ECN/PCN No.: M1166

For Manufacturer			
Product Description: Multilayer Ferrite Chip Inductor	**Abracon Part Number / Part Series:** AIML-0402 Series		☒ Series ☐ Part Number
Affected Revision: B	**New Revision:** C	**Application:**	☐ Safety ☒ Non-Safety

Prior to Change:

1.0 Key Electrical Specifications

Part No.	L(µH)	Tolerance (%)	Q (min)	Test Freq. (MHz)	SRF(MHz) (min)	DCR(Ω) (max)	Ir(mA) (max)
AIML-0402-1R0	1.0	J, K	20	10	40	0.9	15
AIML-0402-1R2	1.2	J, K	20	10	35	1.2	15
AIML-0402-1R5	1.5	J, K	20	10	30	1.2	15
AIML-0402-1R8	1.8	J, K	20	10	30	1.45	15
AIML-0402-2R2	2.2	J, K	20	10	28	1.75	10
AIML-0402-2R7	2.7	J, K	20	10	22	2	10

3.0 Part Number Identification

AIML-0402- ☐☐☐

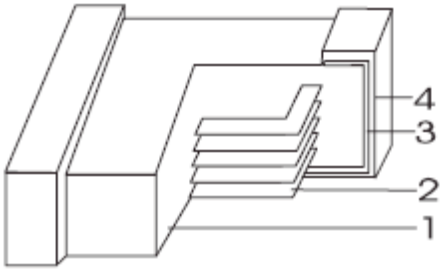
Inductance Code	Tolerance	Packaging
Please refer to the table above	J: ±5% K: ±10%	T: Tape and Reel (10kpcs / reel)

4.0 Mechanical Dimensions

Series	L	W	T	a1,a2
AIML-0402	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
	[0.04±0.006]	[0.02±0.006]	[0.02±0.006]	[0.01±0.004]

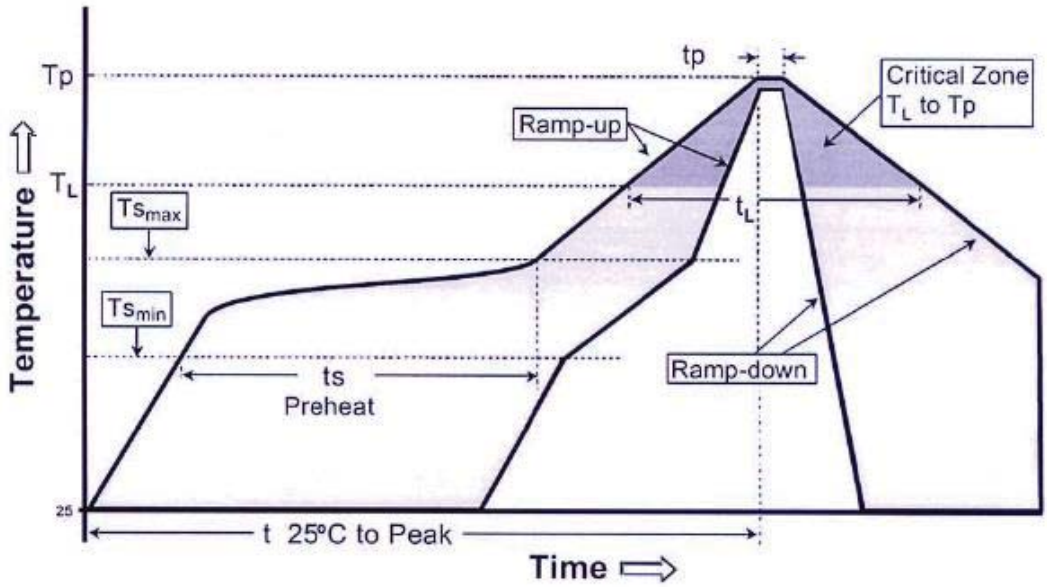
Dimension: mm[inch]

4.1 Materials



	Part Name	Material
1	**Base Material**	**Ferrite (Ni-Cu-Zn series)**
2	**Internal Conductor**	**Ag**
3	**Terminal Electrode**	**Ag**
4	**Terminal Electrode**	**Ni-Sn**

