

Aniotek Inc.

**HOST DEVICE TRANSFORMER
ATF100-H1**

DATA SHEET

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1 INTRODUCTION

The ATF100-H1 is a transformer that can be used in a Fieldbus Host or self-powered device to connect to the H1 Fieldbus and provide galvanic isolation. ATF100-H1, the digital controller UFC100-F1 and the transceiver ATC100-H1 together provide all of the Fieldbus specific components for Host equipment.

1.1 Overview

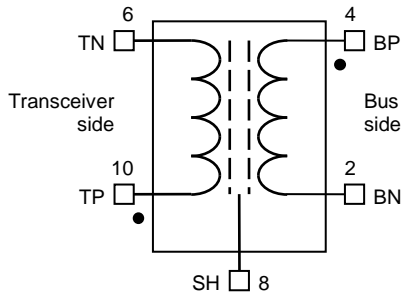


Figure 1: ATF100-H1 Functional Diagram

1.1.1 Features

- Compliant to IEC 61158-2 Physical layer at 31.25 kbit/s
- RoHS compatible low height surface mount package
- Shield to reduce noise coupling.

1.2 Applications

The ATC100-H1 can be used for

- H1 Host Interface,
- HSE Linking Device,
- H1 self powered field device.

1.3 Ordering Information

ATF100-H1 Transformer for Host device

1.4 PIN Description

Pin no.	Name	Description
1		This pin does not exist
2	BN	Signal to / from the bus, negative side
3		Not connected
4	BP	Signal to / from the bus, positive side
5		This pin does not exist
6	TN	Signal to / from the transceiver, negative side
7		Not connected
8	SH	Shield
9		Not connected
10	TP	Signal to / from the transceiver, positive side

Table 1: ATF100-H1 Pin out

2 ELECTRICAL AND TEMPERATURE SPECIFICATIONS

2.1 Absolute Maximum Ratings

Parameter	Measurement Condition	Min	Max	Units
Isolation voltage between two windings	50 Hz, 1 sec minimum, 5 mA max leakage	1500		V r.m.s.
Isolation from any winding, shield to the core	50 Hz, 1 sec minimum, 5 mA max leakage	750		V r.m.s.
Insulation resistance among windings and the core	500 V DC	100		M Ω
Storage Temperature		- 40	125	$^{\circ}$ C

2.2 Operating Conditions

Parameter and condition	Min	Typical	Max	Units	Note
Operating Temperature	- 40		70	$^{\circ}$ C	
Peak to peak voltage between BP and BN	0.75		2.0	V	1
Load impedance between BP and BN	0	50	open	Ω	2
1. The bus has to be connected through a capacitor to block the DC voltage. 2. The transformer can tolerate short circuit at the bus, if its TP and TN are driven to limit the maximum current.					

2.3 AC Electrical Characteristics

Parameter and condition	Min	Typical	Max	Units	Note
Data rate		31.25		kbits/s	
No load voltage ratio between two windings, at 1 V r.m.s. and 20 kHz	0.98	1.00	1.02	V r.m.s.	
DC resistance of both windings combined at 25 $^{\circ}$ C	29	32	35	Ω	
Current through bus side windings, peak to peak		20	50	mA	1
1. The transformer can tolerate the maximum current as specified.					

3 PACKAGE

It is RoHS compatible. The package dimensions are shown in the Figure 2. All values are in mm.

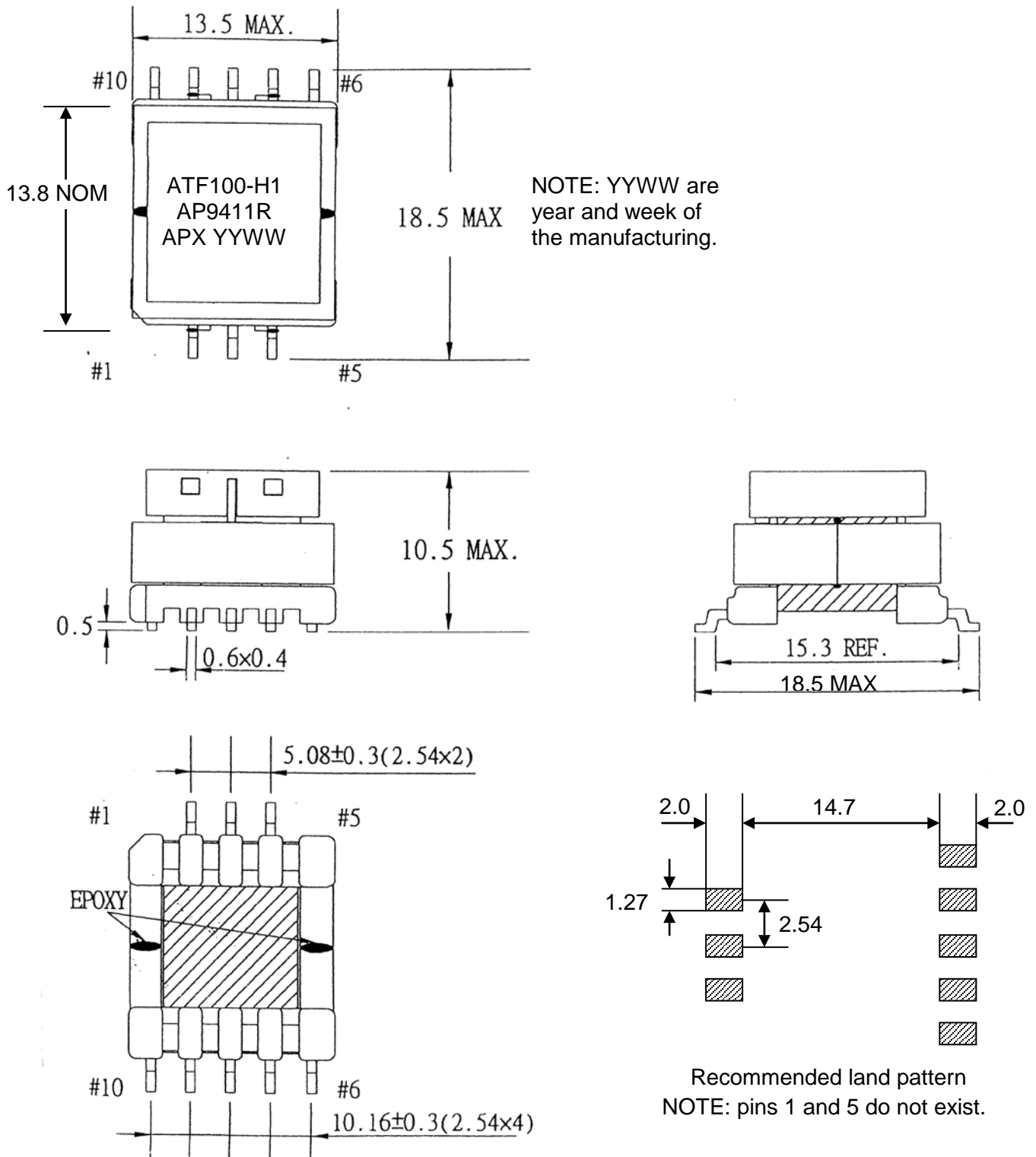


Figure 2: Package dimensions