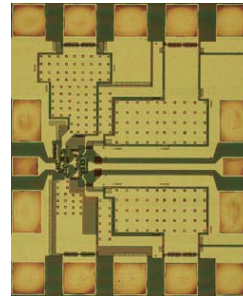
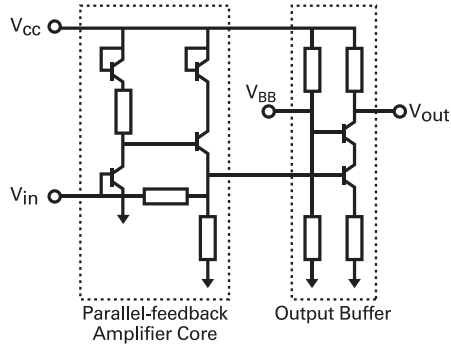
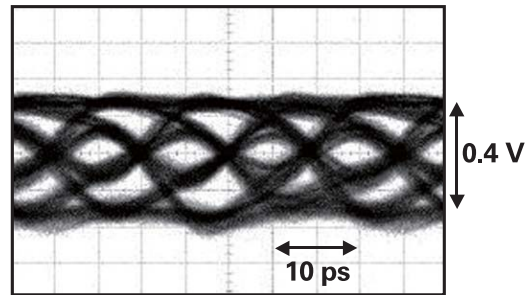
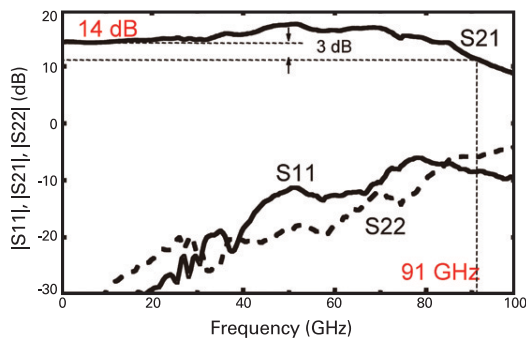


# InP-based high-speed analog and digital ICs for over 100-Gbit/s optical communication systems

## 100-Gbit/s InP D-HBT TIA H. Fukuyama et al., IPRM2004, FA-1-2.



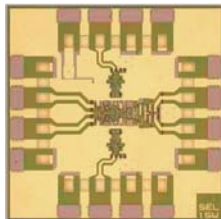
Chip size : 0.7 mm × 0.86 mm  
 $V_{CC}$  : 3.5 V  
 Power consumption : 90 mW  
 $f_T$  : 256 GHz,  $f_{max}$  : 363 GHz



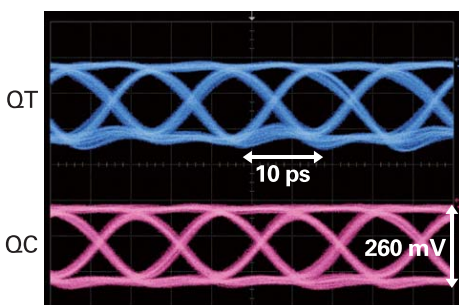
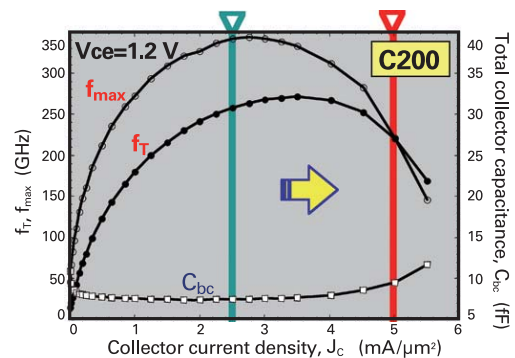
100-Gbit/s Output Waveform

## 100-Gbit/s InP D-HBT MUX IC K. Sano et al., SSDM2004, pp. 312–313.

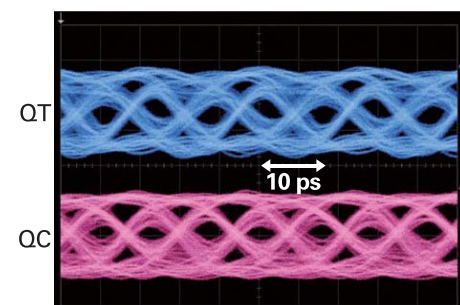
- Conventional ECL circuit
- High current density ( $5\text{mA}/\mu\text{m}^2$ )



Size: 1.5 mm × 1.5 mm



100-Gbit/s Operation



145-Gbit/s Operation