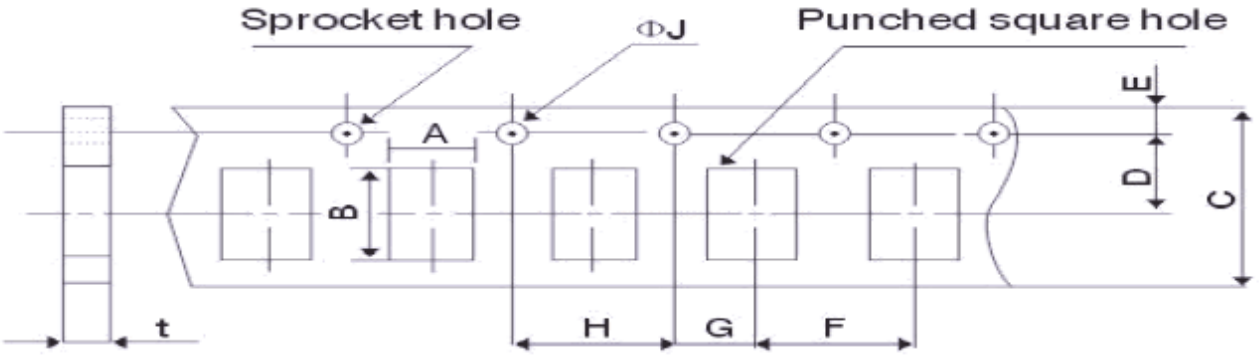
5.1 Reflow Profile



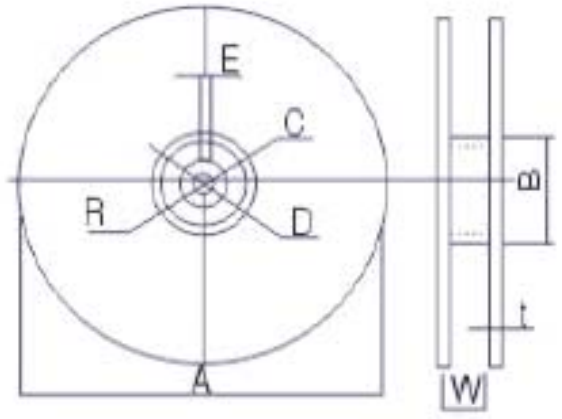
Profile Feature	Lead-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3℃ C/second max.
Preheat – Temperature Min (Tsmin) – Temperature Max (Tsmax) – Time (tsmin to tsmax) min to tsmax)	150 ℃ 200 ℃ 60-180 seconds
Time maintained above: – Temperature (TL) – Time (tL)	217 ℃ 60-150 seconds
Peak/Classification Temperature (Tp) Peak/Classification Time (Tp)	260 ℃ 3-4 seconds
Time within 5 °C of actual Peak Temperature (tp)	20-40 seconds
Ramp-Down Rate	6°C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

6.0 Packing

T: 10,000pcs / reel



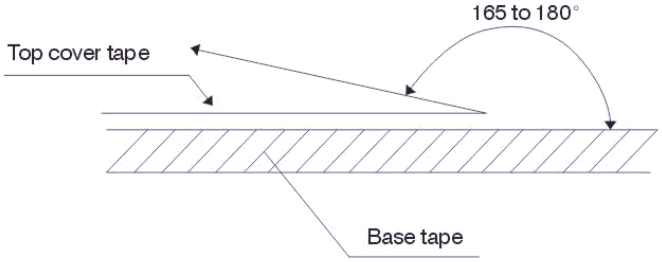
Codes	A	B	C	D	E	F	G	H	ΦJ	t(max)
AIML-0402	0.65± 0.10	1.15± 0.10	8.0±0.3	3.5±0.05	1.75±0.1	2.0± 0.05	2.0±0.05	4.0±0.1	1.5+0.1/-0	0.8± 0.05



A	178±2
B	60±2
C	13.0±0.5
D	21.0±0.8
E	2.0±0.5
W	10.0±1.15
t	1.2±0.2
R	1.0±0.25

6.1 Peeling strength of cover tape

0.3~0.7N (30gf~70gf)



Test condition:
1) peel angle: 165°~180° vs. carrier tape.
2) peel speed: 300 mm/min±10%.

