

# ADSL Magnetics

For AMD AMDSL134



TM00301

- Isolation transformers are designed to meet IEC 950 and UL 1950 safety requirements for supplementary insulation at 250V
- Operating temperature range: -40° C to +85° C
- Meets IEC 695, 2-2 flammability requirements
- PWB Process Capability: standard printed wiring board assembly techniques, total-immersion cleaning
- Reliability testing: shock, vibration, temperature cycling, temperature - humidity - bias

## ELECTRICAL SPECIFICATIONS AT 25° C

| Part Number  | Application      | Package | Turns Ratio<br>±2% | Inductance <sup>1</sup><br>µH | Leakage<br>Inductance<br>µH max | DCR<br>Ω<br>max |              | Direct<br>Capacitance<br>pF | Dielectric<br>Rating<br>Vrms typ |
|--------------|------------------|---------|--------------------|-------------------------------|---------------------------------|-----------------|--------------|-----------------------------|----------------------------------|
|              |                  |         | Line : Chip        | Line<br>Side                  | Line Side                       | Line<br>Side    | Chip<br>Side | between<br>Line & Chip      | between<br>Line & Chip           |
| 0560-6600-C7 | CO               | THT     | 2 : 1              | 410                           | 3.5                             | 0.64            | 0.4          | 65 max                      | 1500                             |
| S560-6600-G1 | CO               | SMD     | 2 : 1              | 410                           | 3.5                             | 0.64            | 0.4          | 65 max                      | 1500                             |
| 0560-6600-J4 | CO <sup>2</sup>  | THT     | 2 : 1              | 150                           | 3.5                             | 1.2             | 0.6          | 65 max                      | 1500                             |
| 0560-6600-M3 | CPE              | THT     | 1 : 1              | 410                           | 8                               | 1.4             | 1.4          | 75 max                      | 1500                             |
| 0560-6600-H6 | CPE <sup>2</sup> | THT     | 1 : 1              | 150                           | 8                               | 1.25            | 1.35         | 70 max                      | 1500                             |

- measured at 10 kHz, 1 Vrms
- ADSL over ISDN application

## INTEGRATED RECEIVE AND TRANSMIT TRANSFORMER PACKAGE

| Part Number  | Application | Package | Turns Ratio <sup>1</sup><br>± 2% |                |                |               | Inductance <sup>2</sup> |        | DCR<br>Ω<br>max |       |       |        |       | Dielectric<br>Rating  |
|--------------|-------------|---------|----------------------------------|----------------|----------------|---------------|-------------------------|--------|-----------------|-------|-------|--------|-------|---|
|              |             |         | (5-8) : (6-7)                    | (9-10) : (8-4) | (A-1) : (9-10) | (A-2) : (6-7) | (7-6)                   | (9-10) | (1-2)           | (8-4) | (8-5) | (9-10) | (6-7) | between<br>(1-2) & (6-7)<br>(1-2) & (4-5)<br>(1-2) & (9-10) |
| S560-6600-D6 | CPE         | SMD     | 2.25                             | 0.444          | 2.25           | 0.562         | 620 µH                  | 4 mH   | 2               | 0.7   | 0.4   | 1.3    | 0.7   | 1000 Vrms   |

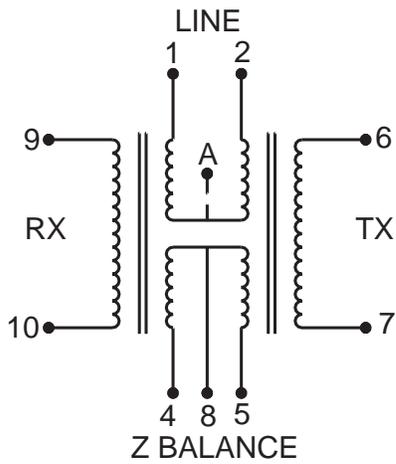
- 10 kHz, 1 Vrms
- 10 kHz, 0.1 Vrms

| Part Number  | Application | Package | Turns Ratio <sup>1</sup><br>± 2% |                |               |               | Inductance <sup>2</sup> |                  | DCR<br>Ω<br>max |                  |                  |        |   | Dielectric<br>Rating |
|--------------|-------------|---------|----------------------------------|----------------|---------------|---------------|-------------------------|------------------|-----------------|------------------|------------------|--------|---|----------------------|
|              |             |         | (1-3) : (6-7)                    | (5-3) : (10-9) | (1-3) : (2-8) | (5-3) : (4-8) | (3-5) =<br>(2-8)        | (3-1) =<br>(8-4) | (6-7)           | (1-3) =<br>(8-4) | (3-5) =<br>(2-8) | (10-9) | between<br>(1-5) & (6-7)<br>(1-5) & (2-4)<br>(1-5) & (10-9) |                      |
| S560-6600-A6 | CO          | SMD     | 4.5                              | 1.125          | 2.00          | 2.00          | 580                     | -                | 1.55            | 0.45             | 0.60             | 1.10   | 1500 Vrms   |                      |

