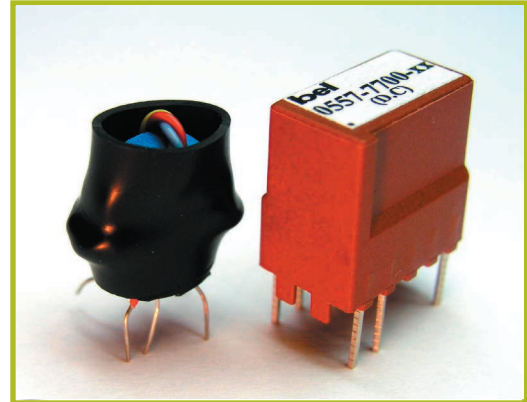


POWERLINE SIGNAL COUPLERS

0557-7700-xx for Intellon INT5500/INT1200 Designs

FEATURES

- Designed for use with Intellon INT5500/INT1200 high speed Powerline chipset
- Fully compatible with Bel's 0804-5000-08 and 0804-5000-09 Powerline modules
- Variants available for wallplug, desktop DC and AC power corded applications and Powerline to coax hybrids
- Provides reinforced isolation for world wide application
- Minimum footprint design



| Description | Part Number | |
|--|--------------|--------------|
| | Boxed | Sleeved |
| 3 winding coupler for integrated wallplug | --- | 0557-7700-31 |
| 3 winding coupler for 6 ft AC line corded applications | 0557-7700-32 | 0557-7700-33 |
| 4 winding coupler for 6 ft DC line corded applications | --- | 0557-7700-34 |
| 3 winding coupler for wall adapter for 6 ft DC corded applications | 0557-7700-11 | 0557-7700-12 |
| 2 winding coupler for passive coax to Powerline bridge | 0557-7700-26 | 0557-7700-21 |

BENEFITS

The above members of the Bel 0557-7700-xx family of coupling transformers have been developed for a wide range of applications based on the Intellon HomePlug™ 1.0 compliant INT5500/INT1200 high speed Powerline chipset. These transformers provide a low cost, high quality solution to simplify the implementation of HomePlug products.

This family of couplers is designed primarily to complement Bel's 0804-5000-08 and 0804-5000-09 powerline modules with additional support provided for a passive Powerline to coax coupler.

In wallplug and AC corded applications, a complete isolation and coupling solution is provided by a single part, selected according to application. Additionally, use of 0557-7700-11 or 0557-7700-12 enables operation over a DC line cord with a plugtop power supply. Coupling of the Powerline signal to coax cable can be achieved with the 0557-7700-21 or 0557-7700-26.

