



## Product Technical Reference Note

**HPA4 High Power Amplifier**  
450 MHz – 512 MHz



**ElectroCom Systems**  
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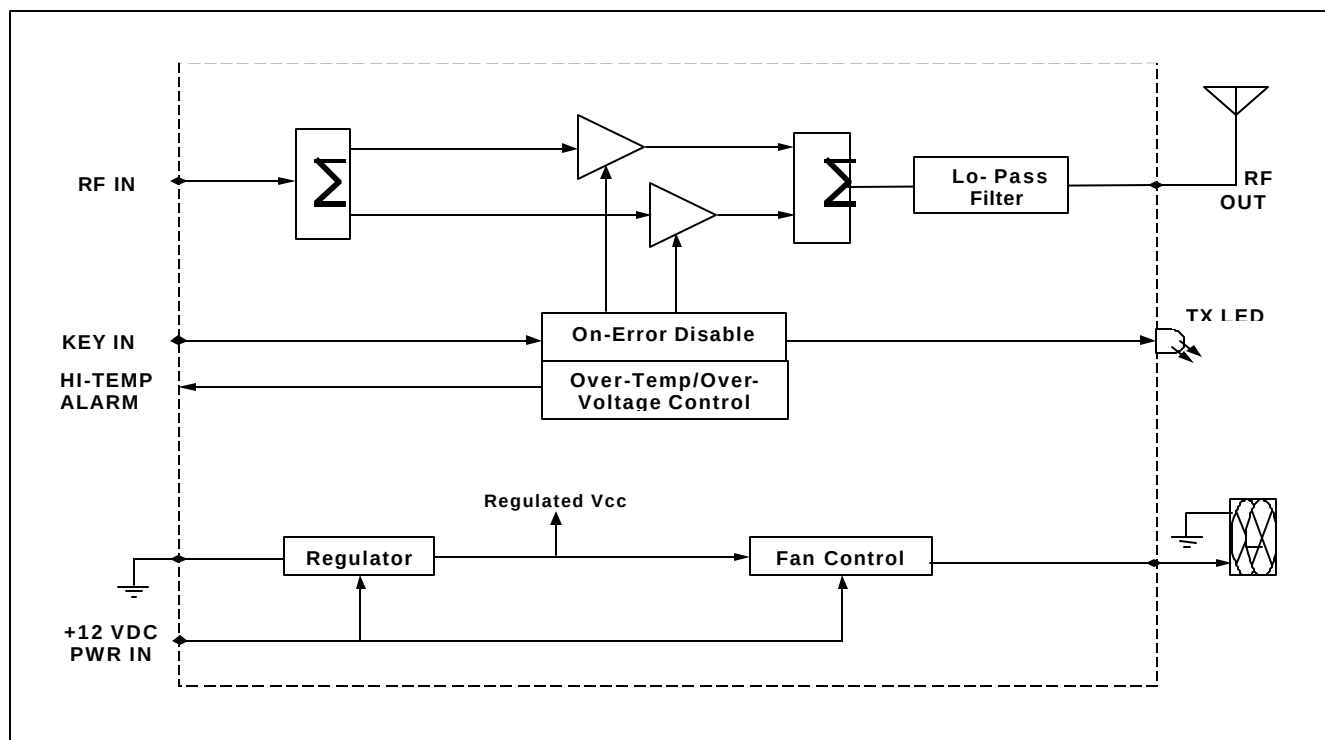
## Overview

The ElectroCom HPA4 High Power Amplifier is designed to complement the ElectroCom IP4 voice/data radio in the 400 MHz to 512 MHz range. Its solid aluminum case/heat sink body assures protection against physical damage, excess emissions and heat build-up. The unit has been designed to provide solid mounting, simplistic interconnect to radio, antenna and power, and to allow fully hands-off operation. The HPA4 is a single-channel amplifier for Frequency Modulated data communications.

The dual-amplifier design of the HPA4 extends the feature of a traditional Class A amplifier, providing graceful degradation of output power under fault conditions. Other features include self-correcting, over-temperature shutdown with alarm, and automatic three-stage thermal equilibration circuitry.

## Specifications

| Parameter                  | Specification                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------|
| Frequency Range            | 450 MHz to 512 MHz                                                                                          |
| Input Power Supply Voltage | +12 Volts DC, nominal (+15 VDC Maximum)                                                                     |
| DC Power Consumption       | 0 Amps standby,<br>25 Amps transmitting @ 100 Watt Output Power                                             |
| RF Input                   | Power: 20 Watts (nominal); 25 Watts (maximum)<br>Impedance: 50 Ohm<br>Type <sup>3</sup> N <sup>2</sup> jack |
| RF Output                  | Power: 100 Watts (450 – 512 MHz)<br>Impedance: 50 Ohm<br>Type <sup>3</sup> N <sup>2</sup> jack              |
| Gain                       | 7dB maximum                                                                                                 |
| Duty Cycle                 | 100%                                                                                                        |
| Temperature Range          | -30C to + 60C (-22F to +140F) (Operating)                                                                   |
| Physical Size              | 7.28"W x 9.50"L x 6.875" H                                                                                  |
| Weight                     | 10.5 Lbs.                                                                                                   |
| Emission Designator        | 20K0FID                                                                                                     |



**Figure 1**  
**HPA4 High Power Amplifier**  
 Logical Block Diagram