

**= Preliminary =****AK2557****4ch Cathode Common LDD with Digital APC****1. General Description**

The AK2557 is a 4-channel cathode common LDD (Laser Diode Driver) suitable for MFPs (Multi Function Printer) and LBPs (Laser Beam Printer). The AK2557 equips a 200MHz [Max.] LDD that switches the LD current, current-DACs that set the operation current of LD and a feed-back digital APC (Auto Power Control) circuit that maintains the optical LD power constant. The AK2557 can improve the printing quality and reduces external parts and the cost with useful functions such as the internal APC adjustment, BIAS\_APC (Auto "Ibias" Setting), LD Power Attenuation and Shading Correction with digital interface achieving with the internal arithmetic circuits. Multiple AK2557s can be connected to the multi-beams LD ( $\geq 8$  beams).

**2. Features**

- 4ch Cathode Common LDD Switching LD Current at 200MHz [Max]
- 9-bit Current-DAC for "Ibias": Maximum Output Current = 45mA [Typ.]
- 9-bit Current-DAC for "Isw" with AGC (Auto Gain Control): Maximum Output Current = 90mA [Typ.]
- Feed-Back Digital APC (APC\_FB) and Internal APC Adjustment Circuit with Digital Interface
- Monitor PD Current Input for 4 Beams LD and Multi-Beams LD (by Cascade Connection)
- "BIAS\_APC" (Auto "Ibias" Setting)
- LD Power Attenuation and Shading Correction
- Excessive Over-Current Alarm
- Start-Up Operation (Loading External EEPROM Data and Executing Initial APC)
- Power Supply: 5V $\pm$ 5% Single Power
- Package: 48-pin QFN with Exposed Pad

