



Status of Opto-Board Production

B. Cote, K.K. Gan, H. Kagan, Z. Pollock, S. Smith, H. Lawson, B. Tar, A. Woyshville
The Ohio State University

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Pre-Teething Problems

- wire bond traces on opto-board PCB over etched
 - 1st batch of all 150 batches returned
 - 2nd batch has 50% returned
 - laborious inspection under microscope
- wire bond traces on opto-pack bases over etched
 - excellent bases delivered in January!!



Teething Problems

- wire bond pads on VCSEL array are small: 70 μm
 - “heat wave” from heated capillary/opto-pack holder reduce targeting accuracy
 - problem fixed with a small fan to blow away the “heat wave”
- QA system reports large leakage current on PIN array
 - problem fixed with manual current measurement
- QA system reports opto-board current consumption slightly below specification
 - problem fixed with manual current measurement
 - will update QA software after collecting sufficient statistics



Opto-Board QA System

- one QA system from 2013/14 in operation
 - few worn-out custom opto receivers will be replaced this week
- need to resuscitate the second QA system
- burn-in/thermal cycle system in operation



Opto-Pack Burn-in

- opto-pack burn-in concept verified with old probe card
- order for new probe card was initiated in December 2019
 - discovered last week that vendor never received the order
- vendor agreed to expediate the order
 - burn-in for one opto-pack ready
 - one probe card will be shipped this week
 - few more probe cards will be shipped next week



Status of Production

- 3 opto-boards successfully passed QA
- 10 opto-boards will be in burn-in this week
- need to ramp up to 15 opto-boards/week



Humidity Induced Damage?

- humidity induced damage is only plausible explanation but inconsistent with expectation from 85C/85% humidity test
- 56 failed non-IBL VCSEL channels
 - ⇒ probability of observing no IBL failure: 6×10^{-5}