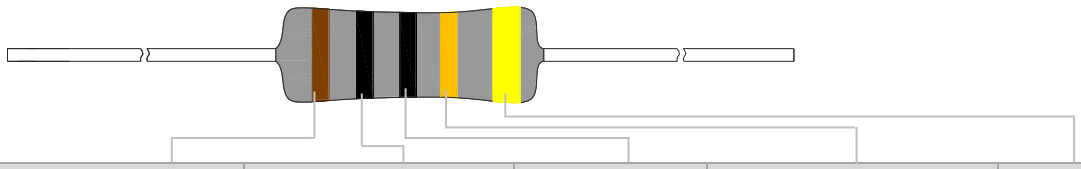
Agency Information

Agency Symbol		Standards	The File No. and certification No. obtained by SETsafe | SETfuse	Rated Resistance (Ω)
c UL us	cURus	UL 1412	E324712	0.27 to 1,000
VDE REG E012	VDE	IEC 62368-1	40035527	0.27 to 1,000
CQC	CQC	SJ 2865	CQC10001049760	3 to 68

Leads Forming Types

A		B		C		D	
							
H (mm)	F (mm)	H (mm)	F (mm)	H (mm)	F (mm)	L (mm)	F (mm)
3.5 ± 0.5	5.0 / 7.5 ± 2	3.5 ± 0.5	6 ± 2	3.5 ± 0.5	(14.0 ~ 18.0) ± 0.5	3.0 ± 0.5	13 ± 1
The forming modes and length of lead wires can be customized.							

Marking



Color		The First Number	The Second Number	Multiple	Resistance Tolerance	Power
	Black	0	0	10^0	N/A	N/A
	Brown	1	1	10^1	N/A	N/A
	Red	2	2	10^2	N/A	N/A
	Orange	3	3	10^3	N/A	N/A
	Yellow	4	4	10^4	N/A	2
	Green	5	5	10^5	N/A	N/A
	Blue	6	6	10^6	N/A	N/A
	Purple	7	7	10^7	N/A	N/A
	Grey	8	8	10^8	N/A	N/A
	White	9	9	10^9	N/A	1
	Gold	N/A	N/A	10^{-1}	J: ±5%	N/A
	Silver	N/A	N/A	10^{-2}	K: ±10%	N/A

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Part Numbering System

RXF21S C 4R7 J - T 60 M A - 001

Other Options

Tube

A :	Coating Type
B :	With Tube

TCR (10^{-6}/°C)

M :	±350	T :	800 to 5000

Total Length

60 :	60 mm	72 :	72 mm

Packaging

T :	Taping	B :	Bulk

Tolerance

J :	±5%	K :	±10%

Rated Resistance (Ω)

