



DEM L70RLNA - 440-450 MHz. Low Noise Amplifier

Specifications:

Gain:	15dB nominal
Noise Figure:	<0.7dB
P1dB:	+19dBm output
Input VSWR:	>6dB @ design frequency
Output VSWR:	>10dB DC - 3 GHz.
Voltage:	+7 - +22 VDC
Current Drain	100mA nominal



Description:

Our L70RLNA low noise amplifier is custom tuned and optimized for gain and noise parameters for its specific frequency range of operation in the UHF repeater region. This design utilizes a PHEMT technology to produce a LNA that is selective, robust to ESD, and immune to out of band interference.

The basic design employs a tuned high-pass input circuit with a DC shunt to bleed off static or other external discharges. The output circuit features a diplexer that is “frequency dependant”. The diplexer allows any type of output filtering to be utilized without causing reflections back into the FET degrading its IMD performance or causing instabilities.

The FET, a FPD-750SOT89 is biased for high P1dB output which is uncharacteristic of low noise amplifiers but with proper matching and gain management, its low noise performance is maintained at UHF frequency of operation.

The L70RLNA design does not offer any RF bypass switching for transceiver operation and therefore may only be utilized in receive only applications. It is offered with various types of RF connectors and connector combinations. This LNA is ready to be “dropped in” to any pre-existing receive only system or to be a component in a newly developed system in the UHF region.

Schematic Diagram of Standard UHF LNA Design:

