CUSTOMER : _____

DATA SHEET

Product Name	**: COMMON MODE FILTER**
Part No	**: ACFL1A2G900E**
Revision Date	**: 2014/03/24**
Customer Code	**:**

HF LEAD-FREE	Address : AMOTECH. CO. LTD., 17-2 ,JAMWON-DONG, SEOCHO-GU, SEOUL,KOREA Contact : TEL) 82-2-544-1351, FAX) 82-2-517-7183

1. Parts description

1.1. Overview

ACF series is multi-layer chip Common Mode Filter for high speed differential transmission line.

This product shows excellent noise reduction without signal loss by high coupled Inductor pair.

1.2. Features

- Excellent noise reduction without signal loss
- Low profile (thickness = 0.5mm)
- Ceramic multilayer type SMD component
- RoHS compliance

1.3. Applications

- Common Mode Noise reduction at high-speed differential transmission lines

  ex) IEEE1394, MIPI, HDMI, MHL etc.

2. Model and Lot Number description

2.1. Model

ACF	L	1A	2	G	900	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name :

(2) Material code : "**L**" – General type

(3) Chip size : "**1A**" - 1.25 X 1.0 mm

(4) Number of Lines : "**2**" - 2 lines

(5) Characteristics : "**G**" - for Gbps

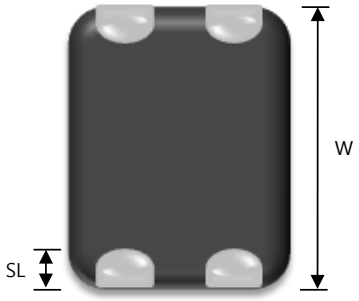
(6) Impedance : "**900**" - 90Ω

(7) Internal code

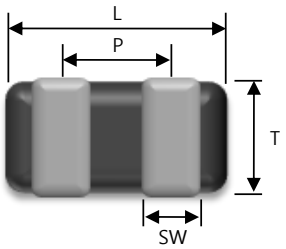
3. Style and Dimension

3.1. Appearance and dimension

- Top view

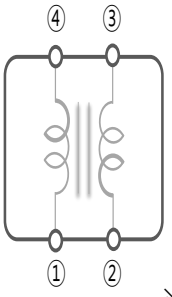


- Side view`



Item	Size (mm)
L	1.00 ± 0.15
W	1.25 ± 0.15
T	0.50 ± 0.10
SL	0.20 ± 0.15
SW	0.30 ± 0.10
P	0.55 ± 0.10

3.2. Equivalent circuit & Pin description



※ No Polarity & Directionality

No.	Pin Description
①/④	In/ Out line (Data)
②/③	In/ Out line (Data)

4. Structure and materials

Item	Material
Body1	Ni-Zn Ferrite
Body2	Glass + Alumina
Internal electrode	Ag
External electrode	Ag – Ni– Sn
Plate layer	Ni ≥ 1 ㎛, Sn ≥ 2 ㎛