R47 :	0.47	47R :	47
4R7 :	4.7	470R :	470

Rated Power

C:	2 W

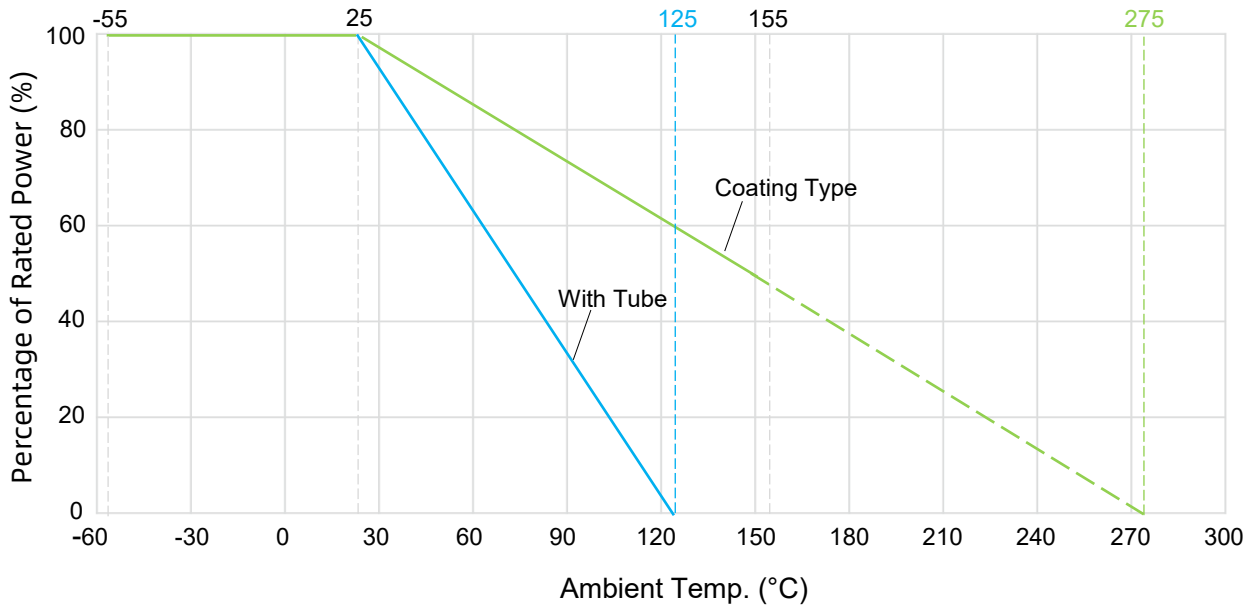
Product Category

Technical Parameter

Item	Parameter
Power Type (*P*)	2 W
Rated Resistance (*R*)	0.27 Ω ~ 1,000 Ω
Resistance Tolerance	5% (E24) , 10% (E12)
Rated Current (I_N)	$I_N = \sqrt{P/R}$
Rated Voltage (U_N)	$U_N = \sqrt{P \times R}$
Surge (For Reference) **Note: Combination Wave**	2.0 kV (R > 10 Ω)
	1.0 kV (R ≤ 10 Ω)

Rated Power Derating Curve (For Reference Only)

When the ambient temp. exceeds 25 ºC, the rated power value declines as the following curve.
(The Max. working temp. of polyolefin tube is 125 °C)



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Specifications

Series	Power Type	Rated Resistance (R)	Resistance Tolerance	Operating Temp. Range	Agency Approvals			Environmental Status	
					cURus	VDE REG E012	CQC	RoHS	REACH
	(W)	(Ω)	(%)	(°C)	cURus	VDE	CQC		
RXF21SC	2	3 ~ 68	±5, ±10	-55 ~ 155	●	●	●	●	●
		0.27 ~ 1,000			●	●	N/A		

Note: ”●"Means certificated, RoHS & REACH Compliant .

Resistance Selection Table (According to IEC60063-2015, blue font is SETsafe | SETfuse common resistance).

Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code	Rated Resistance (Ω)	Code
0.10	R10	1.0	1R0	10	10R	100	100R
0.11	R11	1.1	1R1	11	11R	110	110R
0.12	R12	1.2	1R2	12	12R	120	120R
0.13	R13	1.3	1R3	13	13R	130	130R
0.15	R15	1.5	1R5	15	15R	150	150R
0.16	R16	1.6	1R6	16	16R	160	160R
0.18	R18	1.8	1R8	18	18R	180	180R
0.20	R20	2.0	2R0	20	20R	200	200R
0.22	R22	2.2	2R2	22	22R	220	220R
0.24	R24	2.4	2R4	24	24R	240	240R
0.27	R27	2.7	2R7	27	27R	270	270R
0.30	R30	3.0	3R0	30	30R	300	300R
0.33	R33	3.3	3R3	33	33R	330	330R
0.36	R36	3.6	3R6	36	36R	360	360R
0.39	R39	3.9	3R9	39	39R	390	390R
0.43	R43	4.3	4R3	43	43R	430	430R
0.47	R47	4.7	4R7	47	47R	470	470R
0.51	R51	5.1	5R1	51	51R	510	510R
0.56	R56	5.6	5R6	56	56R	560	560R
0.62	R62	6.2	6R2	62	62R	620	620R
0.68	R68	6.8	6R8	68	68R	680	680R
0.75	R75	7.5	7R5	75	75R	750	750R
0.82	R82	8.2	8R2	82	82R	820	820R
0.91	R91	9.1	9R1	91	91R	910	910R

