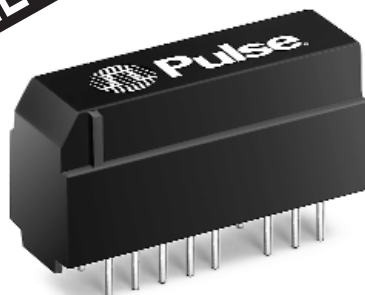


# ISDN S-INTERFACE MODULES

## Through-Hole, Dual, 1500 Vrms



**NEW!**



- Meets the pulse waveform template of CCITT I.430 when recommended module and chip pair are used
- UL1950 approved to basic isolation
- Compatible with industry standard footprints
- Developed for enhanced EMC performance

### Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

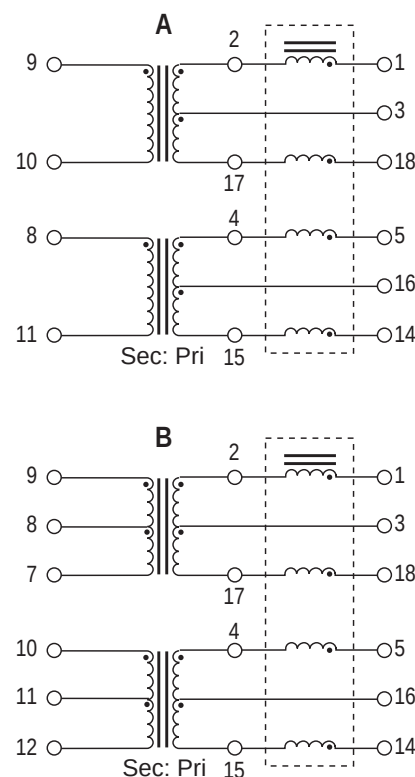
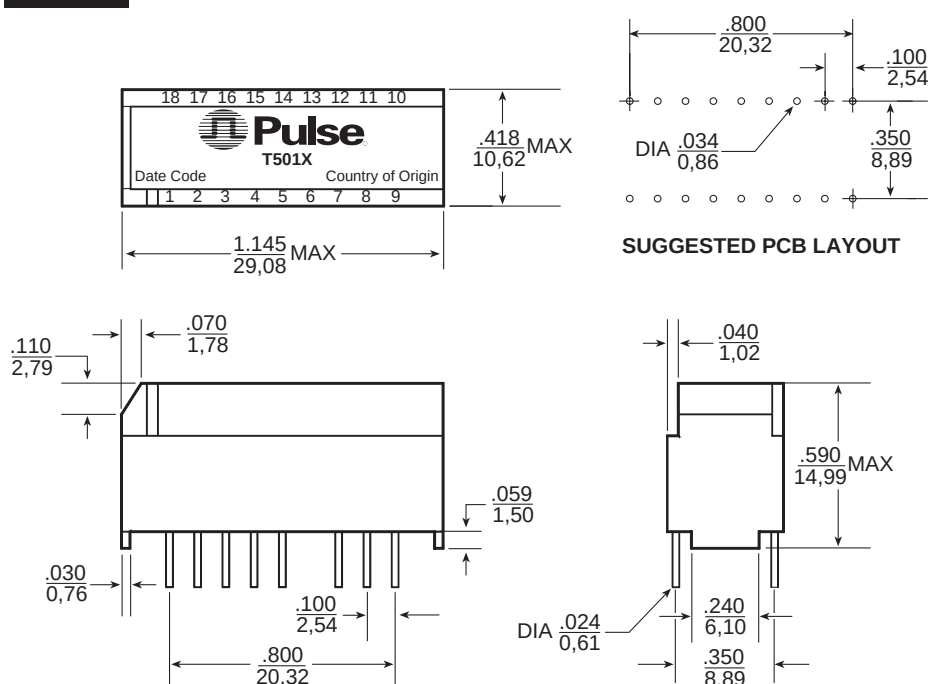
| Part Number | Transformer                  |                     |                          |                  |                    |                                   |                            | Choke           |                     | $\Delta I_{bc}$<br>(mA Max) | Secondary Pins | Package / Schematic |
|-------------|------------------------------|---------------------|--------------------------|------------------|--------------------|-----------------------------------|----------------------------|-----------------|---------------------|-----------------------------|----------------|---------------------|
|             | Ratio $\pm 2\%$<br>(Pri:Sec) | OCL Pri<br>(mH Min) | LL Sec<br>( $\mu$ H MAX) | Cw/w<br>(pF Max) | CD Pri<br>(pF Max) | DCR Pri<br>( $\Omega + 25\%$ MAX) | DCR Sec<br>( $\Omega$ MAX) | OCL<br>(mH Min) | DCR<br>( $\Omega$ ) |                             |                |                     |
| T5011       | 1CT:1CT                      | 30                  | 10                       | 150              | 100                | 3.2                               | 3.2 (+25%)                 | 4.7             | 1.2                 | 5                           | 9-7,10-12      | BER 1/B             |
| T5012       | 1CT:2CT                      | 30                  | 30                       | 150              | 100                | 3.2                               | 5.4 (+25%)                 | 4.7             | 1.2                 | 5                           | 9-7,10-12      | BER 1/B             |
| T5013       | 1CT:2.5CT                    | 30                  | 30                       | 150              | 110                | 3.2                               | 9.0                        | 4.7             | 1.2                 | 5                           | 9-7,10-12      | BER 1/B             |
| T5015       | 1CT:2                        | 30                  | 30                       | 150              | 100                | 3.2                               | 5.4 (+25%)                 | 4.7             | 1.2                 | 5                           | 9-10,8-11      | BER 1/A*            |

