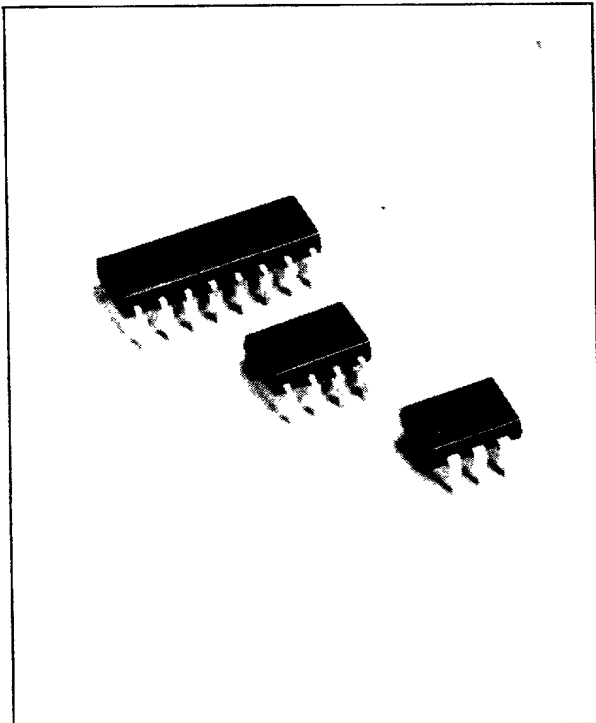




# IS-203 ONE CHANNEL ISD-203 TWO CHANNEL ISQ-203 FOUR CHANNEL OPTICALLY COUPLED ISOLATORS

ISOCOM, INC.  
274 E. HAMILTON AVE.  
SUITE F  
CAMPBELL, CA. 95008



## FEATURES

- 5000 Volt Isolation
- High current transfer ratio (225% to 450%)
- Low cost dual-in-line package
- Single, dual, quad configuration

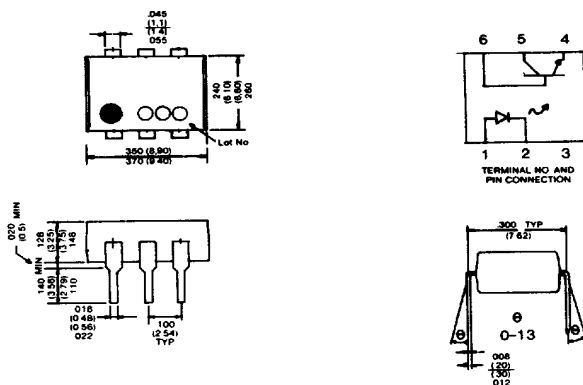
## DESCRIPTION

The IS-203, ISD-203, ISQ-203, are optically coupled isolators. Each channel consists of a Gallium Arsenide infrared emitting diode and a NPN silicon phototransistor mounted in a standard plastic dual-in-line packages. The IS-203 is a single channel isolator. The ISD-203 offers two channels per unit and the ISQ-203 offers four channels per unit.

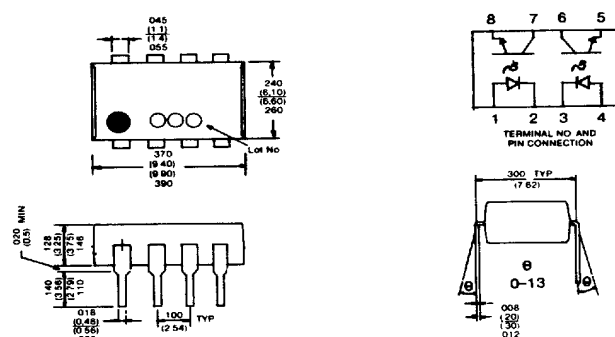
All electrical parameters are 100% tested. Specifications are guaranteed to a cumulative 65% AQL.

