

xDSL Differential Line Driver

The EL1517B is a dual operational amplifier designed for VDSL and ADSL line driving in DMT based solutions. EL1517B includes internal protection for high ruggedness against lightning related transients. This device features a high drive capability of 250mA while consuming only 7mA of supply current per amplifier and operating from a single 5V to 12V supply. This driver achieves a typical distortion of 80dBc, at 150kHz into a 25Ω load. The EL1517B is available in a 10 Ld HMSOP package and is specified for operation over the full -40°C to +85°C temperature range. The device has control pins C₀ and C₁ for controlling the bias and enable/disable of the outputs. These controls allow for lowering the power to fit the performance/power ratio for the application.

The EL1517B is ideal for ADSL, SDSL, HDSL2 and VDSL line driving applications. All performance graphs in this datasheet were generated for EL1517BIS and EL1517BIL. There is no significant electrical difference between EL1517BIYE and the performance curves for EL1517BIL.

The **EL1517B** can only be used for single supply operation. Use EL1517BIL or EL1517BIS for dual supply applications.

Ordering Information

| PART NUMBER (Note) | PART MARKING | TAPE & REEL | PACKAGE (Pb-Free) | PKG. DWG. # |
|-----------------------|-----------------|-------------------|----------------------|----------------|
| EL1517BIYEZ | BBBCA | - | 10 Ld HMSOP | MDP0050 |
| EL1517BIYEZ-T7 | BBBCA | 7" | 10 Ld HMSOP | MDP0050 |
| EL1517BIYEZ-T13 | BBBCA | 13" | 10 Ld HMSOP | MDP0050 |
| EL1517BILZ | 1517BIL | - | 16 Ld QFN | MDP0046 |
| EL1517BILZ-T13 | 1517BIL | 13" | 16 Ld QFN | MDP0046 |
| EL1517BILZ-T7 | 1517BIL | 7" | 16 Ld QFN | MDP0046 |
| EL1517BISZ | 1517BIS | - | 8 Ld SOIC | MDP0027 |
| EL1517BISZ-T13 | 1517BIS | 13" | 8 Ld SOIC | MDP0027 |
| EL1517BISZ-T7 | 1517BIS | 7" | 8 Ld SOIC | MDP0027 |

NOTE: Intersil Pb-free plus anneal products employ special Pb-free material sets; molding compounds/die attach materials and 100% matte tin plate termination finish, which are RoHS compliant and compatible with both SnPb and Pb-free soldering operations. Intersil Pb-free products are MSL classified at Pb-free peak reflow temperatures that meet or exceed the Pb-free requirements of IPC/JEDEC J STD-020.

Features

- Internal protection for high ruggedness against lightning related transients
- Drives up to 250mA from a +12V supply
- 18V_{P-P} differential output drive into 50Ω
- 20V_{P-P} differential output drive into 100Ω
- -80dBc typical driver output distortion at full output at 150kHz
- -75dBc typical driver output distortion at 3.75MHz
- -60dBc typical driver output distortion at 8MHz
- -50dBc typical driver output distortion at 16MHz
- Low quiescent current of 7mA per amplifier
- 200MHz bandwidth
- Use for single supply applications
- Pb-free plus anneal available (RoHS Compliant)

Applications

- VDSL line drivers
- ADSL full rate CPE line driving
- G.SHDSL, HDSL2 line drivers
- HomePlug networking drivers

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