\*Note: Pins 7 and 12 are not included with package.

### Mechanical

### Schematic

#### BER-1



Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified all tolerances are  $\pm \frac{.010}{0.25}$

Weight ..... 8.0 grams  
Tube ..... 20/tube

# ISDN S-INTERFACE MODULES

## Through-Hole, Dual, 1500 Vrms



### Module Selection Guide

| IC Manufacturer        | IC Part Number                       | Pulse Part Number |
|------------------------|--------------------------------------|-------------------|
| AMD<br>Lucent (AT & T) | AM 79C 30A/79C                       | T5012/T5015       |
|                        | T7234/ T7254 / T7250 / T7256 / T7259 | T5013             |
|                        | T7903                                | T5012 / T5015     |
| Mietec                 | MTC-2072                             | T5012 / T5015     |
| Mitel                  | MT8930 / 8931                        | T5012 / T5015     |
| Motorola               | MC145474 / 145475                    | T5011             |
|                        | MC145574                             | T5013             |
| National               | TP3420 / 3421                        | T5012 / T5015     |
| SGS Thomson            | ST5420 / 5421                        | T5012 / T5015     |
| Siemens                | PEB2080 / 2081 / 2084/ 2085/ 2086    | T5012 / T5015     |
|                        | PSB 2186                             |                   |
| Yamaha                 | YM7405B                              | T5012 / T5015     |

## Definition of Terms

**Ratio:** This is the turns ratio, expressed as “Primary : Secondary”. The term “CT” designates a center tapped winding.

**OCL:** Open Circuit Inductance, measured 20 KHz, 100 mV.

**L<sub>L</sub> Sec :** Leakage Inductance measured across the secondary with the respective primary winding short circuited.

**C<sub>ww</sub>:** Winding capacitance, formed by the primary and secondary wire. These wires form the “Plates” of this capacitor. Measured at 100 KHz, 20 mV.

**CD Pri:** This is the distributed capacitance.

**DCR:** This is the resistance of the windings when measured in DC conditions.

**Δ I<sub>DC</sub>:** The maximum specified unbalanced DC current capability of the device.

The minimum primary inductance and the maximum distributed capacitance satisfy the transmitter output and receiver input impedance requirements of CCITT 1.430 for both TE & NT.

The maximum distributed capacitance allows sufficient margin for the capacitance of the IC and a protection diode network. It is consistent with the overall maximum value specified and permitted length of the basic access TE cord.

**Flammability** – Materials used in the products are recognized UL94-VO. Products meet the requirements of IEC 695-2-2 (needle flame test).

