BH ELECTRONICS, INC.

040-0192 Category 7 Test Balun

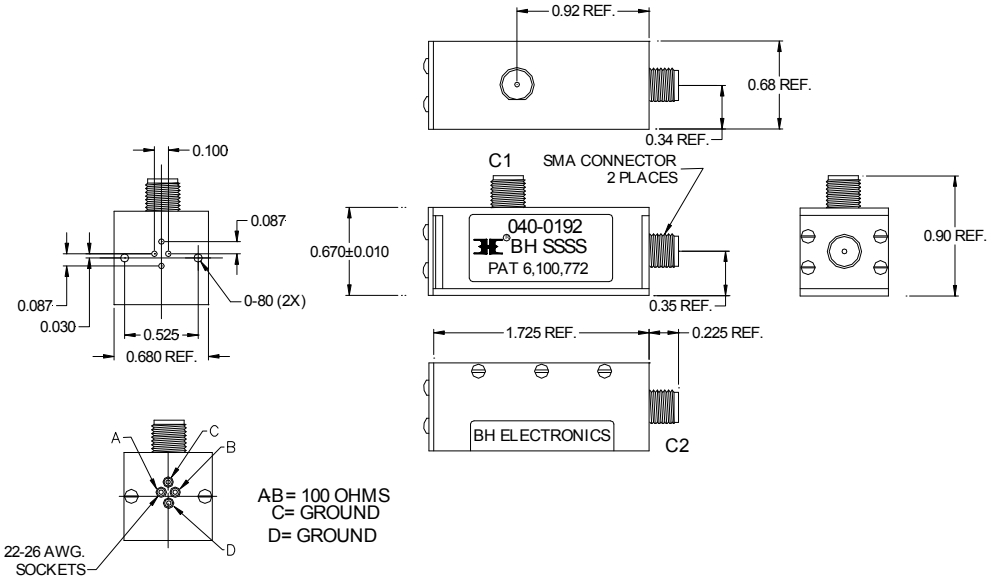
- **Bandwidth to 650 MHz with precise balance**
- **Designed for laboratory or production line testing**
- **Gold plated connectors and replaceable sockets**
- **Center port for balance testing without changing setup**

Insertion Loss: 1.8dB Max. – 1 MHz to 15 MHz
1.2dB Max. - 15 MHz to 250 MHz
1.4dB Max. - 250 MHz to 350 MHz
1.8dB Max. – 350 MHz to 650 MHz

Return Loss: (bi-directional)
12dB Min. – 1 MHz to 15 MHz
20dB Min. – 15 MHz to 550 MHz
17.5dB Min. – 550 MHz to 650 MHz

Return Loss (common mode:)
15dB Min. – 1 MHz to 15 MHz
20dB Min. – 15 MHz to 400 MHz
15dB Min. – 400 MHz to 650 MHz

Longitudinal Balance: 60dB Min. – 15 MHz to 350 MHz
50dB Min. – 350 MHz to 650 MHz



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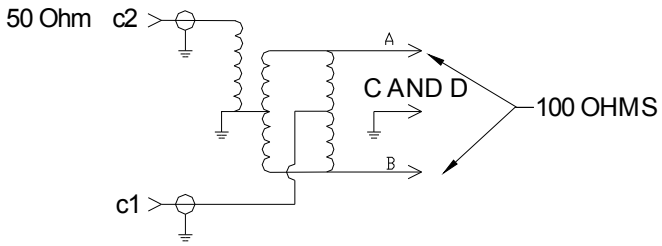
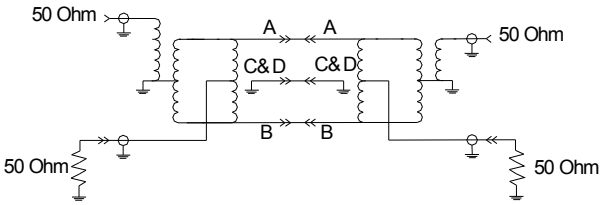
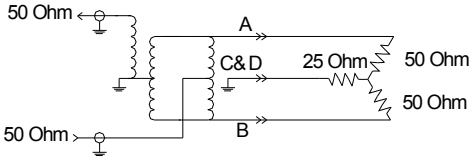
SCHEMATIC
FIG. 1



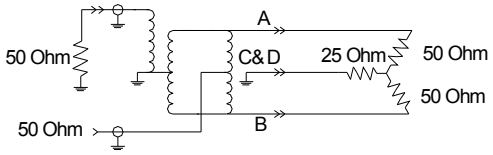
Insertion Loss (2 units back to back)



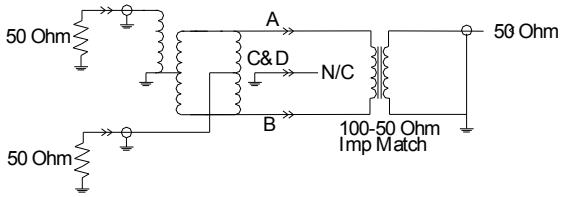
Longitudinal Balance



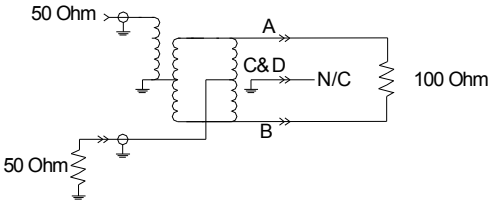
Return Loss, Common-Mode



Return Loss, 50:100 oHM



Return Loss, 50:100 oHM



Application note: The choice of termination resistors is critical to assure maximum performance from this balun. We suggest each user construct terminations by using precision SMT 0.1% (or better) resistors. These resistors should be mounted on a small PC board that is constructed with oversized copper pads which can be trimmed to "tune" the termination at the higher frequencies. It is recommended that the terminations be tuned such that a 1% tolerance is held in the high frequencies (300-650 MHz). It should also be noted that when building a "Y" termination, the impedances from each balanced pin to ground should also be within 1% of one another for maximum balance performance.

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