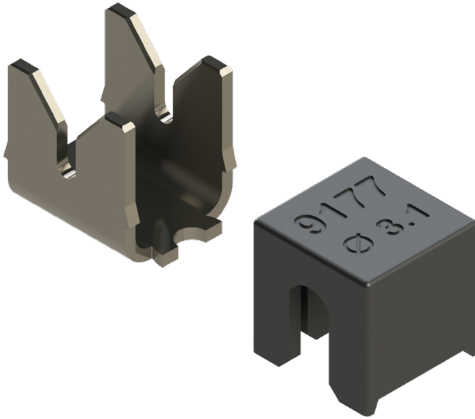


SINGLE IDC CONTACT 12-18 AWG: 9177-500

General Information



GENERAL DESCRIPTION

The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh requirements of automotive and industrial applications. This industry proven series of connectors provides a robust, reliable, and efficient method to connect individual wires ranging from 12 AWG to 30 AWG directly to a PCB. The single contact design can function as a standalone component. It provides our designers access to IDC technology in an easy-to-use form factor allowing them to bring power and signal to a PCB in a wide range of applications.

The 9177-500 series of IDC contacts are an extension of the popular 9176-400/500 series to accommodate 12 to 18 AWG solid or stranded wires. The Single IDC contacts have been tested to various levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. The IDC contact provides a gas-tight connection to the wire and the optional cap provides a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replaced up to three times.

APPLICATIONS

- Industrial motor controls, drives & pumps
- Commercial building wiring and electrical systems
- Outdoor/Transportation lighting
- Solar and alternative energy
- Application Notes: refer to 201-01-209
- Product Specification: refer to 201-01-208

FEATURES AND BENEFITS

- Proven "gas tight" cold welded wire termination
- Redundant contact systems provides enhanced wire retention and high current carrying capabilities
- Cost effective insulator-less contact system
- Optional termination cap provides additional strain relief for severe environments

ELECTRICAL

- Current Rating: 15 Amps/Contact
- Voltage Rating: 300 VAC (RMS) or DC Equivalent

ENVIRONMENTAL

- Operating Temperature: -40°C to +130°C
- Storage Temperature: -40°C to +60°C

MECHANICAL

- Cap Insulator Material, High Temperature Nylon, UL94V-0
- Contact Material: Phosphor Bronze
- Contact Plating: Pure tin over nickel
- Durability: 3 termination cycles

HOW TO ORDER – CONTACT OPTIONS

| | | | | |
|-----------|-------------|------------------------|---|------------------------------------|
| 70 | 9177 | 001 | 5XX | 006 |
| Prefix | Series | No. of Ways 001 = 1 | Description 591 = 12AWG Stranded and Solid 501 = 14AWG Stranded and Solid 512 = 16AWG Stranded and Solid 522 = 18AWG Stranded and Solid | Plating 006 = Pure Tin all over |



Safety Standards: UL 1977-File #E90723, CSA C22.2 NO. 182.3

HOW TO ORDER – CAP OPTIONS - SEE PAGE 45

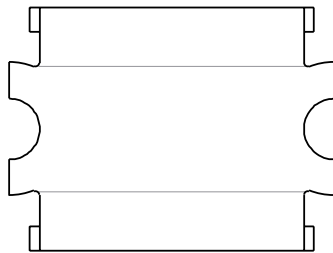
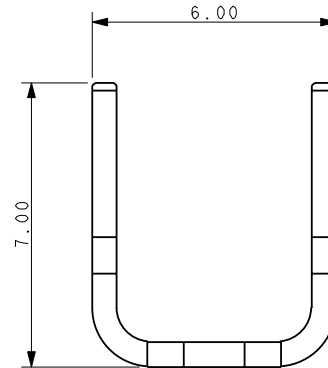
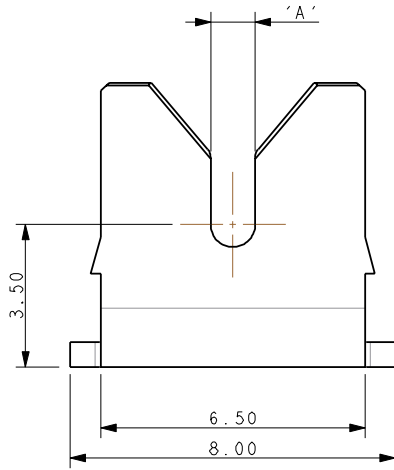
| | | | | |
|-----------|-------------|------------------------|----------------------------------|--|
| 60 | 9177 | 001 | 5XX | X00 |
| Prefix | Series | No. of Ways 001 = 1 | Description (See Table Below) | Color 100 = White (Standard) 000 = Black (Special) |