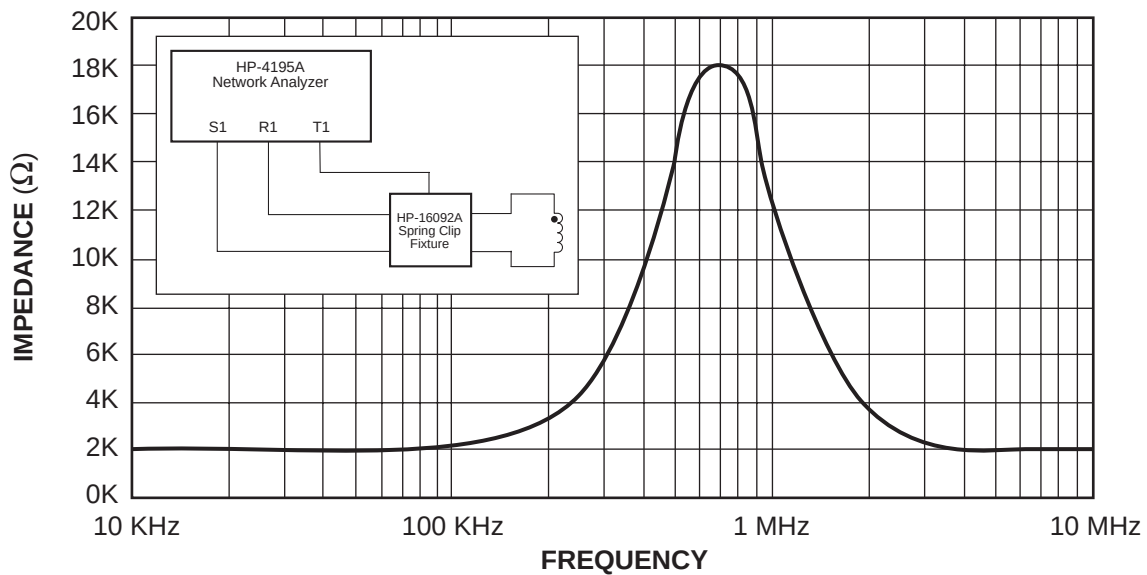
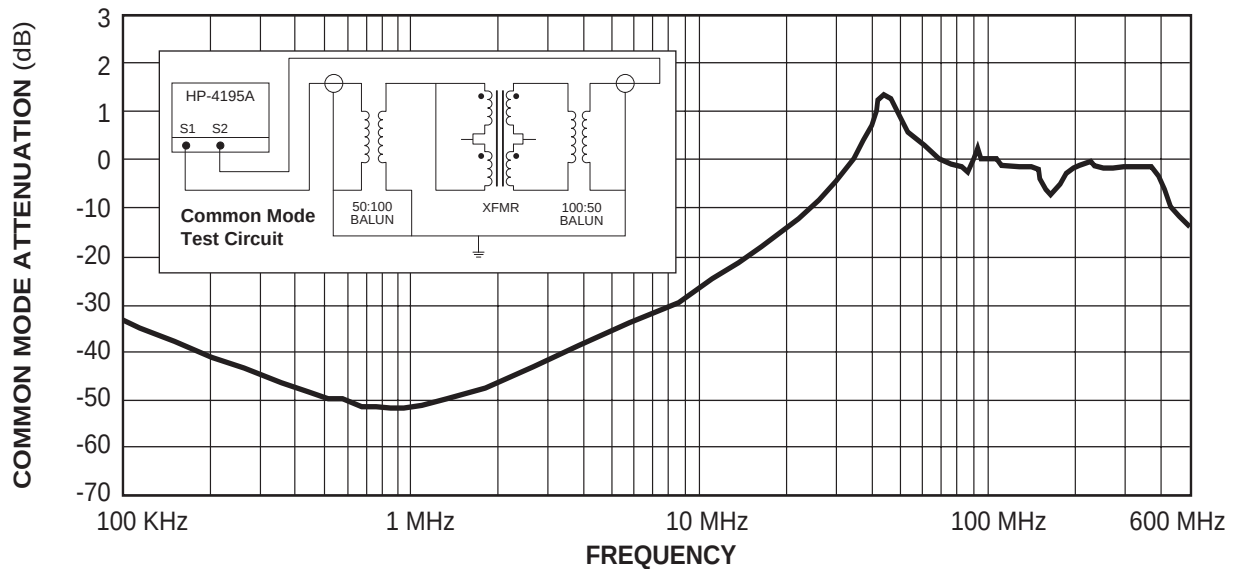
**Safety Standards** – All transformers listed in this data sheet are designed to meet UL1459 and UL1950 as a basic insulation barrier (UL file number E133523).

# ISDN S-INTERFACE MODULES

## Through-Hole, Dual, 1500 Vrms



### Common Mode Choke Performance



**Note:** The above data was obtained using a HP4195A Network/Spectrum Analyzer, across pins (1-2), (4-5), (14-15) or (17-18) using a fixture which is applicable to this instrument.

# ISDN S-INTERFACE MODULES

## Through-Hole, Dual, 1500 Vrms



### Application Notes

The S-Interface is the standardized four wire digital telephone access point defined by the CCITT I-Series recommendations for the Integrated Service Digital Network. This "basic rate access" accommodates two 64 Kbps "B-channels" for information, one 16 Kbps "D-channel" intended for signaling and con-

trol, and 48 Kbps for framing and other purposes, giving a total rate of 192 Kbps. The CCITT physical layer recommends that the user network interface be transformer coupled as shown in our typical application notes.