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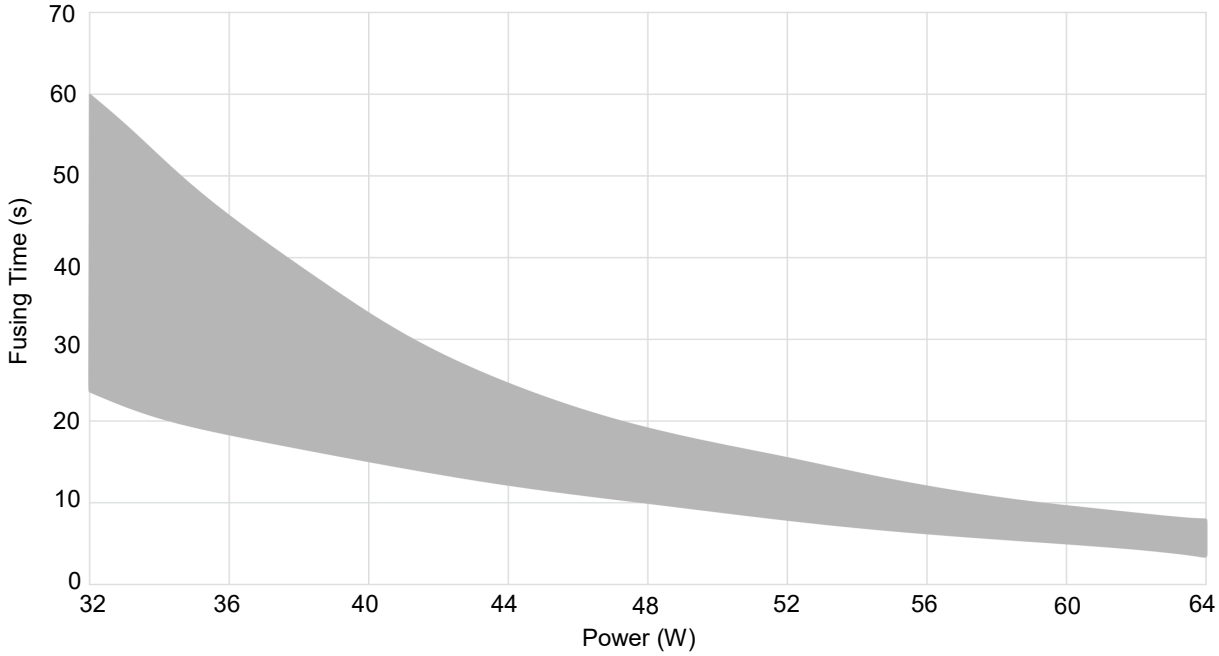
Fusing Time Curve (For Reference Only)

Power & Time curve, showing fusing time at multi-times rated power in the condition of ambient temp. 25 °C ± 2 °C.



Note : please refer to the corresponding specifications.

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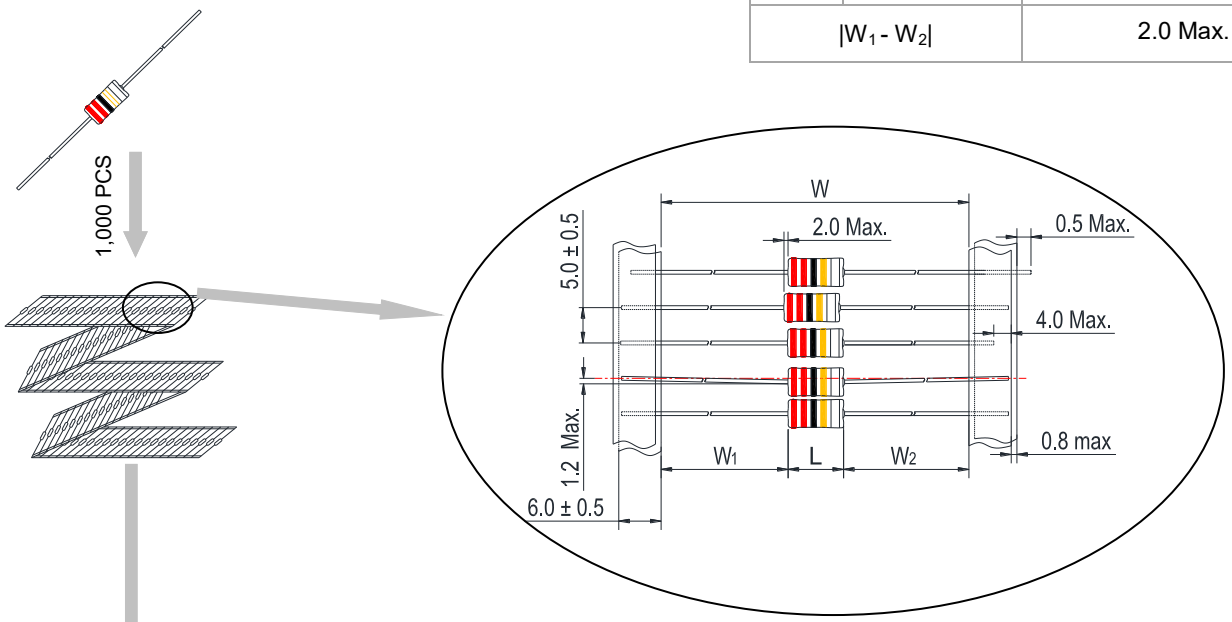
Packaging Information