| PARTNUMBER | DIM. A | TEXT | WIRE | COLOR |
|---------------------|--------|-------|--------|-----------------------|
| 60-9177-001-542-100 | 3.90 | ø 4.2 | 12 AWG | WHITE (STANDARD) |
| 60-9177-001-542-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-531-100 | 2.75 | ø 3.1 | 12 AWG | WHITE (STANDARD) |
| 60-9177-001-531-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-526-100 | 2.25 | ø 2.6 | 14 AWG | WHITE (STANDARD) |
| 60-9177-001-526-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-522-100 | 1.90 | ø 2.2 | 16 AWG | WHITE (STANDARD) |
| 60-9177-001-522-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-519-100 | 1.65 | ø 1.9 | 18 AWG | WHITE (STANDARD) |
| 60-9177-001-519-000 | | | | BLACK (SPECIAL ORDER) |

SINGLE IDC CONTACT 12-18 AWG: 9177-500

Contact Detail

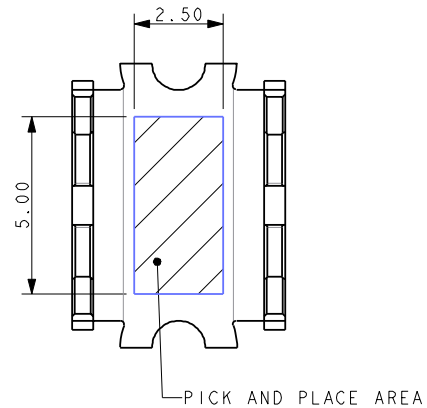
CONTACT DETAILS



| CODE SHEET | ACCEPTED WIRE GAUGE | 'A' |
|------------|---------------------------|------|
| 591 | 12AWG STRANDED AND SOLID | 1.50 |
| 501 | 14AWG STRANDED AND SOLID | 1.10 |
| 512 | 16AWG STRANDED AND SOLID | 0.82 |
| 522 | 18 AWG STRANDED AND SOLID | 0.72 |

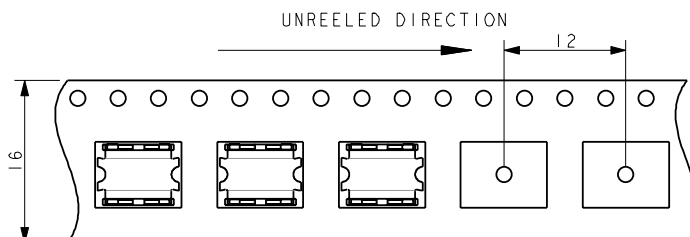
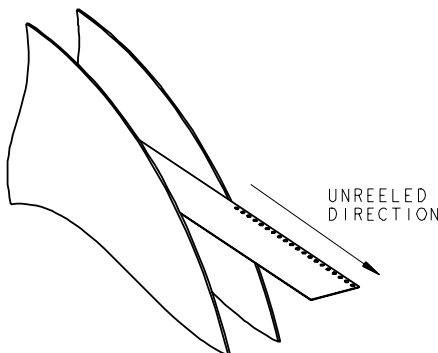
NOTES:

- CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- CONTACT MATERIAL: PHOSPHORE BRONZE.
- CONTACT PLATING: PURE TIN.
- CONTACTS DESIGNED TO ACCEPT BETWEEN 12 AND 18 GAUGE STRANDED WIRE, SEE TABLE.
- ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- FOR FULL PRODUCT SPECIFICATIONS REFER TO KYOCERA AVX SPECIFICATION 201-01-208 AND APPLICATION NOTES 201-01-209.
- SMT PCB LAYOUT, REFER TO PAGE 43.
- PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
- ASSEMBLY TOOLING ON PAGE 44.
- UL REFERENCE E90723 (US AND CANADA).