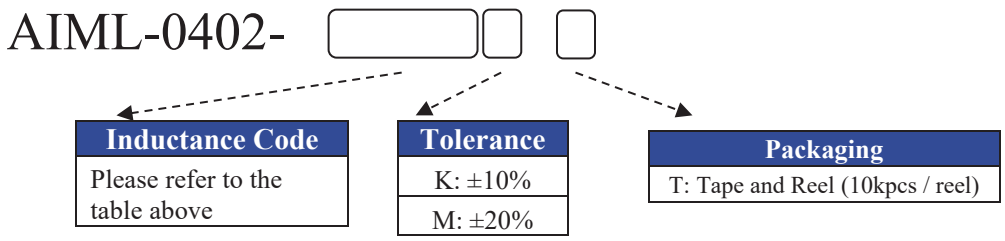
Dimension: mm

After Change:

1.0 Key Electrical Specifications

Part No.	L(µH)	Tolerance (%)	Q (min)	Test Freq. (MHz)	SRF(MHz) (min)	DCR(Ω) (max)	Ir(mA) (max)
AIML-0402-1R0	1.0	K, M	20	10	40	0.90	15
AIML-0402-1R2	1.2	K, M	20	10	35	1.20	15
AIML-0402-1R5	1.5	K, M	20	10	30	1.20	15
AIML-0402-1R8	1.8	K, M	20	10	30	1.45	15
AIML-0402-2R2	2.2	K, M	20	10	28	1.70	10
AIML-0402-2R7	2.7	K, M	20	10	28	2.40	10

3.0 Part Number Identification

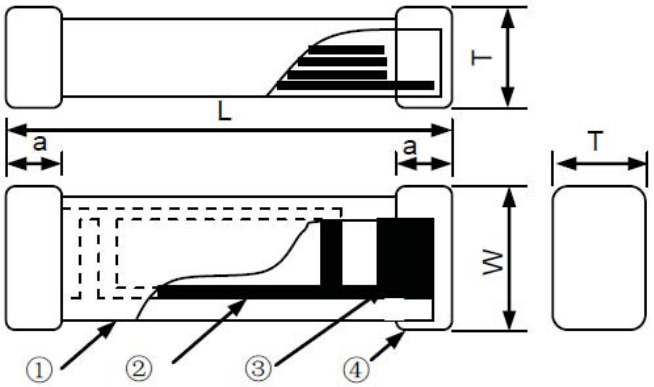


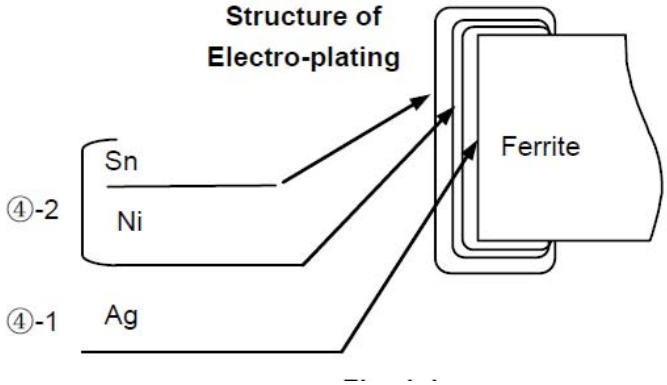
4.0 Mechanical Dimensions

Series	L	W	T	a1,a2
AIML-0402	1.00±0.15	0.50±0.15	0.50±0.15	0.25±0.10
	[0.039±0.006]	[0.02±0.006]	[0.02±0.006]	[0.01±0.004]

Dimension: mm [inch]