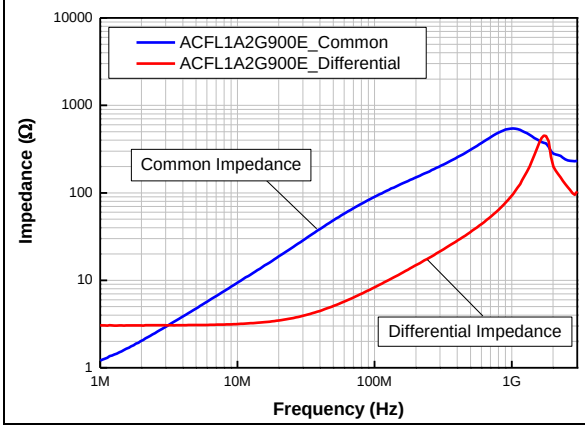
5. Specifications

5.1. Electrical characteristics

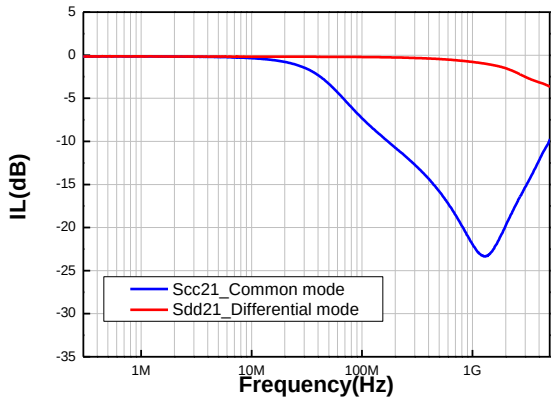
Parameter	Common Mode Impedance @ 100 MHz	DC Resistance	Rated Voltage	Rated Current	Insulation Resistance
Symbol	Z_{CM}	R_{DC}	V_{DC}	I_{DC}	IR
Units	Ω	Ω	V (DC)	mA (DC)	MΩ
Value	90 ± 25%	Max. 3.0	5	100	Min. 10

5.2. Frequency and ESD characteristics

Impedance vs. Frequency characteristics



Insertion Loss vs. Frequency characteristics



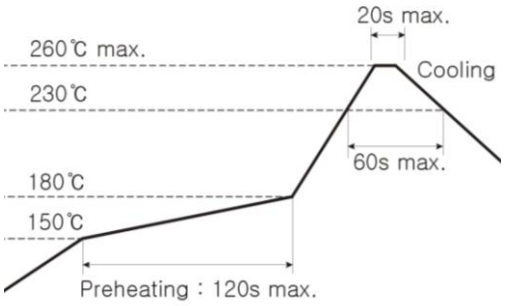
5.3. Temperature range

1) Operating Temperature range : -40 ~ +85℃

2) Storage Temperature range : -40 ~ +85℃

6. Soldering (Reflow soldering)

6.1. Soldering condition



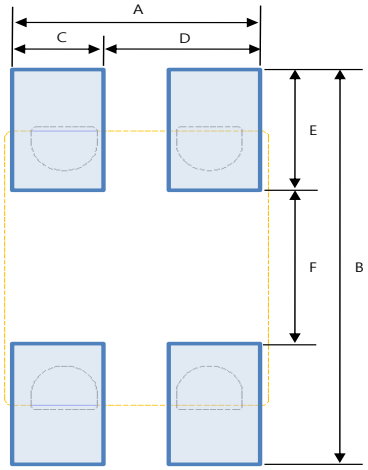
- Lead Free Solder paste
  : Sn / Ag / Cu : 96.5 / 3.0 / 0.5

Follow the recommended soldering conditions to avoid degradation of performance .

- This product is designed for reflow soldering only. Do not use flow soldering.
- Use non-activated flux. (Max. Cl content less than 0.2%)
- Reflow cycle times should be done less than 3 times.