3. Block Diagram

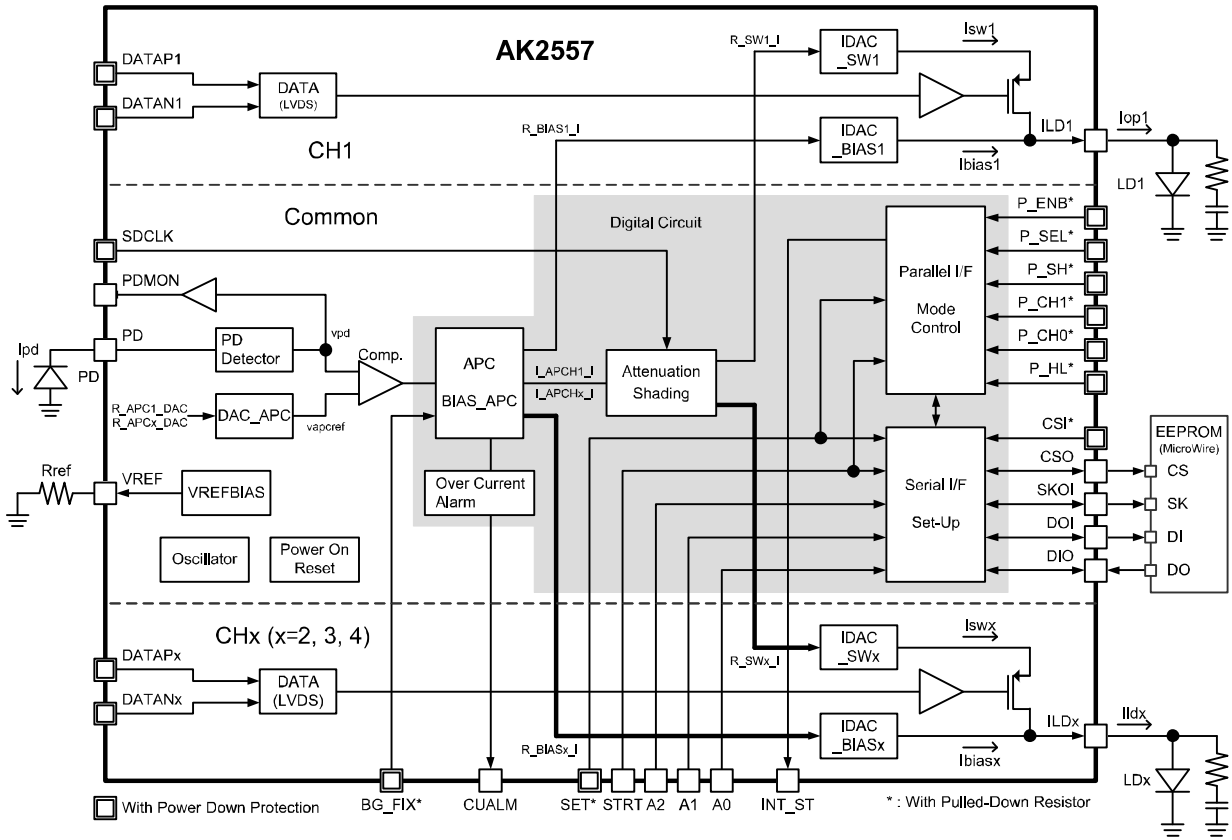
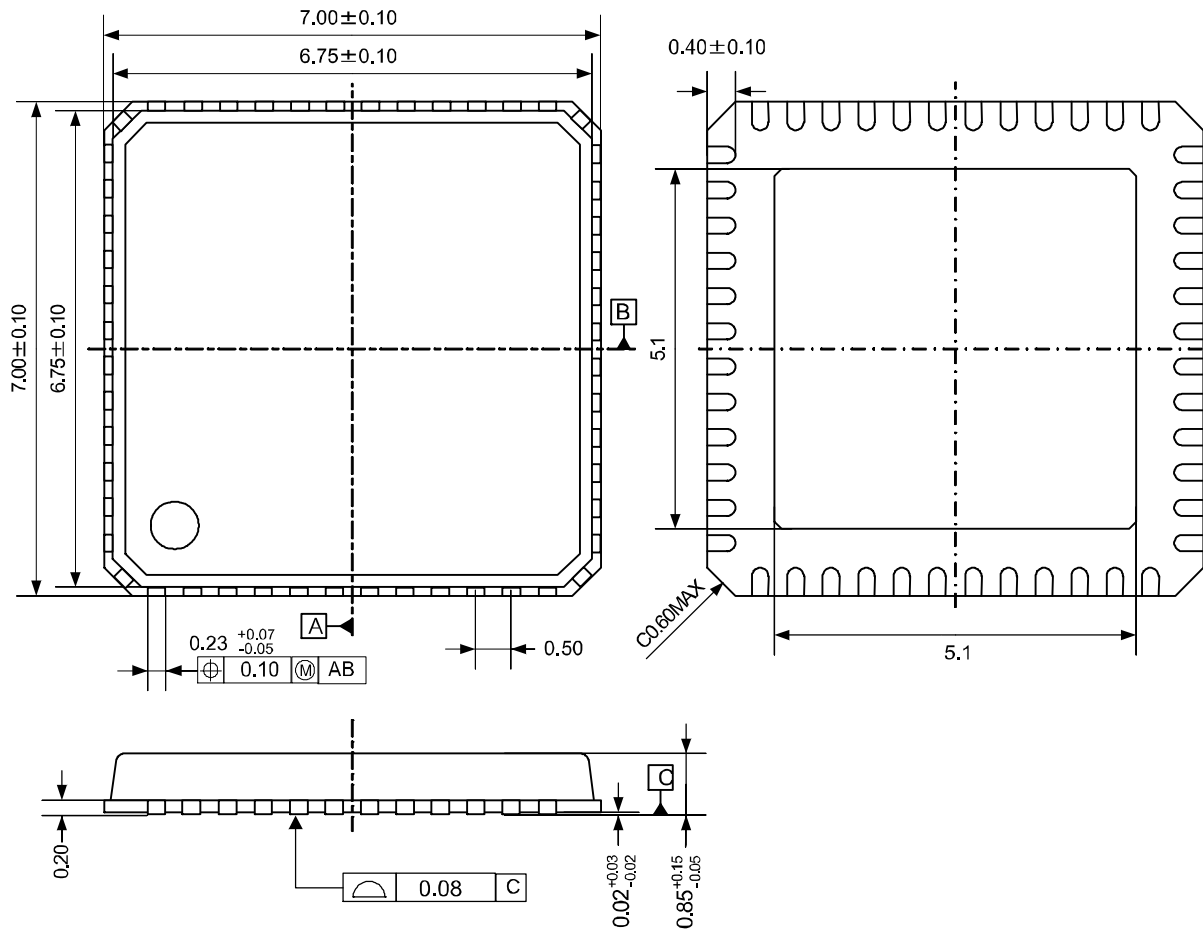


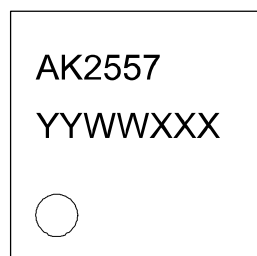
Figure 3.1. AK2557 Block Diagram

**4. Package**

**4.1. Outline Dimensions**



**4.2. Marking**



- a. Pin #1 Index: Circle
- b. Marking: AK2557
- c. Date Code: YYWWXXX (7 Digits)
  - YY: Year
  - WW: Week (1 ~ 52)
  - XXX: Manufacturing Identification

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