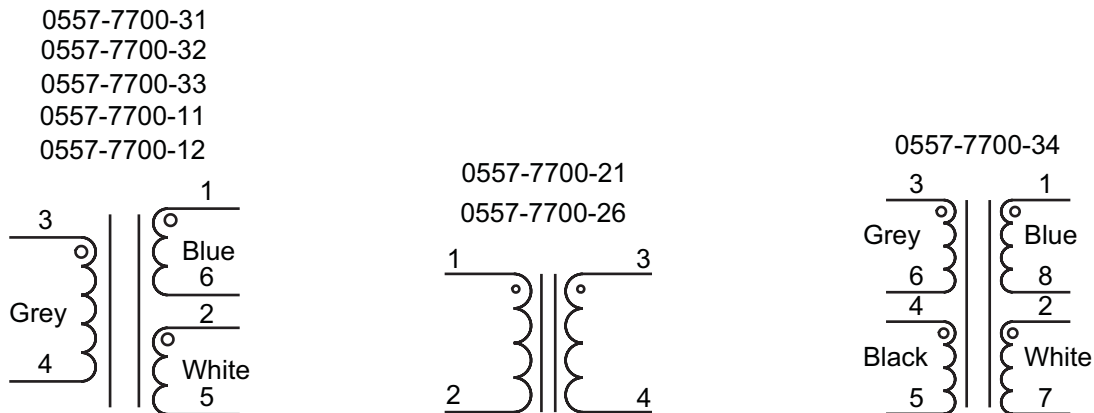
POWERLINE SIGNAL COUPLERS

0557-7700-xx for Intellon INT5500/INT1200 Designs

ELECTRICAL SPECIFICATIONS @ 25°C

| Part Number | Parameter | Wire Color (Sleeved Only) | Pin No. (Boxed Only) | Value |
|------------------------------|--|--|--|---|
| 0557-7700-31 | Inductance @500KHz, 0.1V Turns Ratio Turns Ratio Hi Pot @ 50HZ 1mA | Grey Grey : Blue Grey : White Grey: Blue + White | | 5uH min 1 : 1 ±0.1 1 : 1.25 ±0.1 3kV for 60s |
| 0557-7700-32 0557-7700-33 | Inductance @500KHz, 0.1V Turns Ratio Turns Ratio Hi Pot @ 50HZ 1mA | Blue Blue : Grey Blue : White Grey : Blue + White | 1 : 6 1 + 6 : 3 + 4 1 + 6 : 2 + 5 3 : 1 + 2 | 5uH min 1 : 1.2 ±0.1 1 : 1.5 ±0.1 3kV for 60 sec |
| 0557-7700-34 | Inductance @500KHz, 0.1V Turns Ratio Turns Ratio Turns Ratio Hi Pot @ 50HZ 1mA | Grey Grey : Black Grey : Blue Grey : White Grey + Black : Blue + White | | 5uH min 1 : 1 ±0.1 1 : 1 ±0.1 1 : 2 ±0.1 3kV for 60 sec |
| 0557-7700-11 0557-7700-12 | Inductance @500KHz, 0.1V Turns Ratio Turns Ratio Hi Pot @ 50HZ 1mA | Grey Grey : Blue Grey : White Grey: Blue + White | 3 : 4 3 + 4 : 1 + 6 3 + 4 : 2 + 5 3 : 1 + 2 | 5uH min 1 : 1 ±0.1 1 : 1 ±0.1 3kV for 60 sec |
| 0557-7700-21 0557-7700-26 | Inductance @500KHz, 0.1V Turns Ratio Hi Pot @ 50HZ 1mA | Blue Blue : White Blue : White | 3 : 4 3 + 4 : 1 + 2 1 : 4 | 11uH min 1 : 1 ±0.1 3kV for 60 sec |

