

### Applications

- CATV Transmission
- Optical Node Amplifier
- Line Extender
- Trunk Amplifier

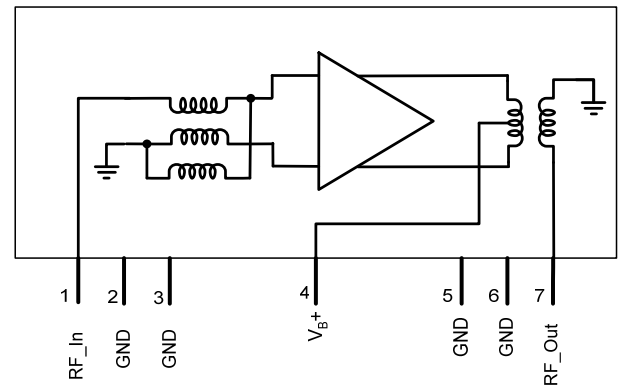


SOT115J Package

### Product Features

- 50-1000 MHz Broadband Performance
- 26 dB Gain at 1000 MHz
- Stable gain over temperature
- Excellent Linearity
- Differential Output Stage for superior CSO
- +24 V Supply Voltage
- 440 mA Operating Current
- Industry Standard SOT-115J Package

### Functional Block Diagram



### General Description

The TAT8884HO is a 75 Ohm hybrid amplifier with a broadband frequency range of 50 to 1000 MHz. The TAT8884HO features high linearity and low noise.

The input and output of the amplifier module are 75 ohms DC coupled to ground. This module operates from a single +24V supply.

The TAT8884HO is packaged in a RoHS-compliant, industry standard SOT115J Package.

The TAT8884HO is targeted for use in CATV transmission and distribution applications.

### Pin Configuration

| Pin No.            | Label           |
|--------------------|-----------------|
| 1                  | RF_In           |
| 2, 3, 5, 6, Flange | GND (Ground)    |
| 4                  | V <sub>B+</sub> |
| 7                  | RF_Out          |

### Ordering Information

| Part No.  | Description      |
|-----------|------------------|
| TAT8884HO | Hybrid Amplifier |

Standard box size = 25 pieces

### Absolute Maximum Ratings

| Parameter                              | Rating        |
|----------------------------------------|---------------|
| Storage Temperature                    | –40 to +105°C |
| RF Overload (single tone - 1 minute)   | 75 dBmV       |
| Supply Voltage ( $V_B$ ) 5 minutes max | 30 V          |

Operation of this device outside the parameter ranges given above may cause permanent damage.

### Recommended Operating Conditions

| Parameter                   | Min | Typ | Max  | Units |
|-----------------------------|-----|-----|------|-------|
| Supply Voltage ( $V_{B+}$ ) |     | +24 |      | V     |
| Supply Current              | 430 | 440 | 480  | mA    |
| Operating Temp. Range       | –30 |     | +100 | °C    |

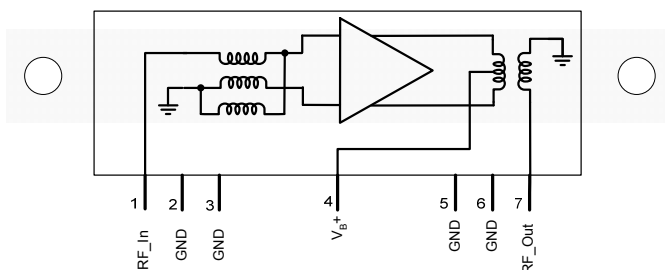
Electrical specifications are measured at specified test conditions. Specifications are not guaranteed over all recommended operating conditions. Temperature referenced at topside flange.

### Electrical Specifications

Test conditions unless otherwise noted:  $V_{B+} = +24$  V, Flange Temp. = +35°C,  $Z_0 = 75$  ohms