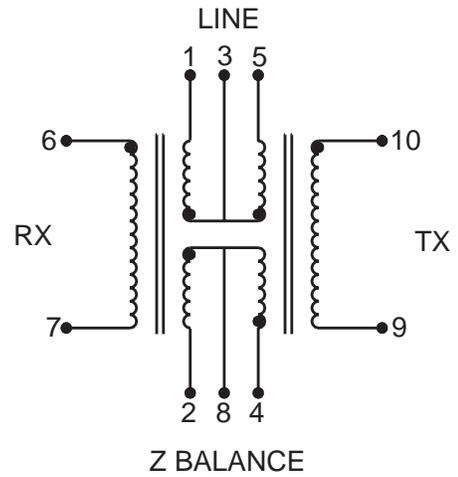
- 10 kHz, 1 Vrms
- 10 kHz, 0.1 Vrms

### SCHEMATIC

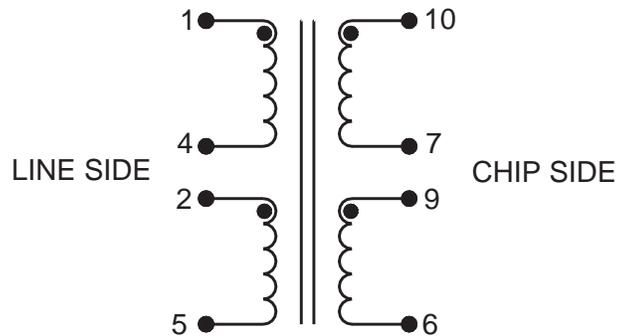
S560-6600-D6



S560-6600-A6



0560-6600-J4  
0560-6600-H6  
0560-6600-M3  
0560-6600-C7  
S560-6600-G1



# ADSL Magnetics

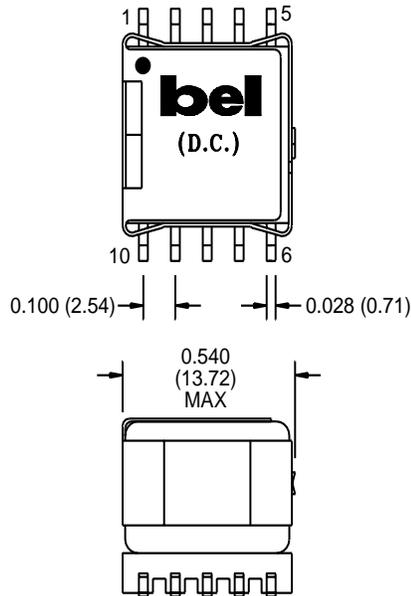
For AMD AMDSL134



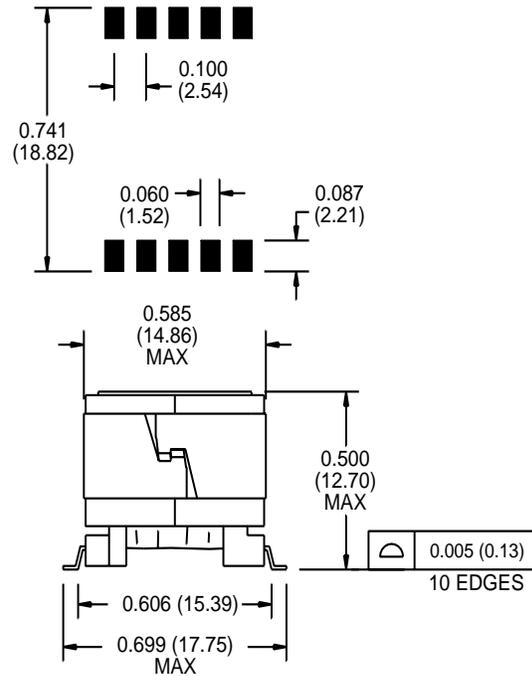
TM00301

## MECHANICAL

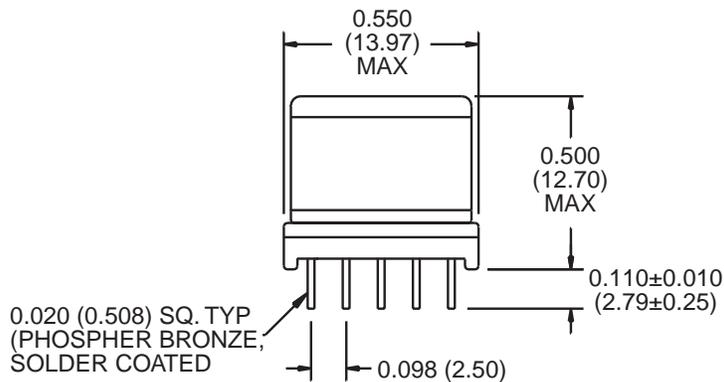
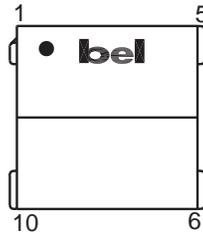
S560-6600-G1



### SUGGESTED PCB PAD LAYOUT

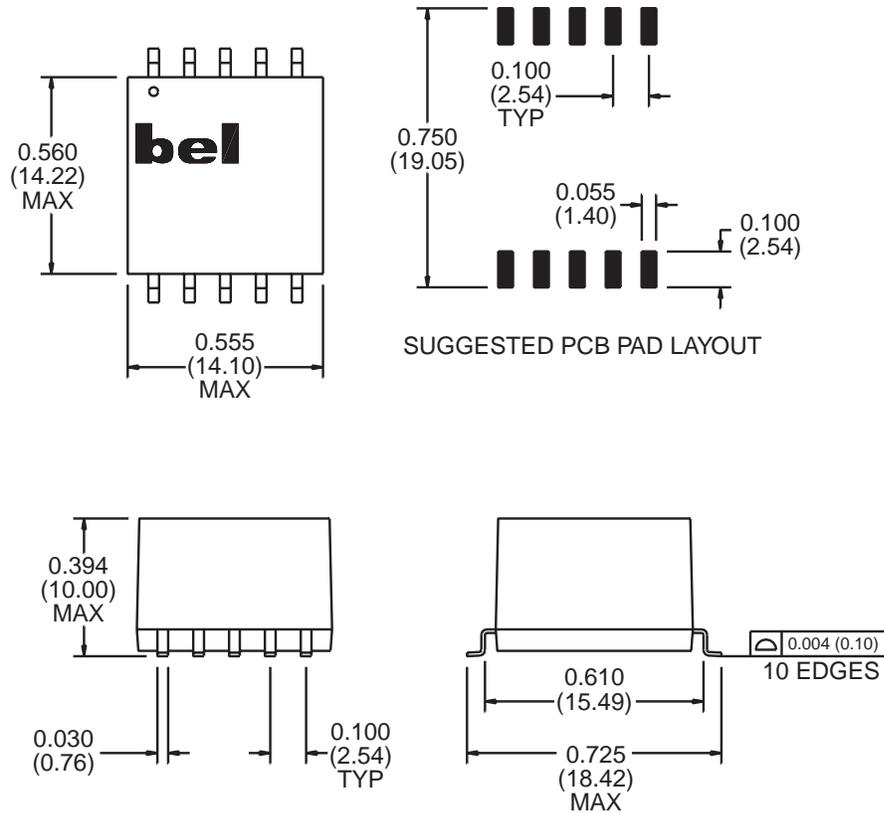


0560-6600-C7  
 0560-6600-H6  
 0560-6600-J4  
 0560-6600-M3



### MECHANICAL

S560-6600-A6  
S560-6600-D6



### APPLICATION NOTES

Bel has developed a complete magnetics solution to work with AMDs New AMDSL™ Chipset, AmDSL134 AmDSL135 two-chip Rate Adaptive ATM-based ADSL solution for central office (CO) or remote (CPE) applications, bel offer a magnetics solution for ADSL over POTS or ADSL over ISDN.

### Integrated Receive and Transmit Magnetic Hybrid Circuit Package

In multi-port system applications, where board layout is limited Bel has designed a package that integrates receive and transmit transformers for the hybrid circuit (S560-6600-A6 & S560-6600-D6). These designs use toroidal magnetic cores for both receive and transmit transformers, the toroidal cores offer low cross talk features facilitating package integration, with optimum transmission characteristics and high radio frequency suppression due to shortest possible connection paths.

### Receive and Transmit Filter Inductors

Bel offers a an extensive line of low profile inductors to be used on transmit or receive filters for CO, CPE, ADSL over POTS or ADSL over ISDN. These designs offer good immunity to EMI noise emissions offering flexibility in high density boards. For complete range of inductance values and structures refer to the ADSL Inductors Section.

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