SCHEMATICS



POWERLINE SIGNAL COUPLERS

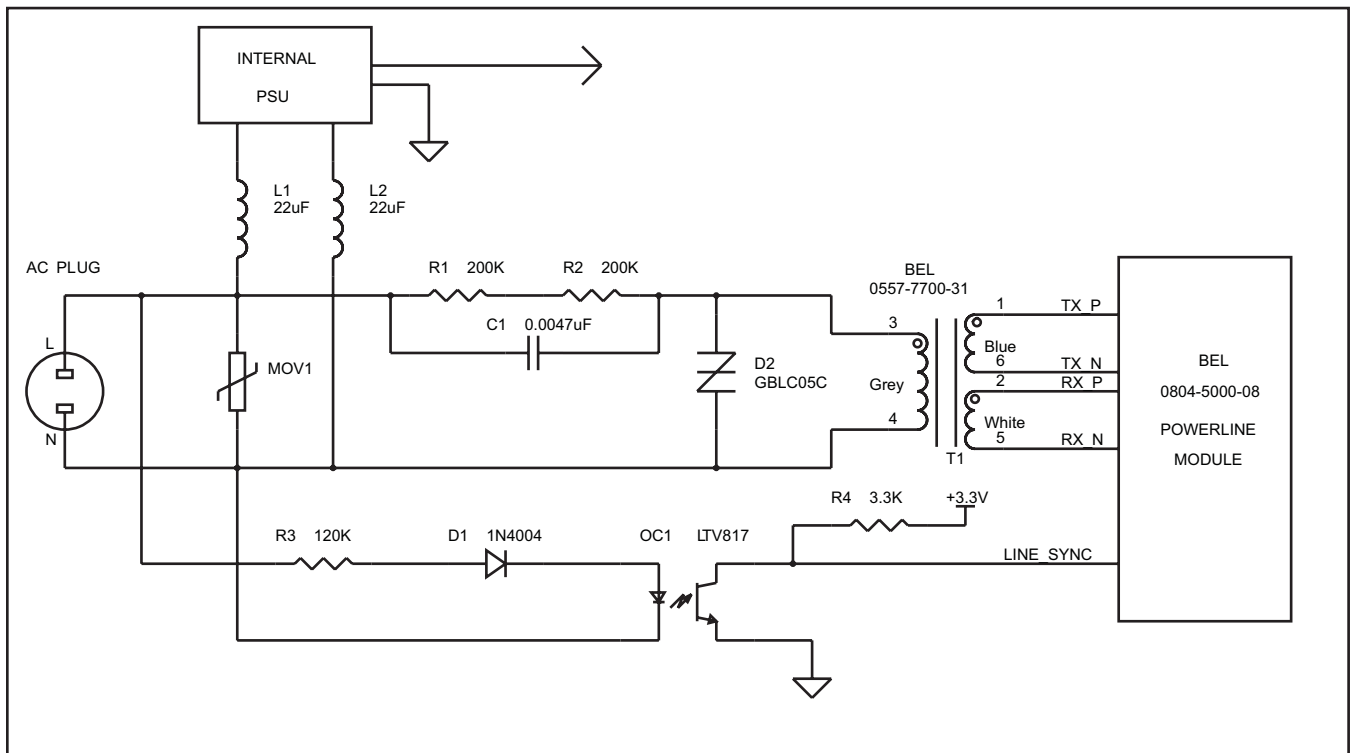
0557-7700-xx for Intellon INT5500/INT1200 Designs

APPLICATION NOTES

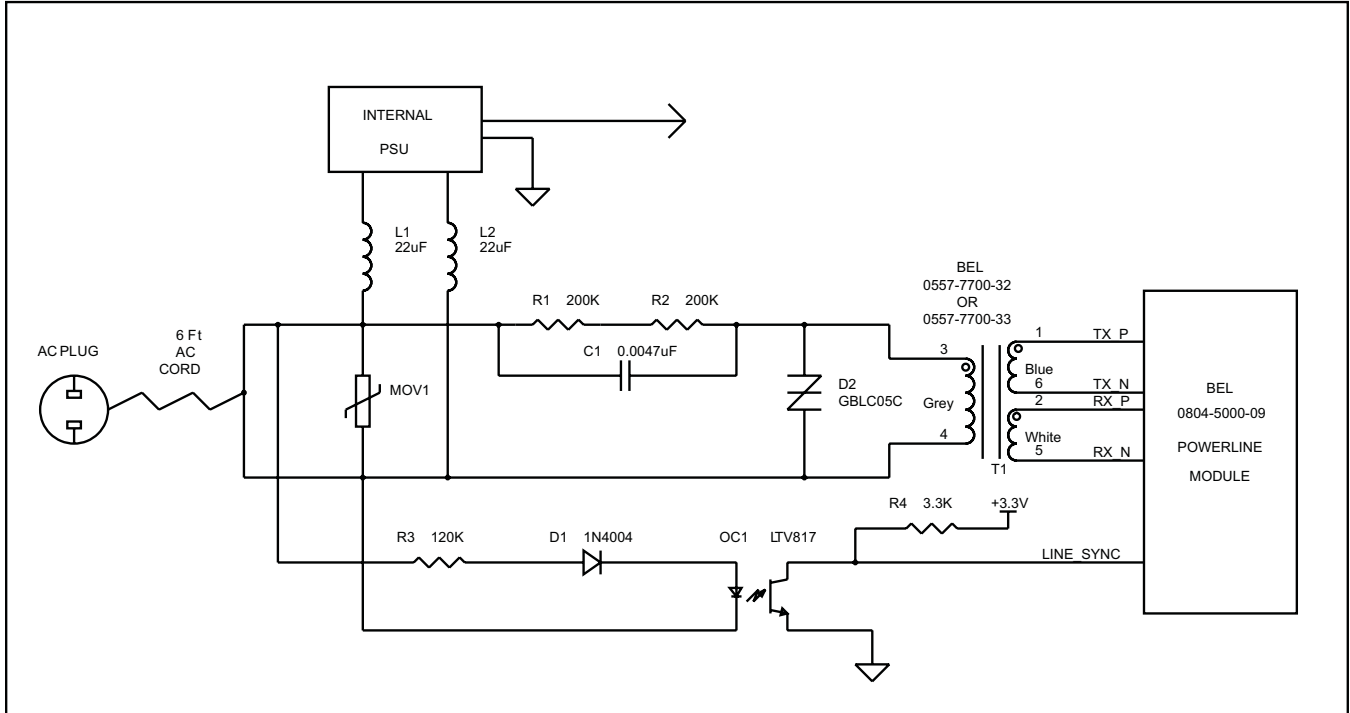
The following schematics show some typical applications combinations for the Bel 0804-5000-08 and 0804-5000-09 Powerline modules with the appropriate couplers and associated circuitry. The following notes should be observed.

