



Lead-Free Current Sensing Resistors AMF Series (Halogen-Free)

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1. Scope

This specification applied to the products of Lead-Free current sensing resistor of metal foil for Lead-Free AMF series manufactured by TA-I TECHNOLOGY CO.,LTD.

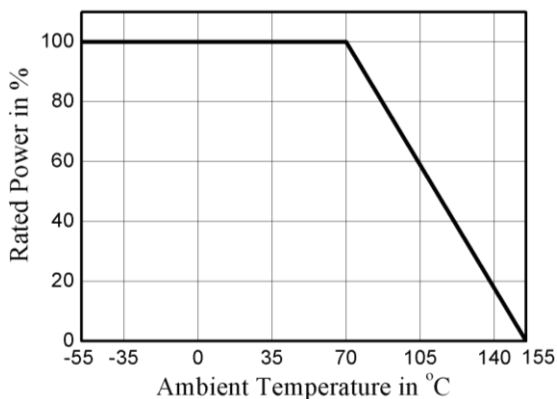
2. Type Designation

AMF06	F	T	C	R020
Series No.	Tolerance	Packaging	Power	Resistance
F = 4-Wire 06 = 0612 05 = 0508 03 = 0306	F = ± 1% G = ± 2% J = ± 5%	T=Paper	B = 0.125w A = 0.25W S = 0.5 W C = 1 W	R020=20 mΩ

3. Features

Series	Size	Power (W)	Resistance Value	Operation Temperature Range	TCR	Tolerance
AMF06	0612	1.00	1 ~ 20 mΩ	-55°C ~ +155°C	±100ppm/°C	±1% ±2% ±5%
AMF05	0508	0.75	3 ~ 15 mΩ			
AMF03	0306	0.50	1 ~ 15 mΩ			

4. Derating Curve



4.1 Rated Current & Voltage

The rated Current and Voltage are calculated by the following formula

$$I = \sqrt{P \div R} \quad V = \sqrt{P \times R}$$

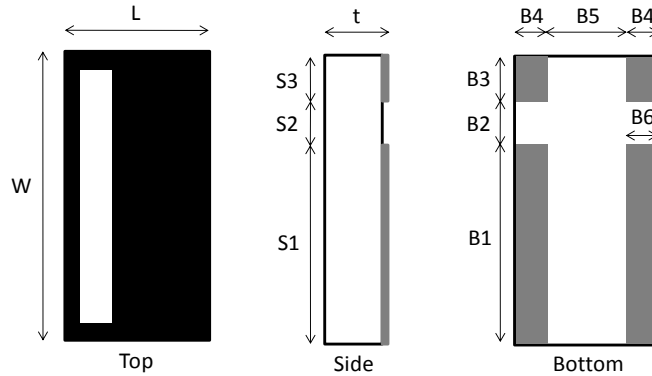
I: Rated Current(I) V: Rated Voltage(V)

P: Rated Power(W) R: Resistance Value(Ω)



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5. Dimension

AMF 0612	Dimension	L	W	t	S1	S2	S3
	SPEC (mm)	1.60±0.20	3.20±0.20	0.70±0.20	2.20±0.20	0.50±0.20	0.50±0.20
	Dimension	B1	B2	B3	B4	B5	B6
	SPEC (mm)	2.20±0.20	0.50±0.20	0.50±0.20	0.45±0.20	0.70±0.20	0.45±0.20
AMF 0508	Dimension	L	W	t	S1	S2	S3
	SPEC (mm)	1.25±0.20	2.0±0.20	0.60±0.20	1.26±0.20	0.40±0.20	0.35±0.20
	Dimension	B1	B2	B3	B4	B5	B6
	SPEC (mm)	1.25±0.20	0.40±0.20	0.35±0.20	0.30±0.20	0.65±0.20	0.25±0.20
AMF 0306	Dimension	L	W	t	S1	S2	S3
	SPEC (mm)	0.80±0.20	1.70±0.20	0.50±0.20	1.00±0.20	0.40±0.20	0.35±0.20
	Dimension	B1	B2	B3	B4	B5	B6
	SPEC (mm)	1.00±0.20	0.35±0.20	0.35±0.20	0.25±0.20	0.30±0.20	0.25±0.20