6.2. PCB pattern design condition (recommended)

Unit :mm



Item	Size (mm)
A	0.95
B	1.8
C	0.35
D	0.6
E	0.55
F	0.7

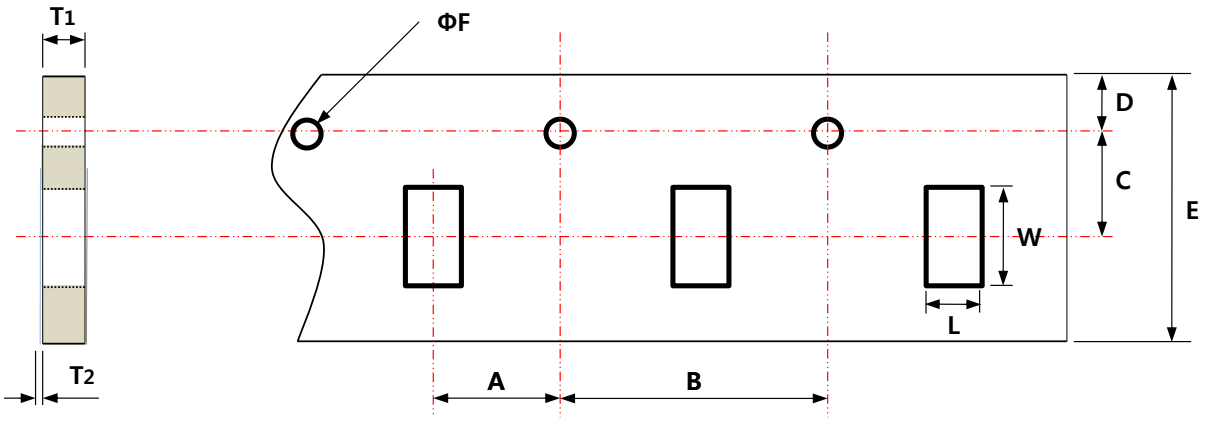
7. Caution

1) Storage environment : -5~40℃ temperature, 20~70% humidity (MSL Level 1)
2) Do not use in high temperature/high humidity and a corrosive atmosphere like sulfide, chloride gas which could damage the solderability.
3) Do not expose to mechanical shock to avoid crack.
4) Use chips within 6 months. If over 6 months, check solderability before use.

8. Packaging specification

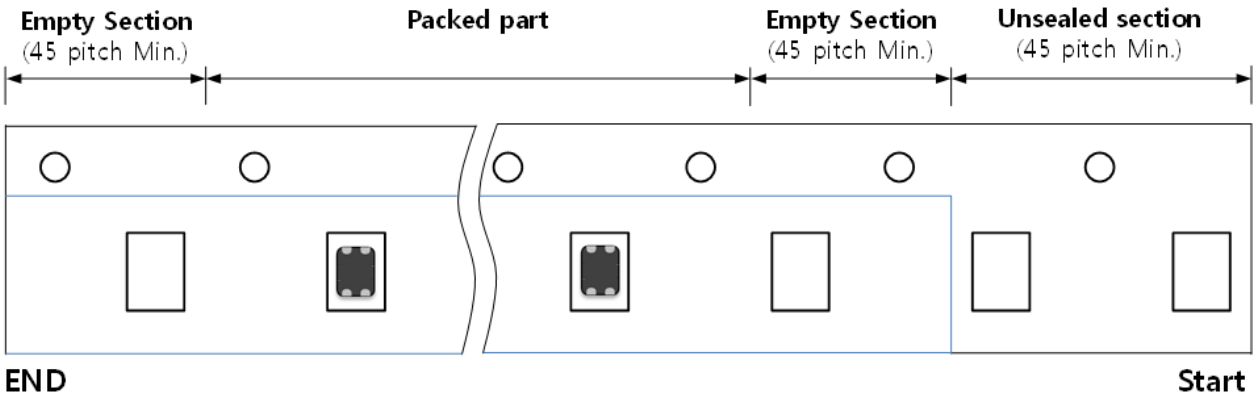
8.1 Carrier tape Specification

8.1.1. Size



	L	W	A	B	C	D	E	ΦF	T1	T2
Tolerance	±0.15	±0.15	±0.10	±0.10	±0.10	±0.10	±0.20	+0.10	±0.15	±0.15
Spec (mm)	1.20	1.45	2.0	4.0	3.50	1.75	8.0	1.5	0.6	0.7

8.1.2. Chip Locations



8.1.3. Material

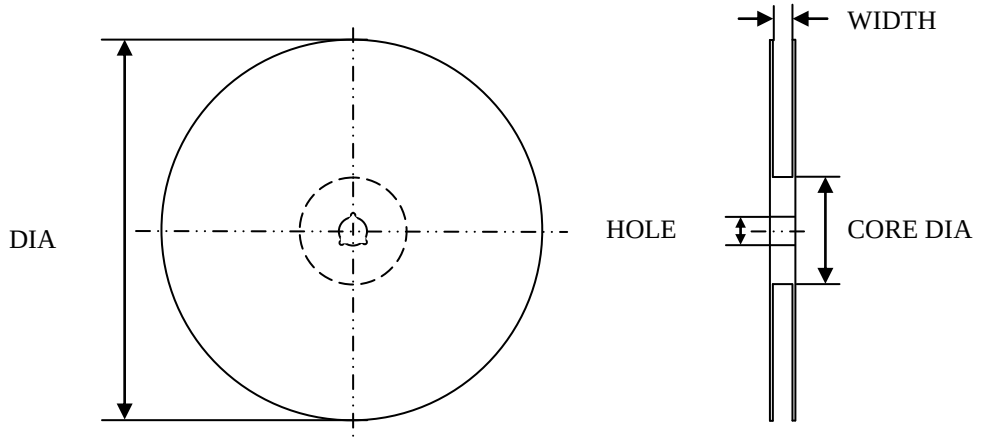
1) Pater carrier tape : Laminated virgin pulp