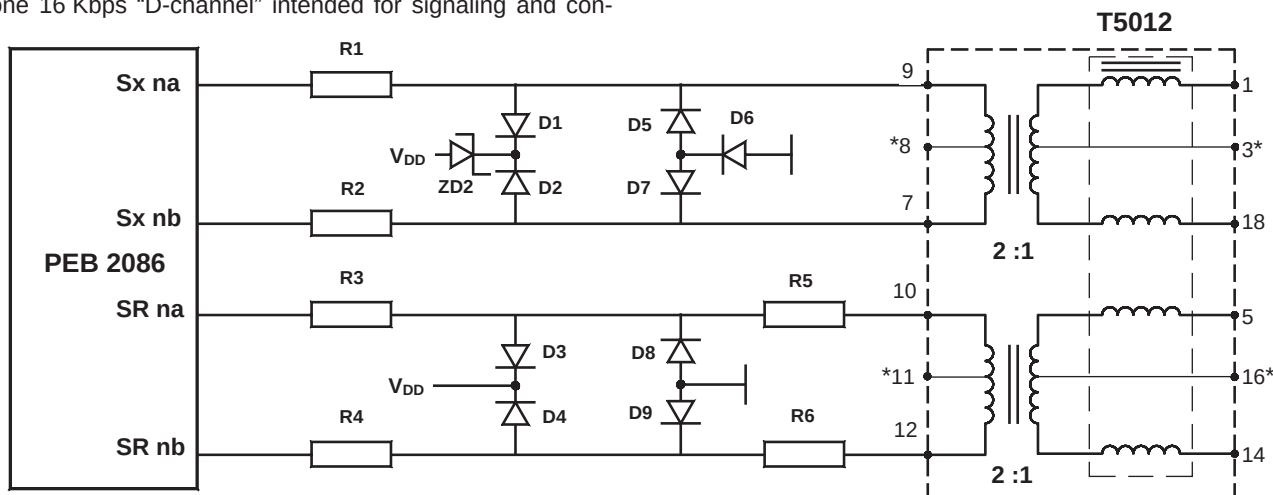


Figure 1: Typical S-Interface Application Circuit for Siemens: PEB 2086\*

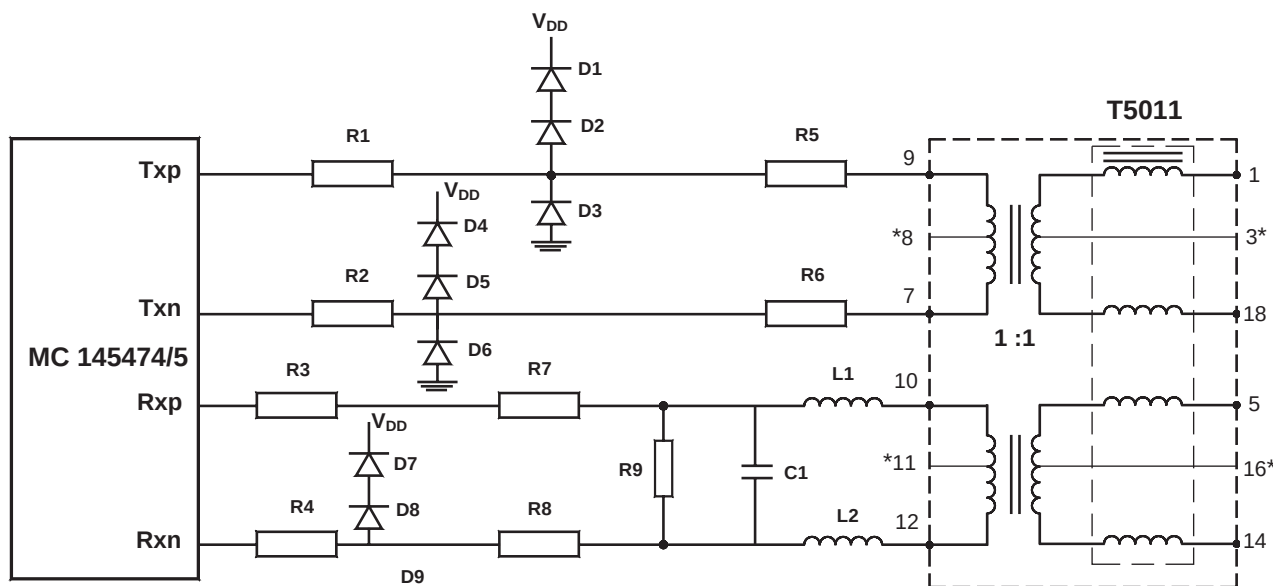


Figure 2: Typical S-Interface Application Circuit for Motorola: MC 145474/5\*

**\*Note:** Refer to Silicon Vendors Application Notes for more details on power supply connection and specific component values.

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