

7152



- Sub-pA offset current
- Easy interconnect and expansion
- Maximum signal 200V and 1A
- Standard mass terminated cable accessories

Ordering Information

7152 4x5 Low Current Matrix Card

Accessories Supplied
Connector caps

7153



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

Ordering Information

7153 4x5 High Voltage Low Current Matrix Card

4x5 Low Current Matrix Card

The Model 7152 is an ideal solution for small to moderate-size matrix systems that require superior performance in DC isolation for measurements of semiconductor parameters and insulating properties of materials. Offset current is <1pA with path isolation >10¹³Ω. Each matrix crosspoint is a two-pole relay with the ability to switch both signal and guard.

Interconnect, expansion of the matrix, and connection to instruments and devices are easily accomplished using two standard interconnect cable assemblies. The 7152-MTC cables are terminated at both ends with M-series connector blocks for quick expansion between cards and connection to 7152-MTR bulkhead receptacles. 7152-TRX cables are terminated at one end with M-series connectors and at the other end with 3-lug triaxial connector shells for direct connection to electrometers and SMUs.

MATRIX CONFIGURATION: 4 rows by 5 columns.
CROSSPOINT CONFIGURATION: 2-pole Form A (Signal and Guard).
RELAY DRIVE CURRENT: 20mA (per crosspoint).
PEAK CONTACT RATING: 200V 1A carry/0.5A switched. 10VA (resistive load).
PEAK VOLTAGE: Common Mode: 200V (Signal or Guard to Chassis). Path-Path: 200V (Signal or Guard to Signal or Guard).

CONTACT LIFE: 10⁸ closures (cold switching), 10⁵ closures (at maximum signal level).
ACTUATION TIME: <2ms exclusive of mainframe.
ISOLATION: Path: >10¹³Ω and <1pF. Differential: >10¹¹Ω and <100pF. Common Mode: >10⁹Ω and <300pF.
CROSSTALK: <-50dB at 1 MHz, 50Ω load.
INSERTION LOSS: 0.1dB typical (1MHz, 50Ω source, 50Ω load).
3dB BANDWIDTH: 60MHz typical (50Ω load).
OFFSET CURRENT: <1pA (10fA typical).
CONTACT POTENTIAL: 20μV per contact typical.

ACCESSORIES AVAILABLE

PRE-BUILT CABLES

7152-MTC-2 Low Noise M-Series to M-Series Cable, 2ft.
 7152-MTC-10 Low Noise M-Series to M-Series Cable, 10ft.
 7152-TRX-10 Low Noise M-Series to Triax Cable, 10ft.

M-SERIES BULKHEAD CONNECTORS

7152-KIT M-Series Plug for custom wiring
 7152-MTR M-Series Receptacle for 7152-MTC-* Cables and 7152-KIT Plug

REQUIRED TOOLS FOR BULKHEAD CONNECTORS

7074-CIT Extraction Tool for 7152-KIT and 7152-MTR shield contacts
 7074-HCT Hand Crimp Tool for 7152-KIT and 7152-MTR shield contacts
 7152-HCT Hand Crimp Tool for 7152-KIT and 7152-MTR coaxial contacts

4x5 Low Current Matrix Card High Voltage

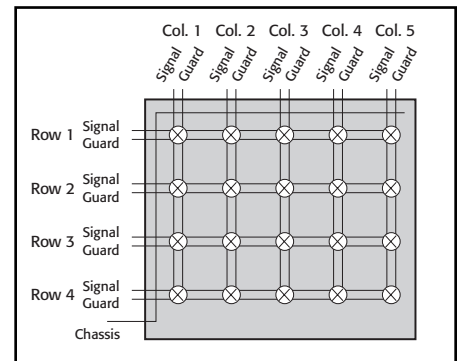
The Model 7153 is designed to switch low level, high voltage, and high impedance signals for applications such as parametric tests on semiconductor devices. The 7153 allows signal levels up to 1300V while maintaining offset current of <1pA (typically 10fA) and path isolation >10¹³Ω. Each crosspoint is a 2-pole relay to switch both signal and guard. Interconnect between the matrix and instruments such as the 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: 10⁸ closures (cold switching), 10⁵ closures (at maximum signal level).
PATH RESISTANCE: <1Ω per contact to rated life.
ACTUATION TIME: <2ms exclusive of mainframe.

ISOLATION: Path: >10¹³Ω and <1pF. Differential: >10¹¹Ω and <100pF. Common Mode: >10⁹Ω and <300pF.
CROSSTALK: <-50dB at 1MHz, 50Ω load.
INSERTION LOSS: 0.1dB typical (1MHz, 50Ω source, 50Ω load).
3dB BANDWIDTH: 60MHz typical (50Ω load).
OFFSET CURRENT: <1pA (10fA typical).
CONTACT POTENTIAL: <50μV typical.

ACCESSORIES AVAILABLE

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



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