PACKING DETAILS

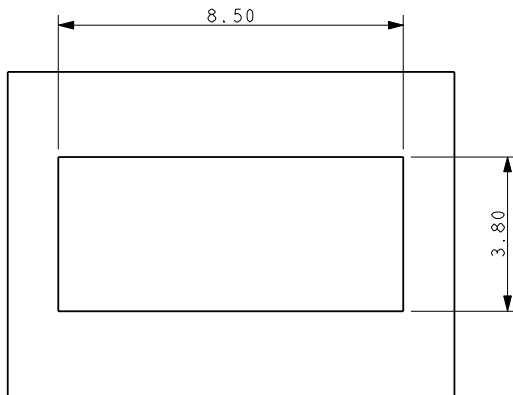
| | |
|----------|-------|
| REEL QTY | 700 |
| LEADER | 480mm |
| TRAILER | 120mm |



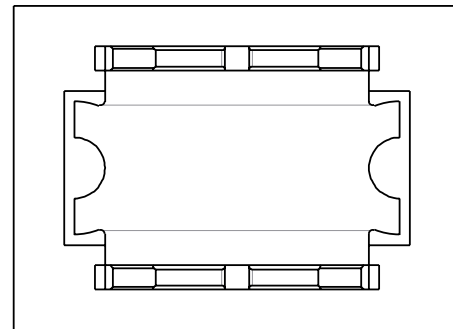
SINGLE IDC CONTACT 12-18 AWG: 9177-500

IDC Wire to Board Connector Single Contact

12-18 AWG IDC WIRE TO BOARD CONNECTOR SINGLE CONTACT



SUGGESTED PCB LAYOUT



ORIENTATION OF CONTACT ON PAD

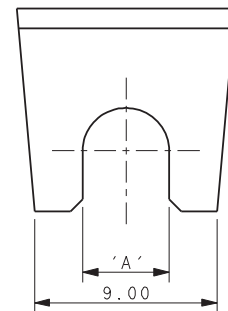
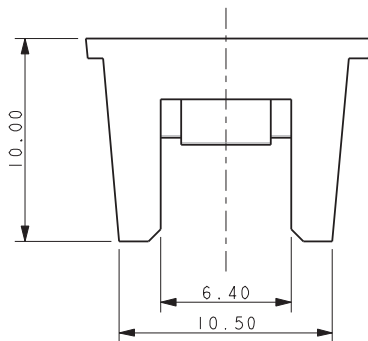
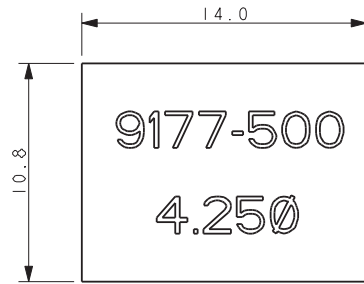
NOTES:

1. FOR FULL PRODUCT SPECIFICATION REFER TO KYOCERA AVX SPEC 201-01-208 AND Application Notes 201-01-209
2. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
3. ASSEMBLY TOOLING ON PAGE 44.

SINGLE IDC CONTACT 12-18 AWG: 9177-500

Assembly Tooling

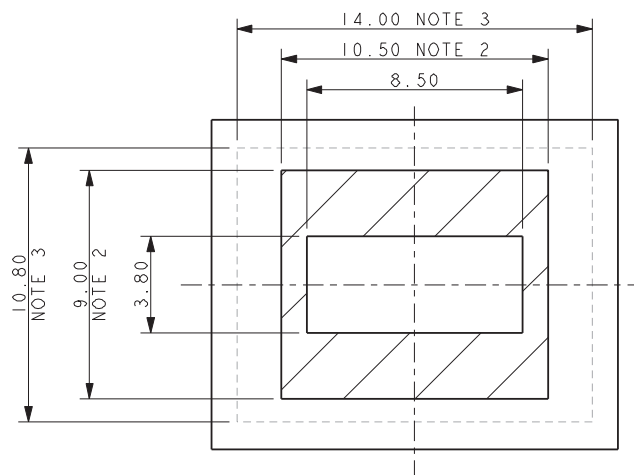
ASSEMBLY TOOLING



| Wire Gauge | Max Insulation (Dimensions 'A') | Tool Number Metal Tool for High Volume | Tool Number Plastic Tool for Small to Medium Volume |
|------------|---------------------------------|--|---|
| 12-18 AWG | Ø 4.25 | 06-9177-7020-01-001 | 06-9177-7022-01-001 |
| 12-18 AWG | Ø 3.50 | 06-9177-7020-02-001 | 06-9177-7022-02-001 |
| 12-18 AWG | Ø 2.75 | 06-9177-7020-03-001 | 06-9177-7022-03-001 |