1. The first transient protection device MOV1 should be rated at 240V for 115V AC operation and at least 375V for 230V operation.
2. Inductors L1 and L2 provide high frequency isolation which is particularly important with switching power supplies where a capacitor is present across the input terminals. The inductors should have good performance in the Powerline band between 4 and 21 MHz.
3. DC blocking capacitor C1 should be an X2 class device.
4. The two series resistors across C1 may be replaced by a single 390K resistor but only if it has a working voltage of greater than 350V.

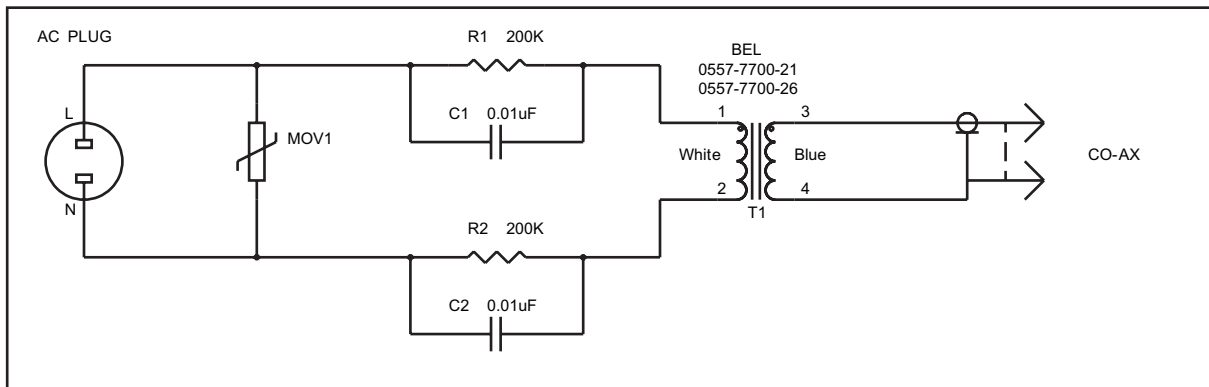
Integrated Wallplug Powerline Device



AC Corded Typical Desktop Application



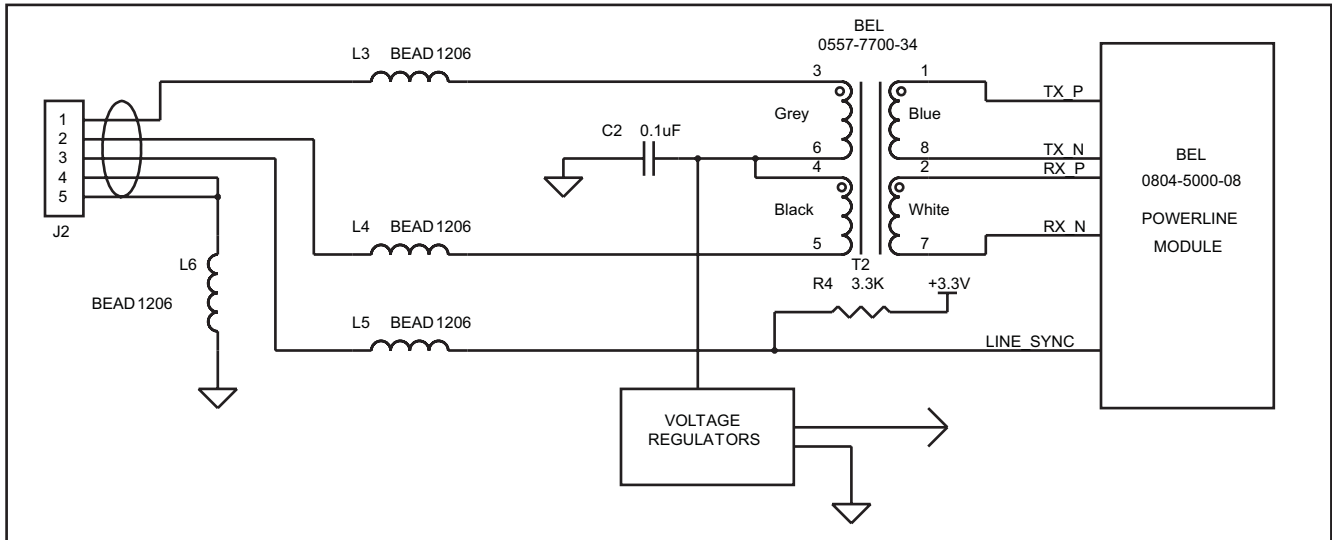
Coax to Powerline Passive Hybrid Coupler