Package Dimensions in Inches (mm)

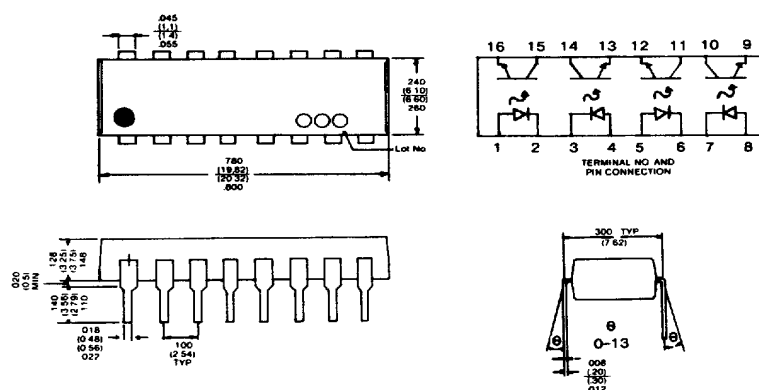
### SINGLE CHANNEL (IS-203)



### TWO CHANNEL (ISD-203)



### FOUR CHANNEL (ISQ-203)



**ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise noted)**

Storage Temperature ..... -55°C to +150°C  
 Operating Temperature ..... -55°C to +100°C  
 Lead Soldering Temperature (1/16 inch (1.6 mm) from case for 10 seconds) ..... 260°C  
 Input-to-Output Isolation Voltage (see note 1) ..... ±5000 VDC

**Input Diode**

Forward DC Current ..... 60 mA  
 Reverse DC Voltage ..... 3 V  
 Peak Forward Current (PW. ≤ 100 μs, duty ratio 0.001) ..... 1 A  
 Power Dissipation (derate linearly 1.33 mW/°C above 25°C) ..... 100 mW

**Output Transistor**

Collector-emitter voltage ..... 30 V  
 Emitter-collector voltage ..... 7 V  
 Power Dissipation (derate linearly 2.00 mW/°C 25°C) ..... 150 mW

**Package**
**Total Power Dissipation**

IS-203 (derate linearly 2.67 mW/°C above 25°C) ..... 200 mW  
 ISD-203 (derate linearly 5.33 mW/°C above 25°C) ..... 400 mW  
 ISQ-203 (derate linearly 6.67 mW/°C above 25°C) ..... 500 mW

**ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)**

|         | Parameter                                                  | Min.               | Typ | Max | Units | Test Condition                                 |
|---------|------------------------------------------------------------|--------------------|-----|-----|-------|------------------------------------------------|
| Input   | Forward Voltage (V <sub>F</sub> )                          |                    | 1.2 | 1.5 | Volt  | I <sub>F</sub> = 20 mA                         |
|         | Forward Voltage (V <sub>F</sub> )                          |                    | 1.0 | 1.2 | Volt  | I <sub>F</sub> = 1 mA                          |
|         | Reverse Current (I <sub>R</sub> )                          |                    |     | 10  | μA    | V <sub>R</sub> = 3 V                           |
| Output  | H <sub>FE</sub>                                            | 100                | 200 |     |       | I <sub>C</sub> = 100 μA, V <sub>CE</sub> = 5 V |
|         | Collector-emitter Voltage (BV <sub>CEO</sub> )             | 30                 |     |     | Volt  | I <sub>C</sub> = 1 mA                          |
|         | Emitter-collector Voltage (BV <sub>ECO</sub> )             | 7                  |     |     | Volt  | I <sub>E</sub> = 0.1 mA                        |
|         | Collector-emitter Dark Current (I <sub>CEO</sub> )         |                    |     | 50  | nA    | V <sub>CE</sub> = 10 V                         |
| Coupled | DC Current Transfer Ratio (CTR)                            | 225                |     | 450 | %     | I <sub>F</sub> = 10 mA, V <sub>CE</sub> = 10 V |
|         | DC Current Transfer Ratio (CTR)                            | 50                 | 90  |     | %     | I <sub>F</sub> = 1 mA, V <sub>CE</sub> = 10 V  |
|         | Collector-emitter Saturation Voltage V <sub>CE</sub> (Sat) |                    | 0.2 | 0.4 | Volt  | I <sub>F</sub> = 10 mA, I <sub>C</sub> = 2 mA  |
|         | Floating Capacitance (C <sub>F</sub> )                     |                    | 0.6 | 1.0 | pf    | V = 0 f = 1 mhz                                |
|         | Input-to-Output Isolation Resistance R <sub>iso</sub>      | 5x10 <sup>11</sup> |     |     | ohm   | V <sub>IO</sub> = 500 V (see note 1)           |

Note 1: Measured with input leads shorted together and output leads shorted together