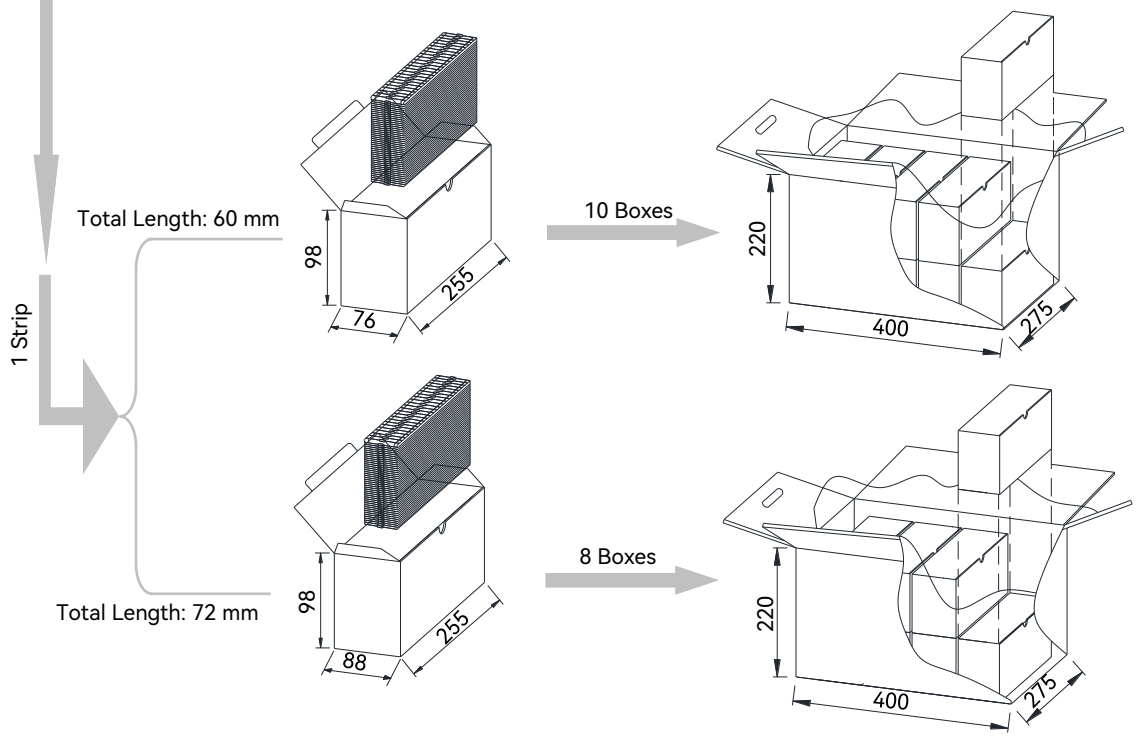
Horizontal Taping

Total Length	Item	Box	Carton
60	Quantity (PCS)	1,000	10,000
	Gross Weight (kg)	8.2 ± 10%	
72	Quantity (PCS)	1,000	8,000
	Gross Weight (kg)	7.2 ± 10%	

Tape Dimensions (mm)			
Symbol		Total Length	
		60 mm	72 mm
W		52 ± 2	64 ± 2
L	Coating Type	11.0 ± 1.0	
	With Tube	12.0 ± 1.0	
$\lvert W_1 - W_2 \rvert$		2.0 Max.	