2) Top tape : Polyester film

3) Bottom tape : Adhesive coated paper

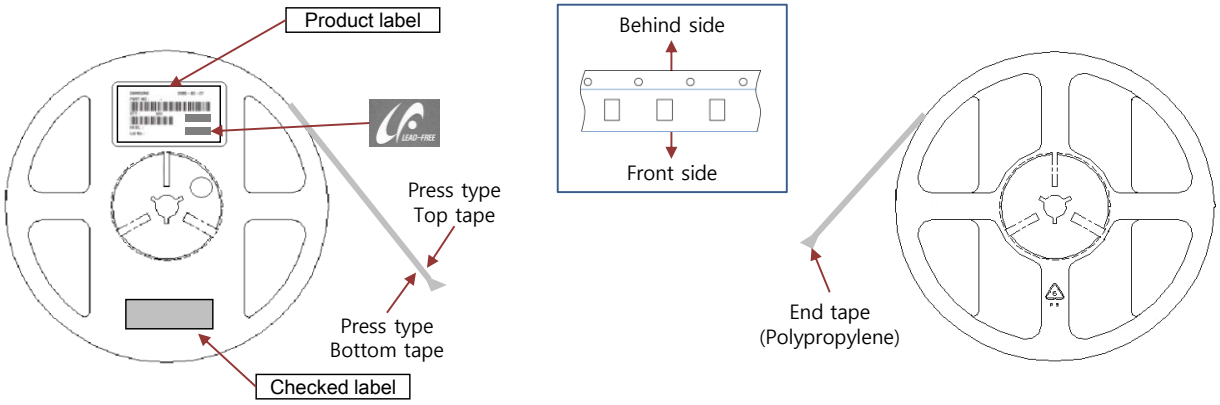
8.2. Reel Specification

8.2.1. Size



Item	DIA	WIDTH	CORE DIA	HOLE
Size (mm)	178.0±0.5	9.0±0.5	60.0±1.0	13.2±0.3

8.2.2. Label adherence and winding direction



< Front side >

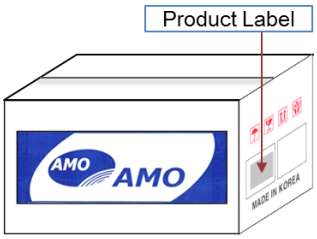
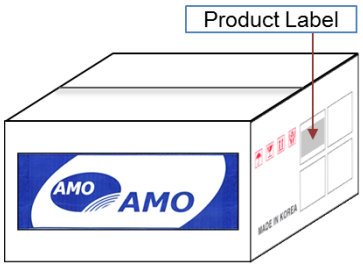
< Behind side >

8.2.3. Material

1) Carrier Tape : PET / PC / PS

2) Plastic reel : GPS(General Purpose Styrene)

8.3 Box packaging Specification

Box	Small	Medium	Large
Size (mm)	183 (W) x 185 (D) x 70 (T)	200 (W) x 375 (D) x 205 (T)	375 (W) x 390 (D) x 205 (T)
Quantity	5 reels = 4,000 ea/reel × 5 = 20,000 ea	5 small boxes (25 reels) = 4,000 ea/reel X 25 = 100,000 ea	10 small boxes (50 reels) = 4,000 ea/reel X 50 = 200,000 ea
Detail			

8.4. Label Specification

Size : Reel & Small boxes : 80 X 40 (mm)

Medium & Large boxes : 100 X 100 (mm)