Abstracts

50 GHz high output voltage distributed amplifiers for 40 Gb/s EO modulator driver application

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Both single-ended and differential distributed amplifiers were developed using 0.15 /spl mu/m GaAs power PHEMT for 40 Gb/s EO modulator driver circuits. The single-ended approach has achieved 12 dB gain up to 50 GHz, greater than 5 dB gain control range and output voltage >6.5 Vp-p measured at 10 Gb/s. Power transfer data shows Psat of 20 dBm at 40 GHz, which translates to 6.3 Vp-p swing at 40 GHz. The differential approach has achieved 8 dB gain up to 45 GHz and differential output voltage of 9 Vp-p measured at 10 Gb/s. These amplifiers are suitable for use In fiber-optic communication systems.

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