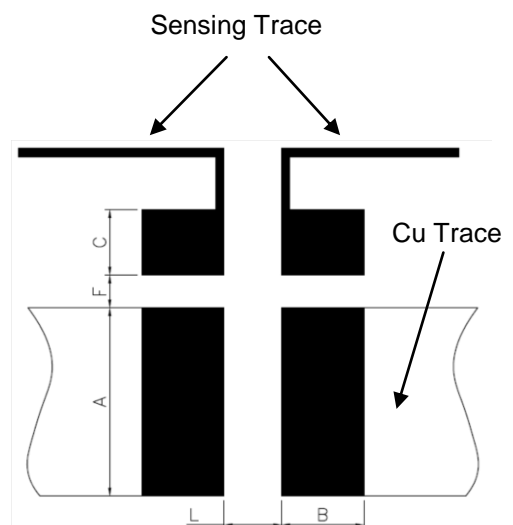
5.1 Recommended Solder Pad Dimension

Unit: mm

Series	Resistance (mΩ)	A	B	C	L	F
AMF06	1 ≤ R ≤ 20	2.50	1.00	0.80	0.70	0.50
AMF05	3 ≤ R ≤ 15	1.55	0.90	0.65	0.60	0.40
AMF03	1 ≤ R ≤ 15	1.30	0.80	0.65	0.35	0.40

Note:

*The copper foil minimum thickness of PCB needs 3 oz





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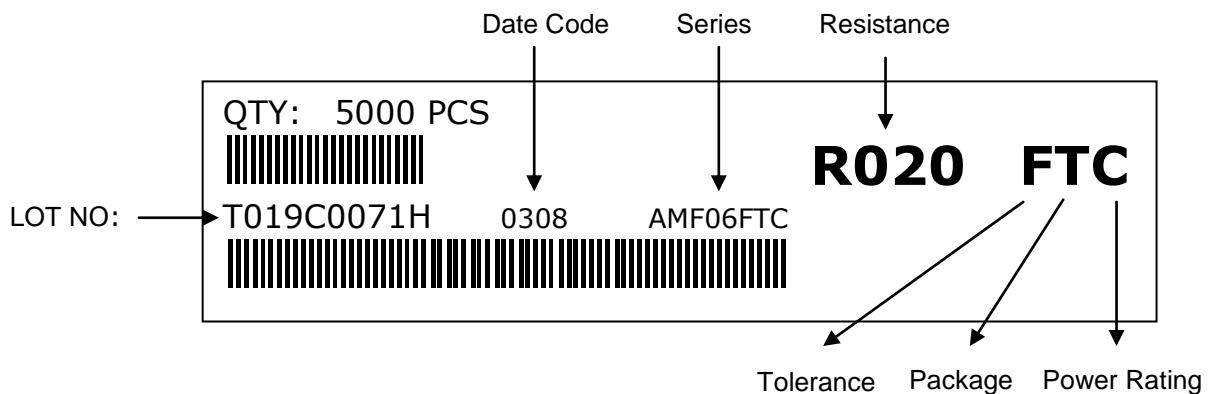
6. Reliability Tests

Test Items	Reference standard	Condition of Test	Test Limits
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-4.8	+25°C ~ +125°C	Refer 4.0
Load Life	IEC60115-1-4.25.1 JIS-C5201-4.25.1	1000hours at rated power, 70°C, 1.5hours "ON", 0.5hour "OFF"	< ±2%
Short Time Overload	IEC60115-1-4.13 JIS-C5201-4.13	5 X rated power for 5s	< ±1%
Moisture no Load	IEC60115-1- 4.24.2.1a) JIS-C5201- 4.24.2.1a)	85°C , 85%RH, 1000hrs	< ±2%
Temperature cycle	IEC60115-1-4.19 JIS-C5201-4.19	-55°C & +125°C, 100cycle, 15min per extreme condition	< ±1%
Resistance to Soldering Heat	IEC60115-1-4.18 JIS-C5201-4.18	260±5°C for 10±1 sec	< ±1%
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	245±5°C , 2±0.5sec	At least 95% of surface area of electrode shall be covered with new solder
High Temperature Exposure	IEC60115-1- 4.23.2 JIS-C5201-4.23.2	155°C , 1000hrs	< ±2%
Low Temperature Storage	EC60115-1- 4.23.4 JIS-C5201-4.23.4	-55°C , 1000hrs	< ±2%
Substrate Bending	IEC60115-1-4.33 JIS-C5201-4.33	Bending width 2mm	< ±1%
Insulation Resistance	IEC60115-1-4.6 JIS-C5201-4.6	100V DC for 1 minute	>100 MΩ

7. Number of Package

Series	AMF06	AMF05	AMF03
Pieces/Package	4000	4000	5000

8. Label



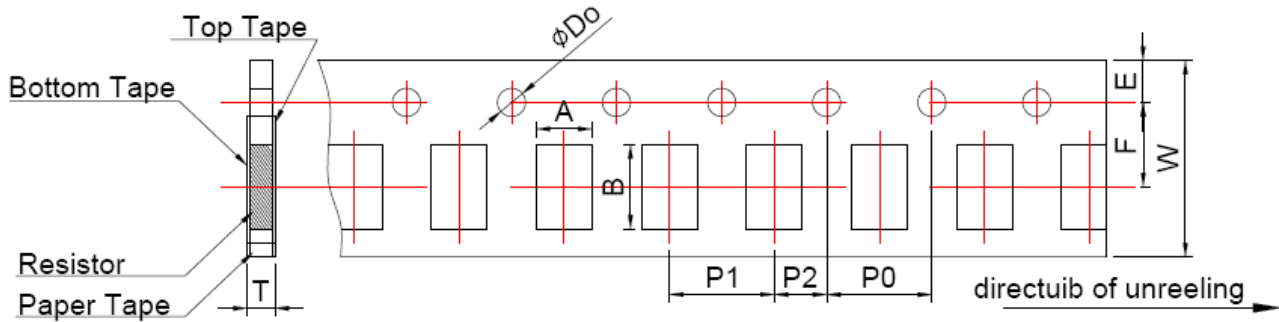
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9. Packaging



Tape packaging dimension

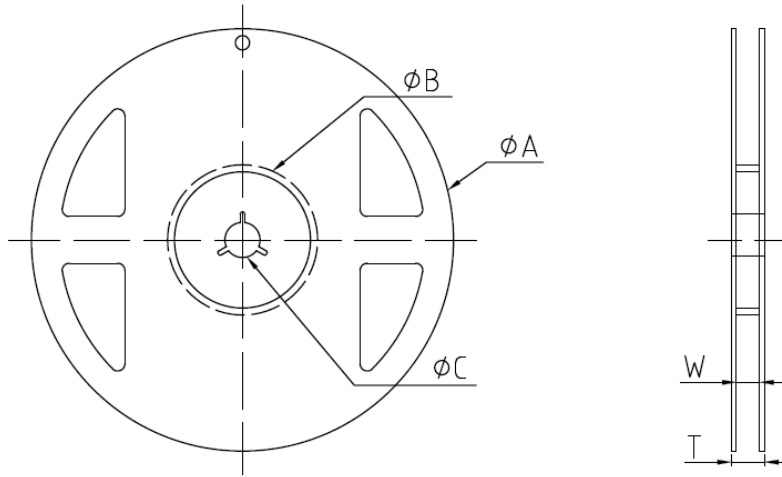
Packing	Type	A	B	W	F	E	P1	P2	P0	D0	T
Paper Tape	AMF06	2.00	3.60	8.00	3.50	1.75	4.00	2.00	4.00	1.55	0.95
	AMF05	1.60	2.40	8.00	3.50	1.75	4.00	2.00	4.00	1.55	0.95
	AMF03	1.10	1.90	8.00	3.50	1.75	2.00	2.00	4.00	1.55	0.60
Tolerance		±0.15	±0.20	±0.20	±0.05	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10