NOTES:

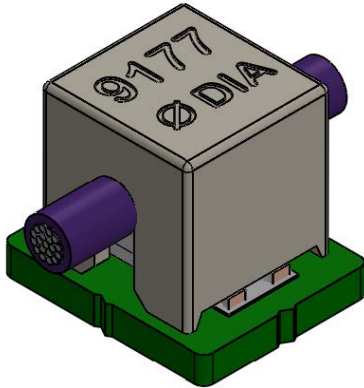
1. ASSEMBLY TOOLING FOR CONTACTS 70-9177-001-5XX-006 ONLY.
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS. TRACKS PERMISSIBLE.
3. MAXIMUM COMPONENT HEIGHT 9.0MM IN THIS AREA.
4. REFER TO TABLE FOR CORRECT TOOL/WIRE COMBINATION.
5. REFER TO APPLICATION NOTE 201-01-209 FOR FURTHER INFORMATION.
6. DIMENSIONS FOR TOOL ARE REFERENCE DIMENSIONS.



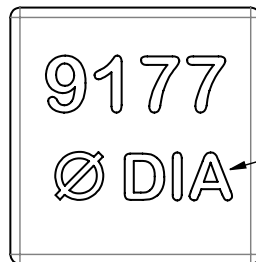
SINGLE IDC CONTACT 12-18 AWG: 9177-500

Cap Details

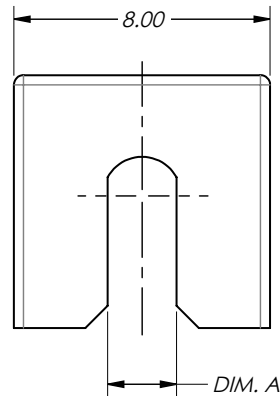
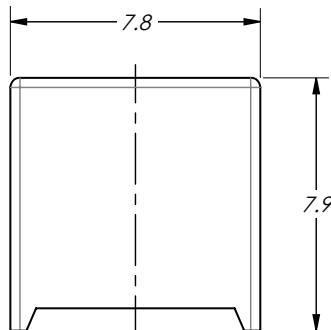
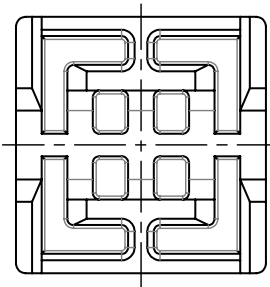
CAP DETAILS



| PART NUMBER | DIM. A | TEXT | WIRE | COLOR |
|---------------------|--------|-------|--------|-----------------------|
| 60-9177-001-542-100 | 3.90 | ø 4.2 | 12 AWG | WHITE (STANDARD) |
| 60-9177-001-542-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-531-100 | 2.75 | ø 3.1 | 12 AWG | WHITE (STANDARD) |
| 60-9177-001-531-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-526-100 | 2.25 | ø 2.6 | 14 AWG | WHITE (STANDARD) |
| 60-9177-001-526-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-522-100 | 1.90 | ø 2.2 | 16 AWG | WHITE (STANDARD) |
| 60-9177-001-522-000 | | | | BLACK (SPECIAL ORDER) |
| 60-9177-001-519-100 | 1.65 | ø 1.9 | 18 AWG | WHITE (STANDARD) |
| 60-9177-001-519-000 | | | | BLACK (SPECIAL ORDER) |



TEXT. SEE P.N. TABLE



NOTES:

- CAP FOR TERMINATING WIRES TO 9177-500 SERIES CONTACTS.
- MATERIAL: HIGH TEMPERATURE NYLON; UL94V-0.
- FOR FULL PRODUCT SPECIFICATION, REFER TO PRODUCT SPEC 201-01-208 AND APPLICATION NOTES 201-01-209.
- PACKAGING TO BE BULK WITH 700 PARTS PER BAG.
- FOR INSTALLATION DETAILS, SEE DRAWING 70-9177-001-5XX-006S.
- PCB MUST BE CLEAR OF COMPONENTS ALLOWING CAP TO SEAT.