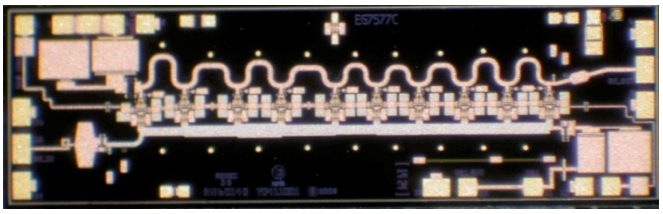
Product Specification Summary

Distributed MMIC Amplifiers for Lightwave, EW, and Instrumentation Applications From DC to 60 GHz

Narda has developed proprietary GaAs pHEMT MMIC amplifiers designed to meet the needs of lightwave communication systems with 40 and 100 Gb/s data rates, electronic warfare, instrumentation, and other systems that require extremely broad bandwidths. This device operates between DC and 60 GHz and is capable of handling data rates in excess of 44.6 Gb/s.

It has small signal gain of 12 dB, typical input and output return loss of 17 dB, gain flatness of +/-1 dB at 50 GHz and group delay ripple of +/-5 ps to 35 GHz. P1dB output of +23 dBm results in an output voltage of 8 Vpp at data rates above 44.6 Gb/s. It features zero-crossing control of 40% to 70%, variable output voltage from 3 to 8 Vpp, and DC coupled input and output ports allow flexibility in optimizing low-frequency system bandwidth.



Frequency range (GHz)	DC to 60
Small-signal gain (dB)	Up to 13
Gain flatness (dB)	+/-1
Input/output return loss (dB)	17 typical
Group delay ripple (ps)	+/-10
Noise figure (dB)	Less than 8
P1dB RF output (dBm)	23
Data rate (Gb/s)	At least 43
Output voltage Vpp)	Up to 8
Rise and fall times (ps)	6
Additive RMS jitter (fs)	350

Single MMIC Characteristics

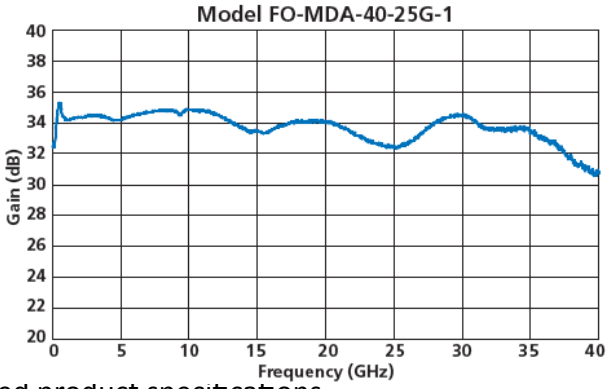
Narda MMIC Series

Key features/applications

- Superior performance as modulator driver in 40 and 100 Gb/s lightwave systems
- Bandwidth of DC to 60 GHz
- DC coupled input and output ports for low-frequency system optimization
- RMS jitter of less than 450 fs
- Small-signal gain of 23 dB
- Typical return loss of 17 dB
- Gain flatness of +/-1 dB to 50 GHz
- Group delay ripple of +/-5 ps to 35 GHz
- Variable output voltage from 3 to 8 Vpp
- 40% to 70% zero-crossing control
- Chip measures 3.76 x 1.19 x 0.05 mm

3- Stage Amplifier

Frequency range (GHz)	DC to 40
Small-signal gain (dB)	30
Gain flatness (dB)	+/-1
Input/output return loss (dB)	10 typical
P1dB RF output (dBm)	23
Data rate (Gb/s)	44.5 Max
Output voltage Vpp)	8
Rise and fall times (ps)	10
Additive RMS jitter (fs)	356



Please consult the factory for detailed product specifications.

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