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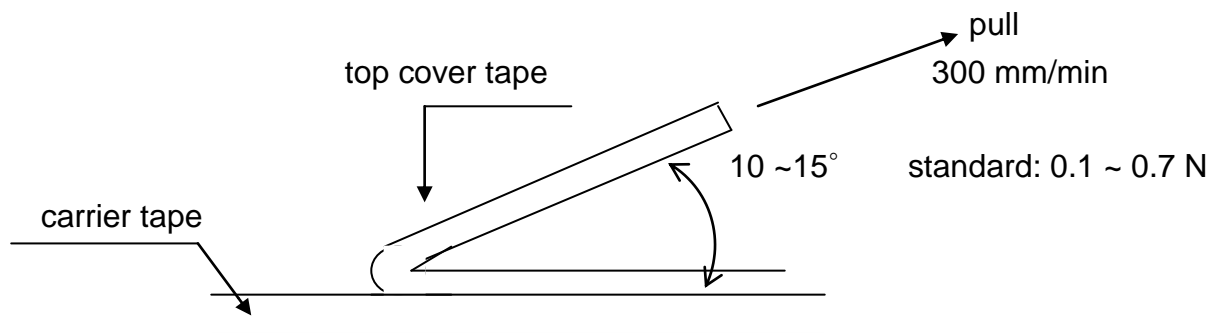
10. Reel Specification



Series	ϕA	ϕB	ϕC	W	T
AMF06	178 \pm 2.0	60 \pm 1.0	13.0 \pm 1.0	9.0 \pm 1.0	11.4 \pm 1.0
AMF05					
AMF03					

11. Peeling Strength of Top Cover Tape

Test Condition: 0.1 to 0.7 N at a peel-off speed of 300 mm / min.



12. Storage Conditions:

Temperature: 5°C ~35°C, Humidity: 40%~75%

13. Shelf Life:

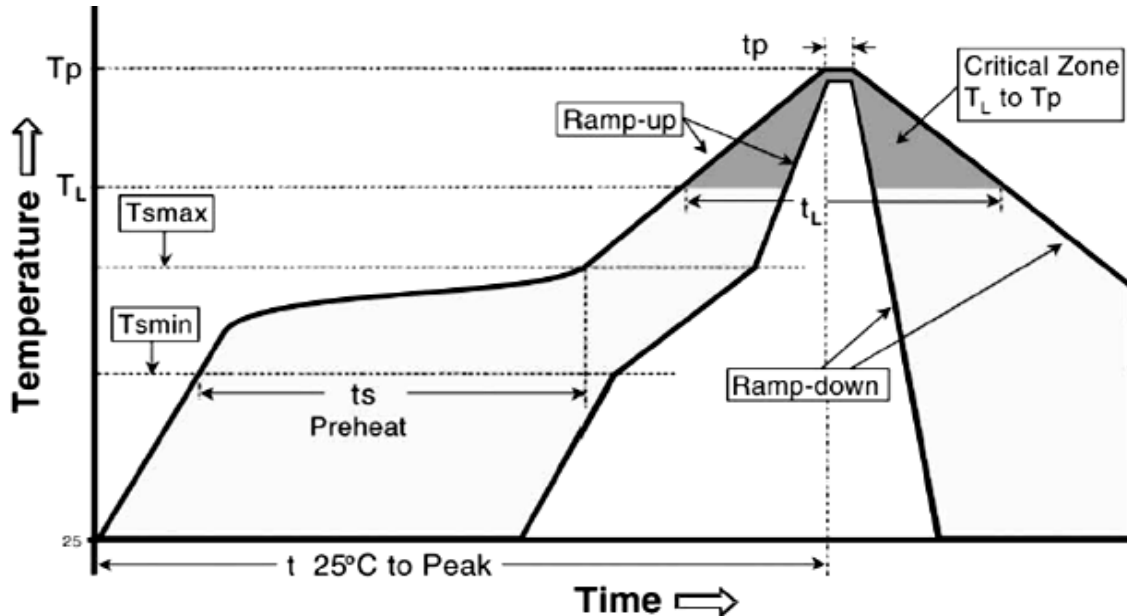
2 years from manufacturing date.



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14. Recommend IR – Reflow profile: (solder: Sn96.5 / Ag3 / Cu0.5)



Alloyed Re-flow times: 3 times

Remark: To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow furnace .

Iron Solder: 350±10°C , 3+1/-0 sec, 1 time

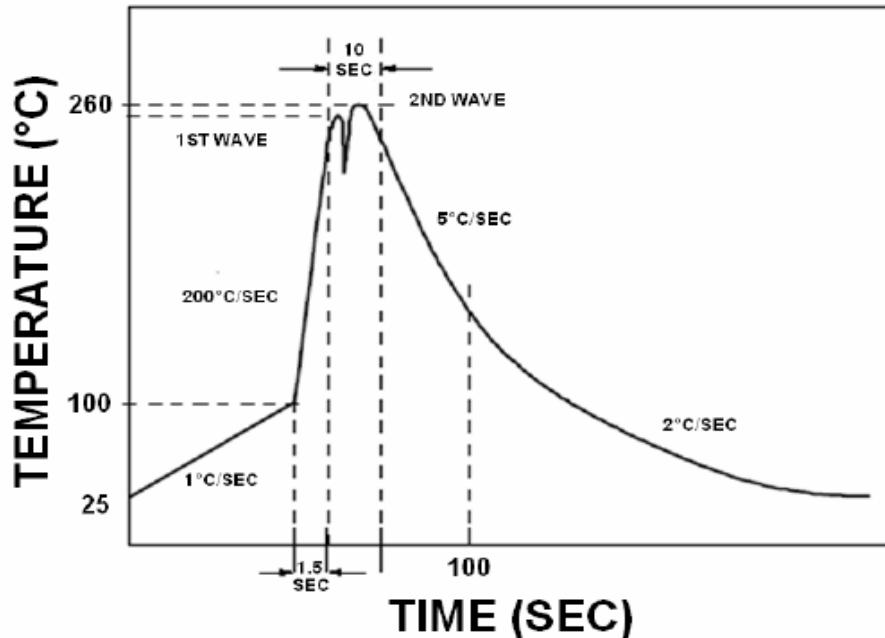
Profile Feature	Lead (Pb)-Free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C / second max.
Preheat - Temperature Min (T _{smin}) - Temperature Max (T _{smax}) - Time (T _{smin} to T _{smax}) (t _s)	150°C 200°C 60 -150 seconds
Time maintained above : - Temperature (T _L) - Time (T _L)	217°C 60-120 seconds
Peak Temperature (T _p)	260°C
Time within $\begin{matrix} +0 \\ -5 \end{matrix}$ °C of actual Peak Temperature (t _p) ²	10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8mimutes max.



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15. Recommend Wave-Solder profile: (solder: Sn96.5 / Ag3 / Cu0.5)



16. ECN

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.

17. Manufacturing Country & City:

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TA-I TECHNOLOGY CO., LTD

单击下面可查看定价，库存，交付和生命周期等信息

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