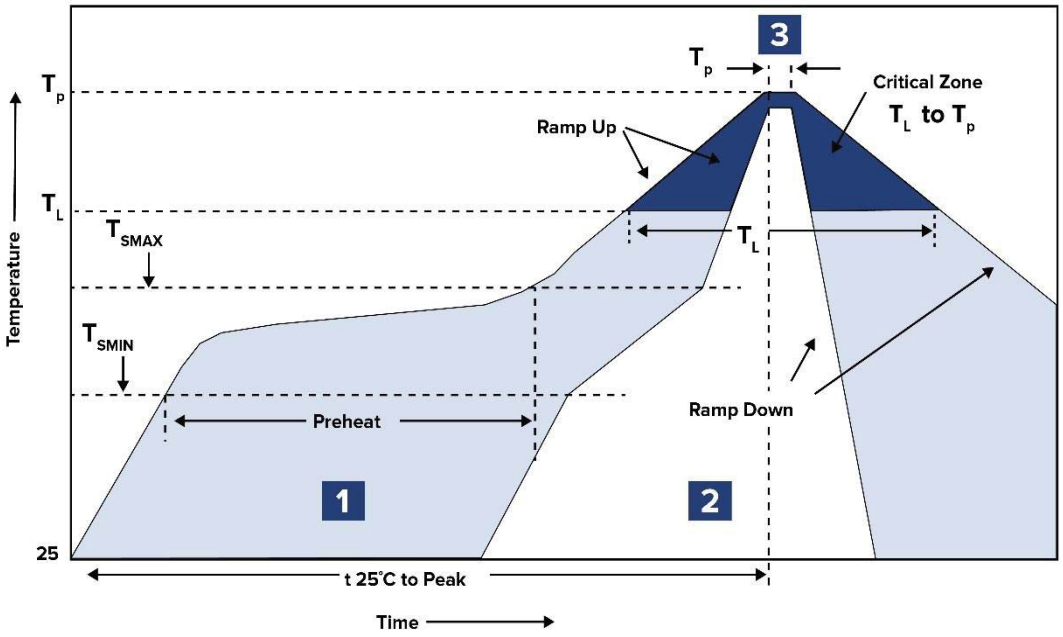
4.1 Materials





#	Part Nme	Material Name
1	Ferrite Body	Ferrite Powder
2	Inner Coils	Silver Paste
3	Pull-out Electrode (Ag)	Silver Paste
4-1	Terminal Electrode: Inside Ag	Termination Silver Composition
4-2	Electro-Plating: Ni/Sn plating	Plating Chemicals

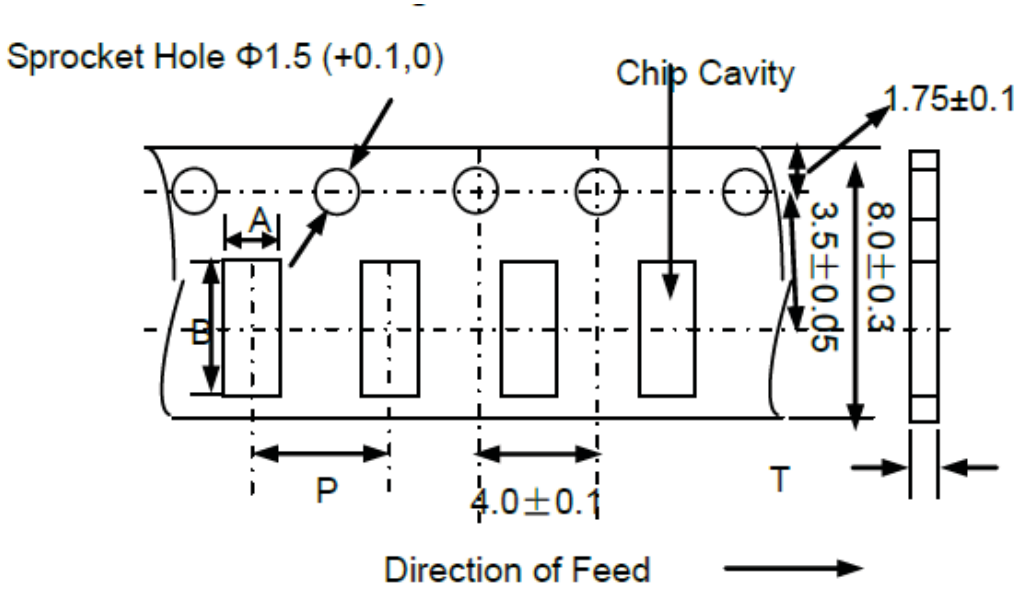
5.1 Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ T_{SMAX} 150°C ~ 200°C	60 ~ 180 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak heat	T_P 260°C±5°C	20 ~ 40 sec.

