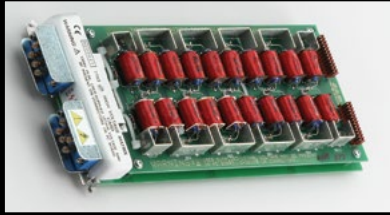


# 7153

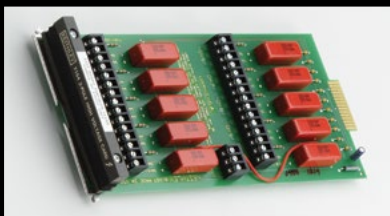


- 1300V switching
- Sub-pA offset current
- 2-pole switching
- Mass termination connectors

## Ordering Information

**7153**      **4x5 High Voltage Low Current Matrix Card**

# 7154



- 1100 volts peak
- 2-pole switching
- High and low fused

## Ordering Information

**7154**      **High Voltage Scanner Card**

## 4x5 Low Current Matrix Card

### High Voltage

The Model 7153 is designed to switch low level, high voltage, and high impedance signals for applications such as parametric tests on semiconductor devices. The 7153 allows signal levels up to 1300V while maintaining offset current of <math><1\text{pA}</math> (typically 10fA) and path isolation >math>10^{13}\Omega</math>. Each crosspoint is a 2-pole relay to switch both signal and guard. Interconnect between the matrix and instruments such as the Model 237 SMU is done with the 7153-TRX cable. This cable has an M-series connector for the matrix and five 3-slot male triax connectors at the opposite end. The cable will mate with the row or column connectors of the Model 7153.

**MATRIX CONFIGURATION:** 4 rows by 5 columns.

**CROSSPOINT CONFIGURATION:** 2-pole Form A (Signal and Guard).

**CONNECTOR TYPE:** Miniature coax, M-series plug.

**RELAY DRIVE CURRENT:** 40mA (per crosspoint).

**MAXIMUM SIGNAL LEVEL:** 1300V between any 2 signal pins or chassis; 200V between Signal and Guard. 1A carry/0.5A switched. 10VA peak (resistive load).

**CONTACT LIFE:**  $10^8$  closures (cold switching);  $10^5$  closures (at maximum signal level).

**PATH RESISTANCE:** <math><1\Omega</math> per contact to rated life.

**ACTUATION TIME:** <math><2\text{ms}</math> exclusive of mainframe.

**ISOLATION:** Path: >math>10^{13}\Omega</math> and <math><1\text{pF}</math>. Differential: >math>10^{11}\Omega</math> and <math><100\text{pF}</math>. Common Mode: >math>10^9\Omega</math> and <math><300\text{pF}</math>.

**CROSSTALK:** <math><-50\text{dB}</math> at 1MHz, 50 $\Omega$  load.

**INSERTION LOSS:** 0.1dB typical (1MHz, 50 $\Omega$  source, 50 $\Omega$  load).

**3dB BANDWIDTH:** 60MHz typical (50 $\Omega$  load).

**OFFSET CURRENT:** <math><1\text{pA}</math> (10fA typical).

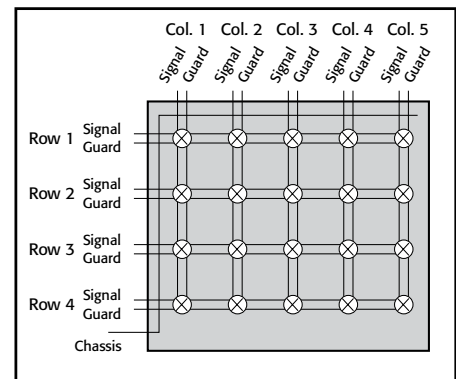
**CONTACT POTENTIAL:** <math><50\mu\text{V}</math> typical.

## ACCESSORIES AVAILABLE

7153-TRX      Low Noise M-Series to Triax Cable, 5 ft.

## SERVICES AVAILABLE

7153-3Y-EW      1-year factory warranty extended to 3 years from date of shipment



## High Voltage Scanner Card

### 10-channel

The Model 7154 switches voltages to 1100V peak or currents to 0.5A. The current carry capacity of each relay contact is 1A. Two-pole relays switch both circuit High and Low for full floating measurements and each input line is fuse protected against current overload. A Guard input common to all channels is provided for shielding or as a Guard driven from a single instrument. Guards may be isolated by removing jumpers installed at each input. Multiple switched guard circuits can be achieved by removing the jumper and connecting circuit Guard to the Low input terminal.

**CHANNELS PER CARD:** 10.

**CONTACT CONFIGURATION:** 2-pole Form A with user-selectable shield or driven Guard. Each pole is fused using #38AWG magnet wire.

**CONNECTOR TYPE:** Screw terminals, #16AWG maximum wire size.

**RELAY DRIVE CURRENT:** 57mA per relay typical.

**MAXIMUM SIGNAL LEVEL:** 1100V peak, 0.5A DC or rms switched, 1A DC or rms carry, 10W.

**CONTACT LIFE:** >math>10^8</math> closures (cold switching); >math>5\times 10^6</math> closures (at maximum signal level).

**CONTACT RESISTANCE:** <math><200\text{m}\Omega</math> initial, 2 $\Omega</math> to rated life.$

**CONTACT POTENTIAL:** <math><35\mu\text{V}</math> per contact pair with copper leads.

**ACTUATION TIME:** <math><2\text{ms}</math> exclusive of mainframe.

**CHANNEL ISOLATION:**  $10^{10}\Omega</math>, <math><10\text{pF}</math>.$

**INPUT ISOLATION: Differential:** >math>10^9\Omega</math>, <math><10\text{pF}</math>.

**Common Mode:** >math>10^9\Omega</math>, <math><150\text{pF}</math>.

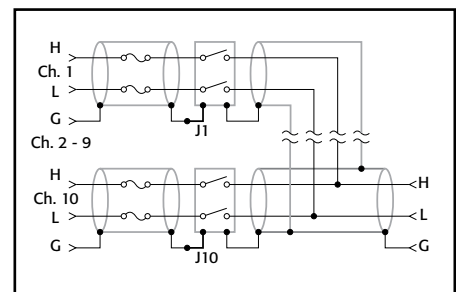
**COMMON MODE VOLTAGE:** 1100V peak.

**ENVIRONMENT: Operating:** 0° to 50° up to 35°C at 70% R.H.

**Storage:** -5° to +65°C.

## SERVICES AVAILABLE

7154-3Y-EW      1-year factory warranty extended to 3 years from date of shipment



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