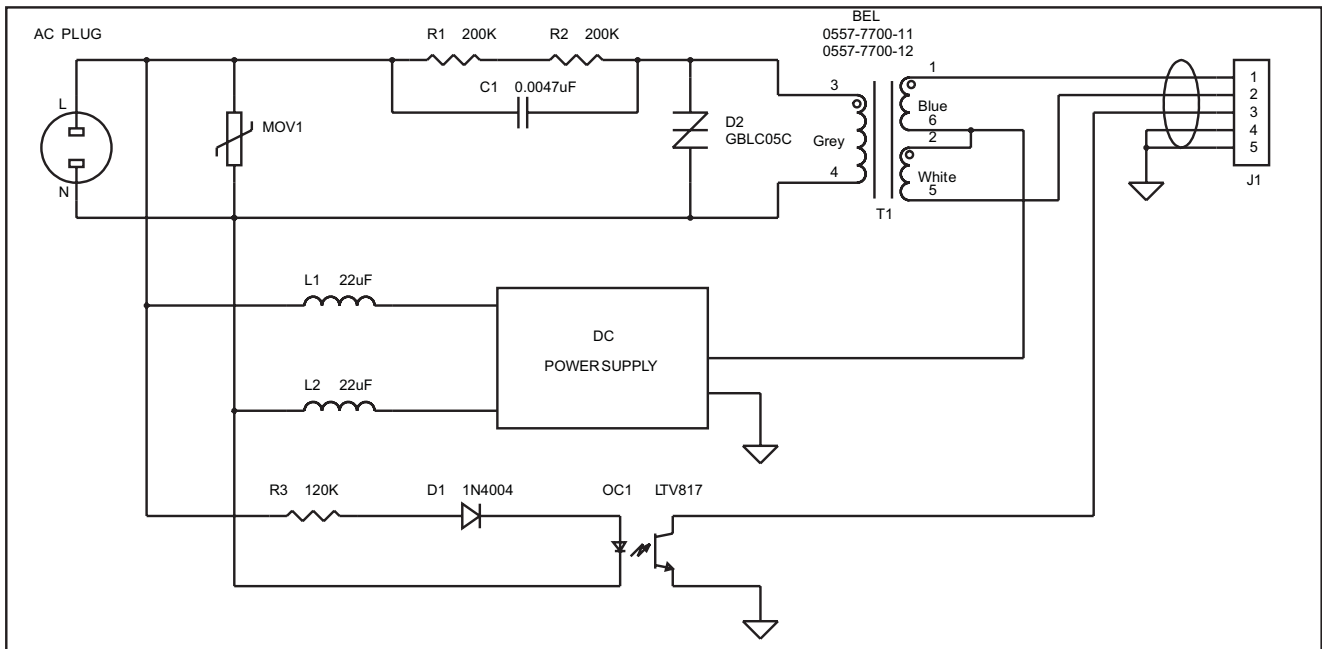
POWERLINE SIGNAL COUPLERS

0557-7700-xx for Intellon INT5500/INT1200 Designs

DC Corded Typical Desktop Application



Plugtop Power Supply for DC Corded Applications





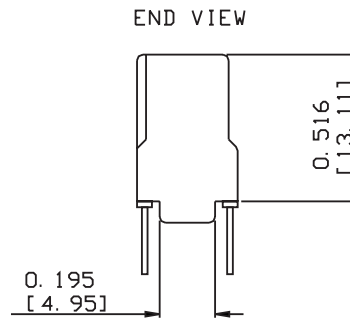
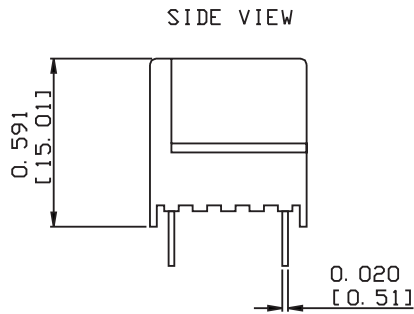
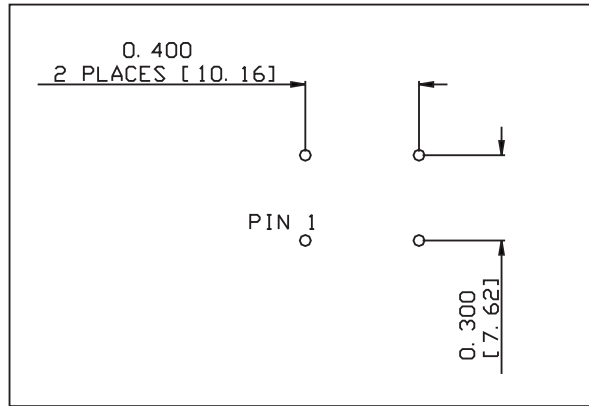
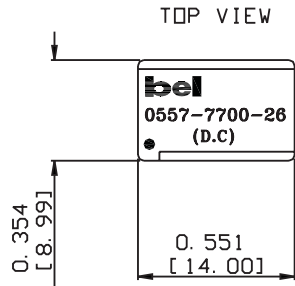
POWERLINE SIGNAL COUPLERS

0557-7700-xx for Intellon INT5500/INT1200 Designs

MECHANICAL

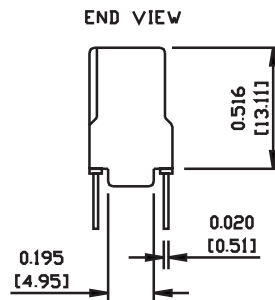
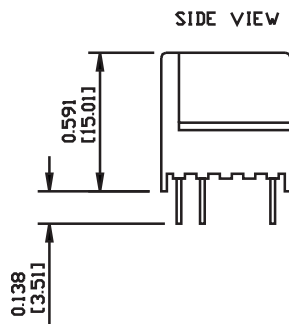
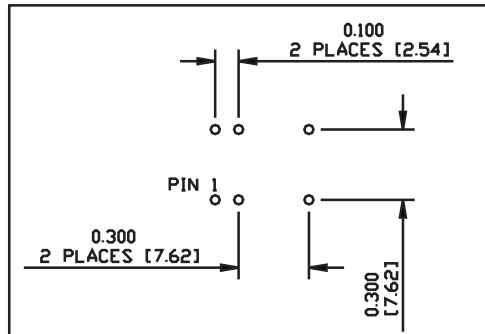
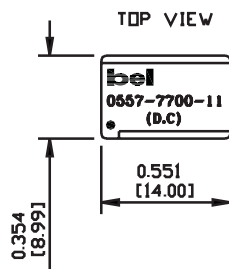
0557-7700-26

RECOMMENDED PCB LAYOUT



0557-7700-11
0557-7700-32

RECOMMENDED PCB LAYOUT

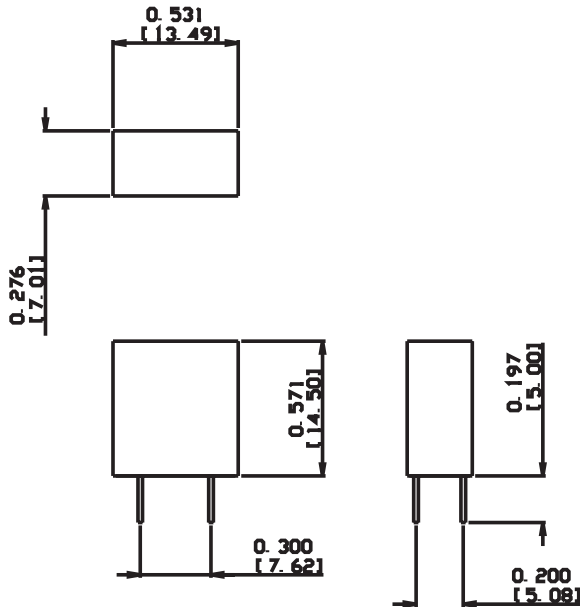


POWERLINE SIGNAL COUPLERS

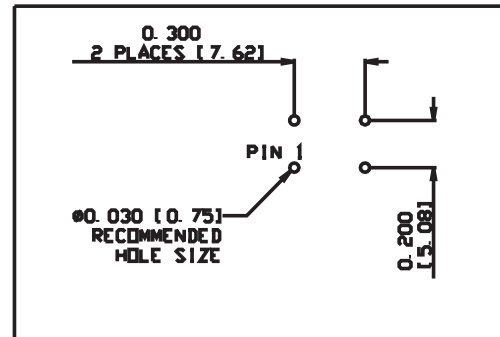
0557-7700-xx for Intellon INT5500/INT1200 Designs

MECHANICAL

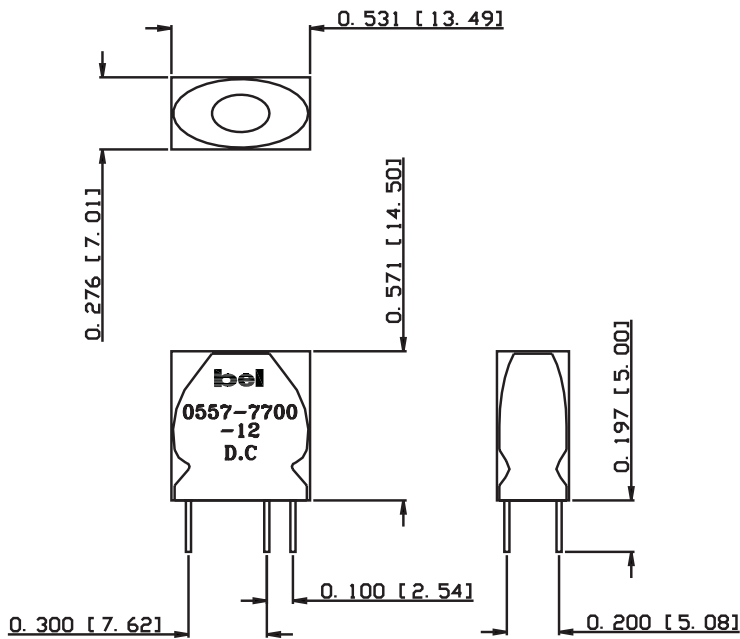
0557-7700-21



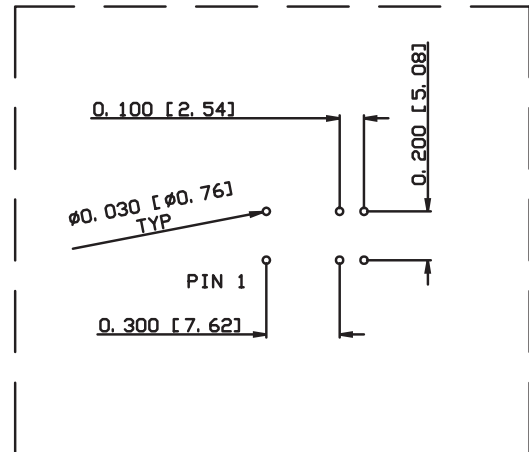
RECOMMENDED PCB LAYOUT



0557-7700-12
0557-7700-31
0557-7700-33

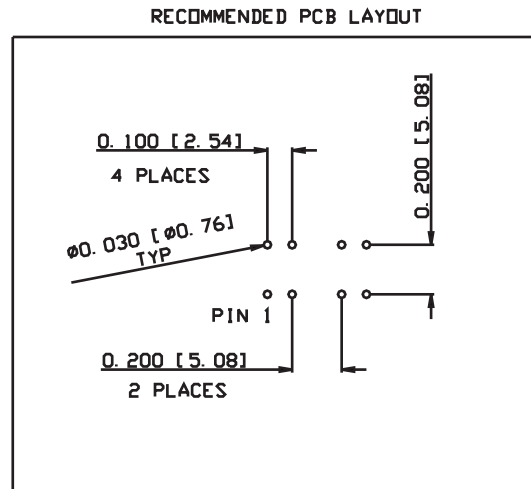
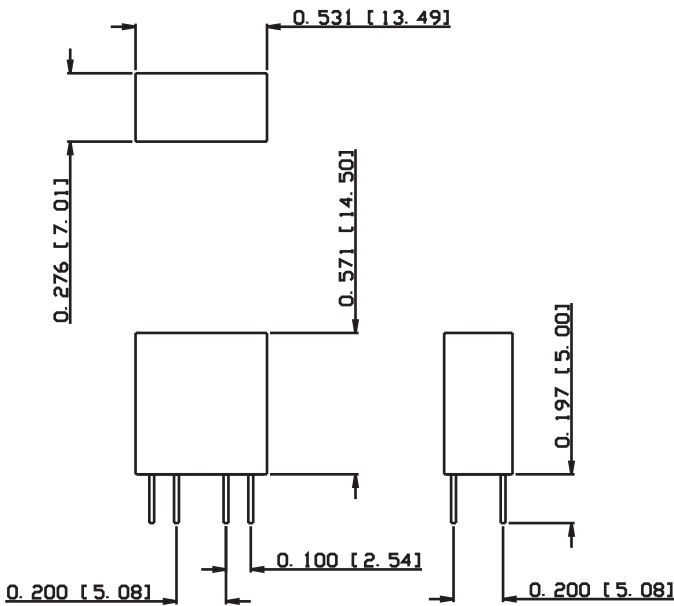


RECOMMENDED PCB LAYOUT



MECHANICAL

0557-7700-34



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