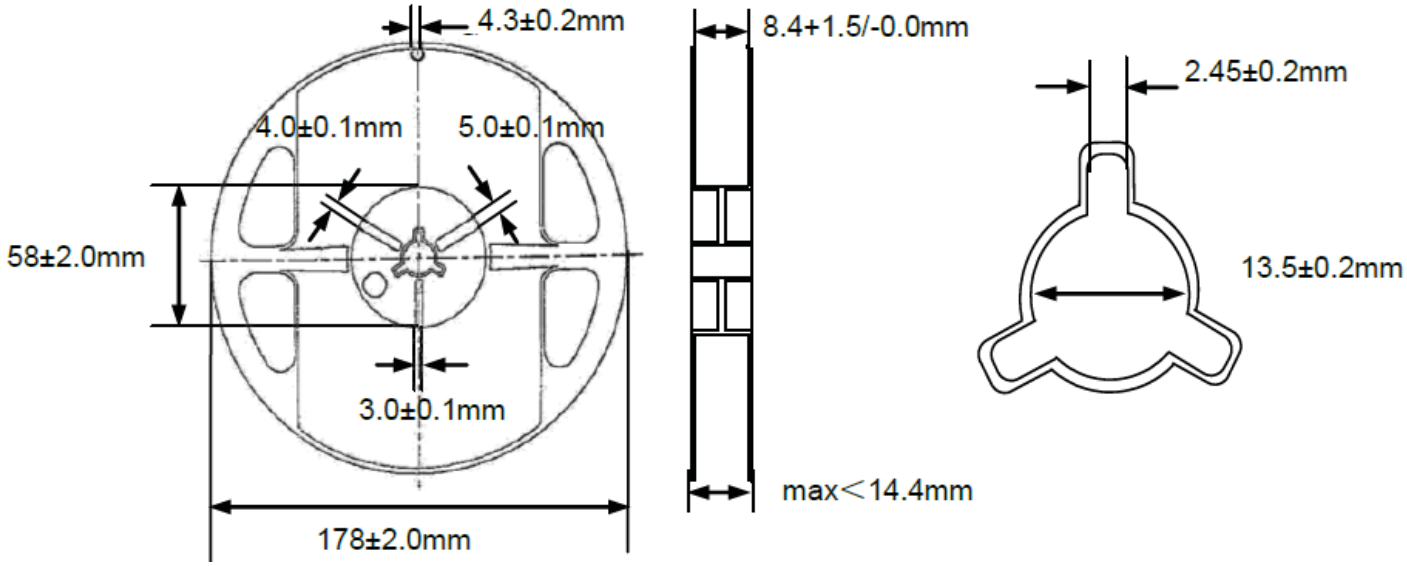
6.0 Packing

T: 10,000pcs / reel



Codes	A	B	P	T(max)
AIML-0402	0.65±0.10	1.15±0.10	2.0±0.05	0.80

Dimensions: mm



Cause/Reason for Change:
General specification update. Updated with latest graphics and elelctrical parameters. Discontinuing the 5% tolerance parts and adding the 20% tolerance option.

Discontinued:	**Added:**
AIML-0402-1R0JT	AIML-0402-1R0MT
AIML-0402-1R2JT	AIML-0402-1R2MT
AIML-0402-1R5JT	AIML-0402-1R5MT
AIML-0402-1R8JT	AIML-0402-1R8MT
AIML-0402-2R2JT	AIML-0402-2R2MT
AIML-0402-2R7JT	AIML-0402-2R7MT

Change Plan

Effective Date:	**Additional Remarks:**
5/13/2020	

Change Declaration:
Changes decribed in this ECN does not negatively affect products form, fit or function.

Issued Date:
5/13/2020

For Abracon EOL only

Last Time Buy (if applicable):	**Alternate Part Number / Part Series:**

Additional Approval:	**Additional Approval:**	**Additional Approval:**

Customer Approval (If Applicable)

Qualification Status:

☐ Approved ☐ Not accepted

Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.

Customer Part Number:	**Customer Project:**

Company Name:	**Company Representative:**	**Representative Signature:**

Customer Remarks: