

TSA-224035

High Power GaN Amplifier

Technical Specifications

8 to 15 GHz, 5.5 Watt High Power GaN Amplifier

EXPORT RESTRICTIONS MAY APPLY



Description

The TSA-224035 amplifier provides nominal output power of 5.5 Watts. The amplifier uses control circuitry to ensure safe startup and automatic thermal shutdown and recovery. The amplifiers have an external pin for TTL on/off control. On/Off Low or High can be specified; standard is Off/Low.

Heat sinking is required to keep the case temperatures within a safe operating range. A thin layer of thermal grease or HiTherm (for example the HT-2500 series) helps provide a low resistance thermal path between the case and the mounting surface. The mounting surface should be metal with heat conduction of aluminum or better. Heat sink size depends on whether fan-driven air cooling is used, or if only convection is used.

HEAT SINK WARNING:

This amplifier requires an adequate heat sink to prevent damage. Maximum case temperature must not be exceeded. The package is designed to provide adequate heat transfer to proper aluminum heat sink.

Typical Values

- Broadband: 8-15 GHz
- High Saturated Power, Psat: 5.5W (37.5dBm)
- Small Hermetic Package
- Dimensions: 2.84"L x 1.00"W x 0.45"H

Logic Table

TTL	State
HIGH	ON
LOW	OFF

Specifications*

Parameter	Guarenteed -54 to +95°C
Frequency (Min.)	8-15 GHz
Small Signal Gain (Min.)	39 dB
SWR (Max.) Input/Output	2.0:1/2.0:1
Power Output (Min.) @ Pin = 7 dBm	+37.5 dBm (Dual Output)
Harmonics (Max.) @ Pin = 7 dBm	-10 dBc
DC Current (Max.) @ Pin = -5 dBm	4.5A (24V), 0.5A (8V), 0.5A (5V), 0.25A (-7.5V) typical

*Measured in a 50-ohm system at +24V

^ Faster switching speed option available upon request

Absolute Maximum Ratings

Parameter	Value
Storage Temperature	-62 to +125°C
Maximum Case Temperature, +29V	+95°C
Maximum DC Voltage	+29 Volts
Maximum RF Input Power	+20 dBm
Burn-in Temperature, +29V	+95°C
Thermal Resistance ¹ (0jc)	+3.92°C/Watt
Junction Temperature Rise Above Case (Tjc), +29V	+112°C

¹Thermal resistance is based on total power dissipation

SSG Performance

