

General Description

Reed Tracks provides a flexible interface layer that can be used between test equipment and a Device Under Test (DUT). It allows the connection of any line to any other line through a large 32-relay multiplexer.

Reed Tracks is a matrix of SPST reed relays each with independent control. Both terminals of each SPST relay are accessible to allow for flexible setups (multi-pole). Relays are rated for 200V and 1A, and are galvanically isolated.

Reed Tracks is enclosed in a black anodized aluminum shell with LED indication of relay status on the top. Tracks mounts via 0.1” pitch pins as a component on a PCB, or alternately attaches to a breakout board.



Applications

- Automated Test Systems
- Design Verification
- Multiplexing Networks

Features

- 32 Channel SPST Reed Relays
- USB or Ethernet Control, LXI-Compatible
- 200V Galvanic Isolation
- 0.5A Switch / 1.0A Hold Current
- Low Channel Switch Capacitance
- Low Channel Switch Leakage
- Rugged Aluminum Enclosure

Block Diagram

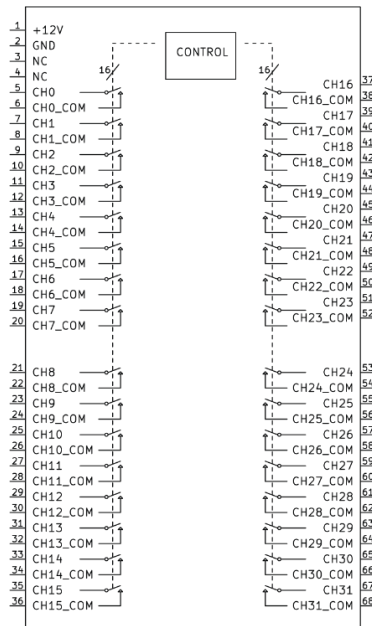


Figure 1: Block Diagram

Pin Functionality Table

Please refer to Figure 1.

Reed Tracks Accessory pin-out detail:

| Pin # | Function Name | Functionality |
|-------------|---------------|--|
| 1 | +12V | +12V input power. Power may be supplied to this pin or via the barrel jack. |
| 2 | GND | Ground for input power. |
| 5-67, Odds | Relay NO | Normally open terminal of associated relay. |
| 6-68, Evens | Relay Common | Common terminal of associated relay. |
| 3, 4 | NC | These are not connected inside the device to allow for sufficient voltage standoff clearance between adjacent common pins. |

Electrical Specifications

Absolute Maximum Ratings⁽¹⁾

T_A = 25C, unless otherwise specified.

- +12V to GND-0.3V to 18V
- Channel to Channel 250VDC/peak AC
- Relay NO to Common 250VDC/peak AC
- Channel to GND 250VDC/peak AC
- Storage Temp Range 0°C to +70°C
- Operation Temp Range..... 0°C to +50°C

(1) Stresses beyond those listed may cause permanent device damage. Functional operation range of the device is defined in Recommended Operating Ratings or Electrical Characteristics. Exposure to absolute max ratings for extended periods may reduce device reliability.

Recommended Operating Ratings

T_A = 25C, unless otherwise specified.

| Parameter | Conditions | Min | Typ | Max | Unit |
|---|------------|------|-----|-----|-------------------------------------|
| +12V Voltage | Continuous | 10 | - | 16 | V |
| +12V Current | Continuous | - | - | 500 | mA |
| Channel to Channel Voltage ⁽¹⁾ | Continuous | -200 | - | 200 | V _{DC} /AC _{PEAK} |
| Channel to GND | Continuous | -200 | - | 200 | V _{DC} /AC _{PEAK} |

(1) Any combination of channel to channel or common within the same bank of 4 relays

Electrical Characteristics⁽¹⁾

T_A = 25C, V_{SUPPLY} = 5V, unless otherwise specified.

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|------------------------|-------------------|--|-----|-----|-----|------|
| CHANNEL OUTPUTS | | | | | | |
| Switch Voltage | V _{SW} | Max DC/peak AC resistive | - | - | 200 | V |
| Switching Current | I _{SW} | Max DC/peak AC resistive | - | - | 0.5 | A |
| Carry Current | I _{HOLD} | Current applied only when the switch is closed | - | - | 1.0 | A |
| Switch Resistance | R _{SW} | I = 10mA | - | 0.2 | - | Ω |

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| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|--------------------|---|-----|------------------|-----|------|
| Channel to Channel Insulation Resistance | IR | 100V | - | 10 ¹⁰ | - | Ω |
| Channel to Channel Capacitance | C _(OFF) | | - | 0.7 | - | pF |
| Switch Time | T _{SW} | Once the switch command is received by the device | - | 1 | - | ms |
| Switch Contact Seebeck Voltage | | 25°C | - | ±25 | - | uV |
| Switch Life Expectancy | | | - | 10 ⁸ | - | Ops. |

(1) As designed and characterized, not fully tested in production unless otherwise specified.

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