

# HIGH FREQUENCY MAGNETICS

## T1/E1 Octal Transformer Modules



TM01110

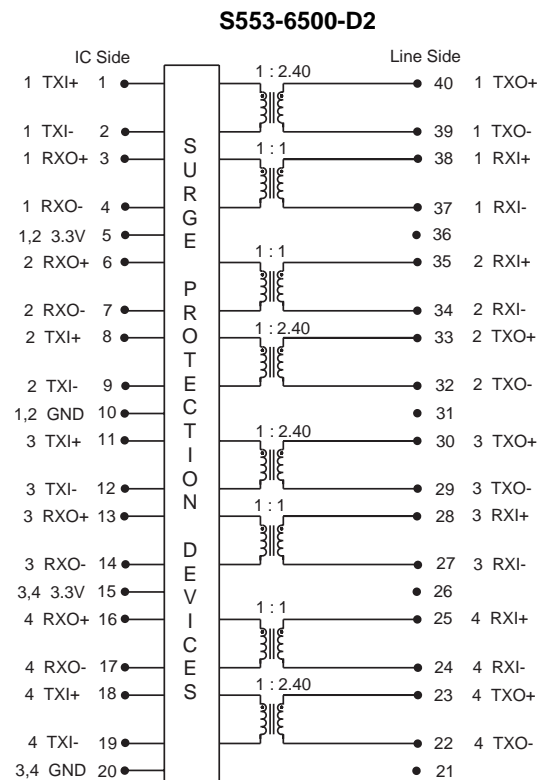
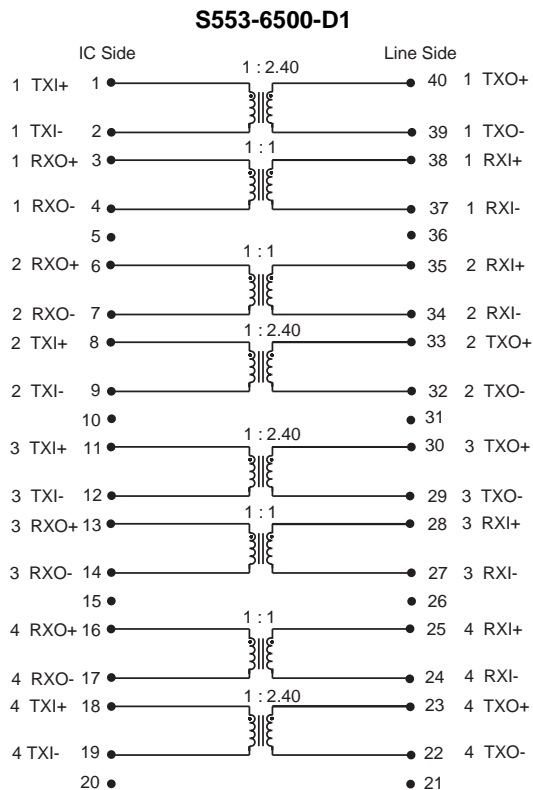
- Optimized for Infineon PEB 22504 and PEB 22554
- Eight transformers in one surface-mount package
- Two modules:  
S553-6500-D1 with eight transformers  
S553-6500-D2 with eight transformers and IC-side surge protection devices
- Meets ITU-T G.703 return loss from -40° to +85° C
- Interwinding breakdown voltage: 1500 Vrms min
- Operating temperature range -40° 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
- UL 1950 approved: S553-6500-D1 file number E150991  
S553-6500-D2 pending

### ELECTRICAL SPECIFICATIONS at 25° C

| Part Number  | Turns Ratio<br>±2% |       | Primary Inductance<br>at 10 kHz |     | Leakage Inductance<br>at 1 MHz |     | DCR<br>Ω max |     |           |     | Capacitance<br>pF max    | Return Loss at 102 kHz<br>120Ω Application <sup>1</sup> |    |                         |    |
|--------------|--------------------|-------|---------------------------------|-----|--------------------------------|-----|--------------|-----|-----------|-----|--------------------------|---|----|-------------------------|----|
|              | IC : Line          |       | mH min                          |     | μH max                         |     | IC Side      |     | Line Side |     | Winding<br>to<br>Winding | 25° C<br>dB typ   |    | -40 to +85° C<br>dB min |    |
|              | TX                 | RX    | TX                              | RX  | TX                             | RX  | TX           | RX  | TX        | RX  |                          | TX  | RX | TX                      | RX |
| S553-6500-D1 | 1 : 2.40           | 1 : 1 | 1.0                             | 1.8 | 0.3                            | 0.5 | 0.6          | 0.7 | 1.4       | 0.7 | 35                       | 18  | 32 | 18                      | 19 |
| S553-6500-D2 | 1 : 2.40           | 1 : 1 | 1.0                             | 1.8 | 0.3                            | 0.5 | 0.6          | 0.7 | 1.4       | 0.7 | 35                       | 18  | 32 | 18                      | 19 |

1. Terminated in 15 Ω for TX and 120 Ω for RX

### SCHEMATIC

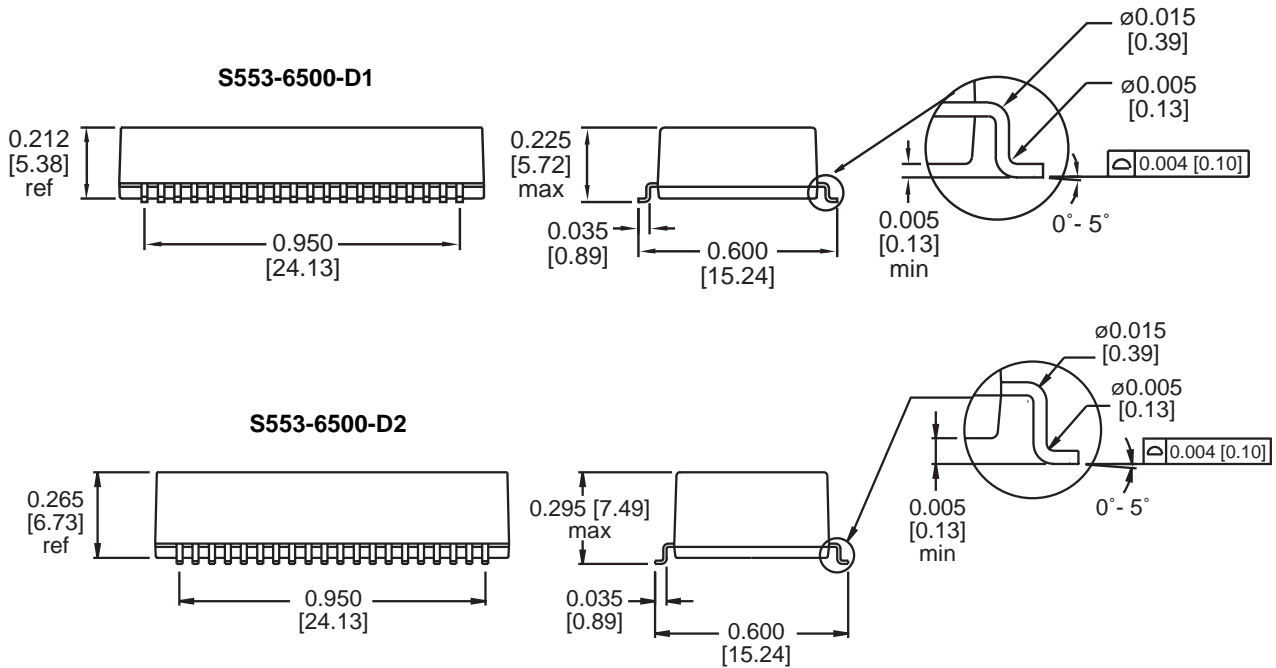
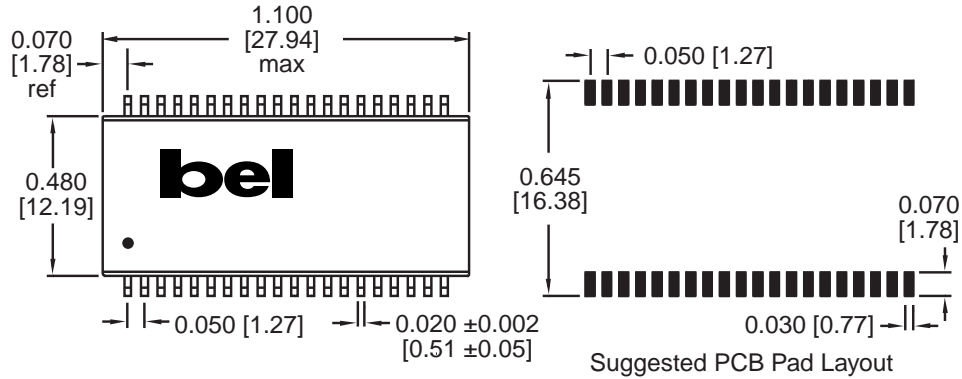


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### MECHANICAL

S553-6500-D1  
S553-6500-D2



Dimensions are in inches [millimeters].  
Standard dimension tolerance is  $\pm 0.005$  [0.13] unless otherwise noted.

#### S553-6500-D2 Surge Protection Devices

TVS Diode Array: Protek PSRDA3.3-4  
Number of Arrays: 4

**Note:** Surge protection provided by the Bel module is equivalent to that advertised in the Protek PRDA3.3-4 product specification.

#### Tape and Reel Packaging

44 mm wide by 24 mm pitch; 13 inch OD, 6 inch ID  
200 modules per reel, maximum  
Meets ANSI/EIA 481-2 Carrier Tape Standards - JEDEC SO Package

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