Unit :mm





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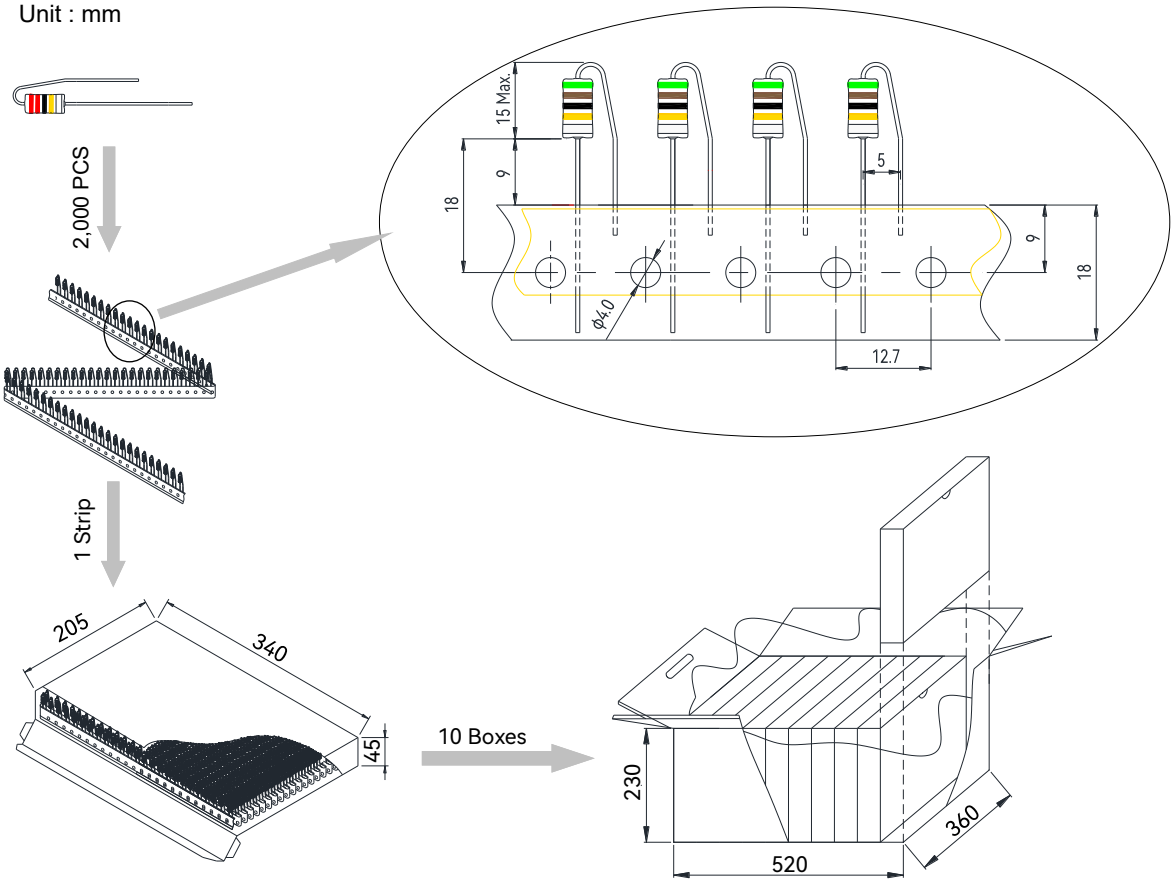
Packaging Information

Vertical Taping

Item	Box	Carton
Quantity (PCS)	2,000	20,000
Gross Weight (kg)		12.2 ± 10%

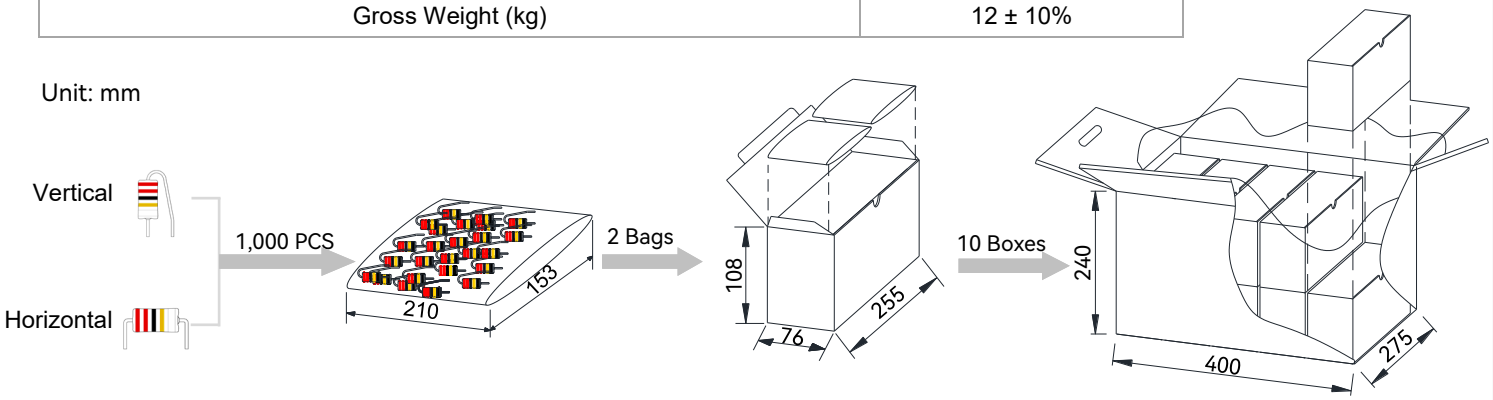
Unit : mm



Bulk

Item	PE Bag	Box	Carton
Quantity (PCS)	1,000	2,000	20,000
Gross Weight (kg)			12 ± 10%

Unit: mm



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