

## **Product Specification File**

**PN: AMF270S01**

**Product Type : POTS Filter**

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(01/2007) Rev A

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**1 Preliminary:**

**This is a POTS splitter that has been specifically designed to implement the functionality of low pass filter in ADSL over POTS application.**

**2 Customer reference documents:**

**None**

**3 Standard reference documents:**

- ETS 300 001
- ITU-T K21
- ANSI T1E1.4 G.992.2
- ITU-T G.992.5 Annex E (ADSL2+)

**4 Features**

- Compact package, includes connectors for ease of installation
- Design for ADSL over POTS Application
- 100 mA DC Loop Current Capacity

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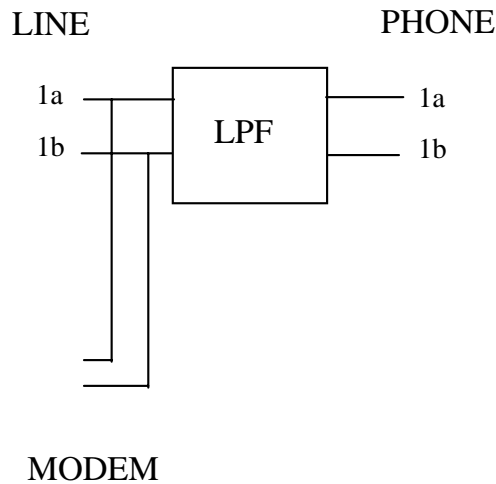
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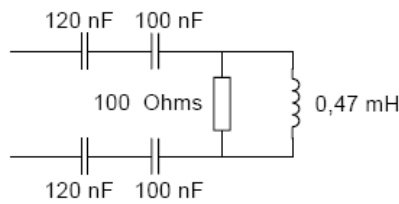
## 5 Design Requirement

### 5.1 Schematic



## 5.2 Electrical Performance

### 5.2.1 General conditions

General conditions		
	Conditions	Values
Splitter bandwidth		DC-4.0KHz
Voice band		0.3-3.4KHz
Ringing frequency		15.3 Hz to 68 Hz
ADSL band		30KHz ~ 12MHz
Line Impedance ZL	300 Hz to 3.4 kHz	$270 \Omega + (750 \Omega // 150nF)$
Modem impedance	30 kHz to 12MKHz	100 ohms
ZADSL	0Hz ~ 4KHz	
Max. operating voltage to ground		250VDC
DC Loop current		<100mA

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**5.2.2 Electrical Requirement**

<b>Electrical Requirement</b>		
<b>DC requirements</b>		
	<b>Conditions</b>	<b>Values</b>
TIP to RING	100VDC	> 25 MΩ
TIP to RING	POTS port shorted	<50Ω
<b>Pass band loss requirements</b>		
Insertion loss	1004Hz	<1.0 dB
Attenuation distortion (relative to 1004Hz)	200 Hz<f<4 kHz	<±1.1 dB
Return loss	300Hz~500Hz	>14dB
	500Hz~2KHz	>18 dB
	2KHz~3.4KHz	>14dB
Longitudinal conversion loss ( LCL )	200 Hz to 1 kHz	> 58 dB
	1 kHz to 3 kHz	> 53 dB
Delay distortion	200Hz to 4 kHz	< 100 s
<b>ADSL band characteristics</b>		
ADSL band attenuation	32KHz<f<60kHz	>15dB
	60KHz<f<12MHz	> 25 dB

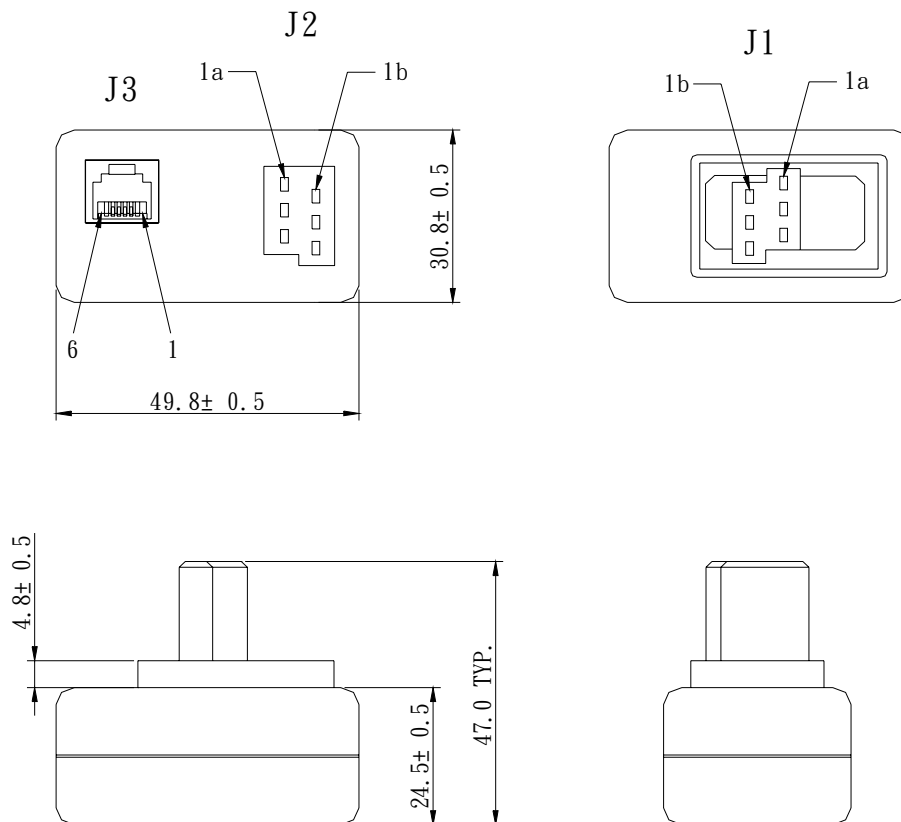
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### 5.3 Mechanical



### 5.4 Pin Assignments

Connector	Function	Style	Tip	Ring
J1	Line	Plug	Pin1a	Pin1b
J2	Phone	Socket	Pin1a	Pin1b
J3	Modem	RJ11	Pin3	Pin4

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**6 Environmental conditions:**

## 6.1 Resistibility to over voltages and over currents:

Comply with the resistibility requirements per ITU-T Recommendation K.20 electrical safety requirements

## 6.2 Climatic conditions:

## 6.2a. Operating temperature:

-20 °C to +60 °C

## 6.2b. Storage and transportation:

Low ambient temperature - 40 °C

High ambient temperature +80 °C

## 6.2c. Operation humidity:

0 to 95% (non-condensing)

**7 Reliability conditions:**

## 7.1 Thermal shock:

Temperature from -20 °C to +85 °C for 5 cycles

## 7.2. Temperature humidity exposure:

+50 °C / 95 RH, 96hrs

## 7.3. Vibration test:

Random vibration / Overall: 1.15 g rms

Freq. (Hz): 1 → 4 → 100 → 200

PSD (g<sub>2</sub>/ Hz): 0.0001 → 0.01 → 0.01 → 0.001

Test Axis / Time: Top / 30 mins Bottom / 10 mins

X axis / 10 mins Y axis / 10 mins

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