| Parameter                   | Conditions                                                                                        | Min | Typ  | Max  | Units |
|-----------------------------|---------------------------------------------------------------------------------------------------|-----|------|------|-------|
| Operational Frequency Range |                                                                                                   | 50  |      | 1000 | MHz   |
| Gain                        | $f = 1000$ MHz                                                                                    |     | 25.7 |      | dB    |
| Gain Tilt                   |                                                                                                   |     | 0.8  |      | dB    |
| Gain Flatness               | Straight Line Reference                                                                           |     | 0.5  |      | dB    |
| Input Return Loss           | 50 to 1000 MHz                                                                                    |     | 18   |      | dB    |
| Output Return Loss          |                                                                                                   |     | 20   |      | dB    |
| Noise Figure                |                                                                                                   |     | 5    |      | dB    |
| CSO                         | 79 Ch. NTSC + 80 Ch. QAM<br>-6 dB offset EQ<br>Vout = +55 dBmV at 1 GHz with<br>18 dB tilt        |     | -75  |      | dBc   |
| CTB                         |                                                                                                   |     | -78  | -74  | dBc   |
| XMOD                        |                                                                                                   |     | -70  | -62  | dBc   |
| CCN                         |                                                                                                   | 59  | 62   |      | dB    |
| CSO                         | 79 Ch. NTSC + 80 Ch. QAM<br>-6 dB offset EQ<br>Vout = +50 dBmV at 547.25 MHz<br>with 13.5 dB tilt |     | -75  |      | dBc   |
| CTB                         |                                                                                                   |     | -74  |      | dBc   |
| XMOD                        |                                                                                                   |     | -64  |      | dBc   |
| CCN                         |                                                                                                   |     | 62   |      | dB    |
| Supply Current              |                                                                                                   |     | 440  |      | mA    |

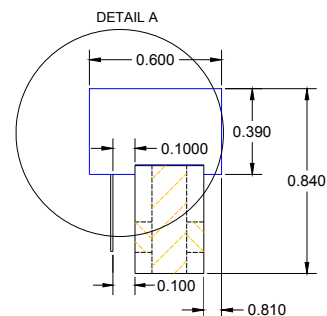
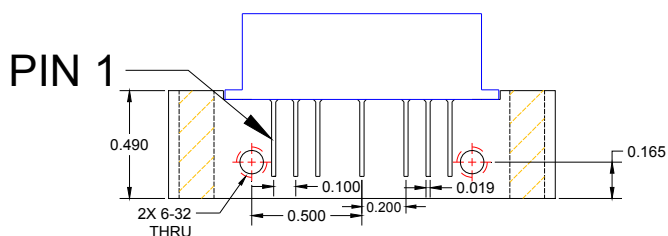
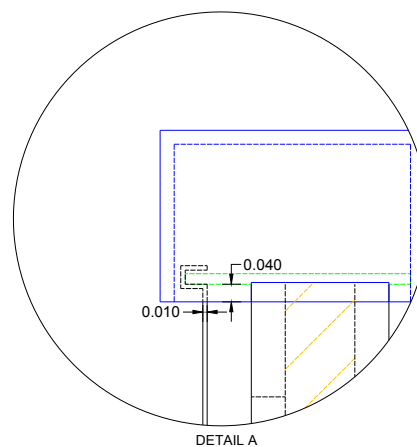
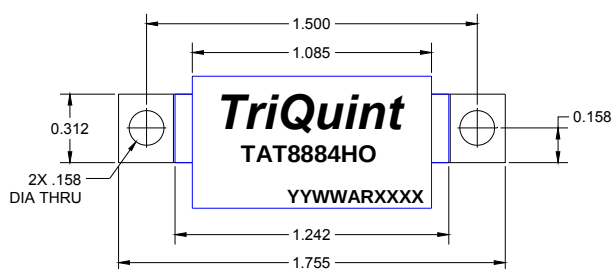
## Pin Configuration and Description



| Pin No.            | Symbol           | Description         |
|--------------------|------------------|---------------------|
| 1                  | RF_In            | RF input. 75 Ohm    |
| 2, 3, 5, 6, Flange | GND (Ground)     | RF/DC ground        |
| 4                  | V <sub>B</sub> + | DC Supply           |
| 7                  | RF_Out           | RF output. 75 Ohm . |

## Package Marking and Dimensions

Marking: Part number – TAT8884HO  
 Assembly code – YYWWARXXXX (“Date code”, AR, “Lot code”)



### Notes:

1. All dimensions are in mils. Angles are in degrees.
2. Flange material is aluminum with nickel plating

## Product Compliance Information

### ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Rating: Class 2  
Value: Passes  $\geq 2,000$  V to  $<4,000$  V  
Test: Human Body Model (HBM)  
Standard: JEDEC Standard JESD22-A114

ESD Rating: Class IV  
Value: Passes  $> 1,000$  V  
Test: Charged Device Model (CDM)  
Standard: JEDEC Standard JESD22-C101

### Solderability

Convection or Infrared Reflow IPC/JEDEC J-STD-020

Non-hermetic package, wave flow soldering is not recommended

### RoHS Compliance

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment).

This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free

## Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations, and information about TriQuint:

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