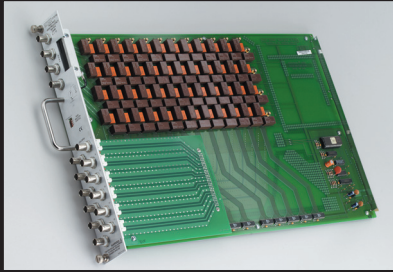


# 7173-50



- 200MHz bandwidth
- <2ns rise time
- 50Ω impedance
- <15μV offset
- <200pA offset current
- 2-pole switching

## Ordering Information

7173-50 4x12, High Frequency Two-Pole Matrix Card

Extended warranty, service, and calibration contracts are available.

# High Frequency Matrix Card

## 4x12, Two-Pole

The Model 7173-50 combines high frequency performance with excellent DC switching characteristics. It provides 200MHz bandwidth in a 4x12 configuration. Offset voltage is <math><15\mu\text{V}</math> per crosspoint, and offset current is <math><200\text{pA}</math>. The combined AC and DC capabilities make it ideal for mixed signal applications where both high frequency and low level DC signals must be switched—for example, testing ADCs or DACs, which involves measuring both digital and analog signals.

The Model 7153-50 has a rise time of <math><2\text{ns}</math>. It also features 2-pole switching at each crosspoint—HI and Shield—useful in 4-wire capacitance measurements where it is important to tie the shields of each connection together at the capacitance meter. BNC card connections are compatible with a wide variety of test equipment.

The Model 7173-50-CSEP expansion cables are four 25-inch cables, and can expand a switching configuration to include more than one Model 7173-50. One cable is required to expand each row or column connection between adjacent cards. For example, connect the rows of two 7173-50 cards to create a 4x24 matrix or connect the columns to create an 8x12 matrix.

**MATRIX CONFIGURATION:** 4 rows by 12 columns.

**CROSSPOINT CONFIGURATION:** 2-pole Form C with Row Isolator (HI, LO).

**CHARACTERISTIC IMPEDANCE:** 50Ω nominal.

**CONNECTOR TYPE:** BNC.

**MAXIMUM SIGNAL LEVEL:** 30V, 0.5A switched, 10VA.

**COMMON MODE VOLTAGE:** 42V peak (LO to Chassis).

**CONTACT LIFE:** Cold Switching:  $5 \times 10^6$  closures.

At Maximum Signal Level:  $3 \times 10^7$  closures.

**PATH RESISTANCE:**

HI: <math><2.0\Omega</math> initial, <math><4.0\Omega</math> at end of contact life.

LO: <math><0.10\Omega</math> initial, <math><0.15\Omega</math> at end of contact life.

**CONTACT POTENTIAL:** <math><15\mu\text{V}</math> per crosspoint (HI to LO).

**RELAY DRIVE CURRENT:** 108mA (per crosspoint).

**RELAY SETTLE TIME:** <math><6\text{ms}</math>.

**OFFSET CURRENT:** <math><200\text{pA}</math> (HI to LO).

**AC PERFORMANCE (50Ω load and 50Ω source):**

	1MHz	10MHz	100MHz	200MHz
<b>Crosstalk:</b> <sup>1</sup>	<math><-85\text{dB}</math>	<math><-50\text{dB}</math>	<math><-35\text{dB}</math>	
<b>Insertion Loss:</b>	<math><0.2\text{dB}</math>	<math><0.4\text{dB}</math>	<math><1.5\text{dB}</math>	<math><3.0\text{dB}</math>
<b>VSWR (typical):</b>		1.4	1.7	

<sup>1</sup>Closed crosspoint to closed crosspoint

**ISOLATION: Path:** >math>10^{10}\Omega</math>, <math><0.40\text{pF}</math>. **Differential:** >math>10^9\Omega</math>, <math>150\text{pF}</math> nominal. **Common Mode:** >math>10^9\Omega</math>, <math>9400\text{pF}</math> nominal.

**RISE TIME (50Ω load and 50Ω source):** <math><2\text{ns}</math>.

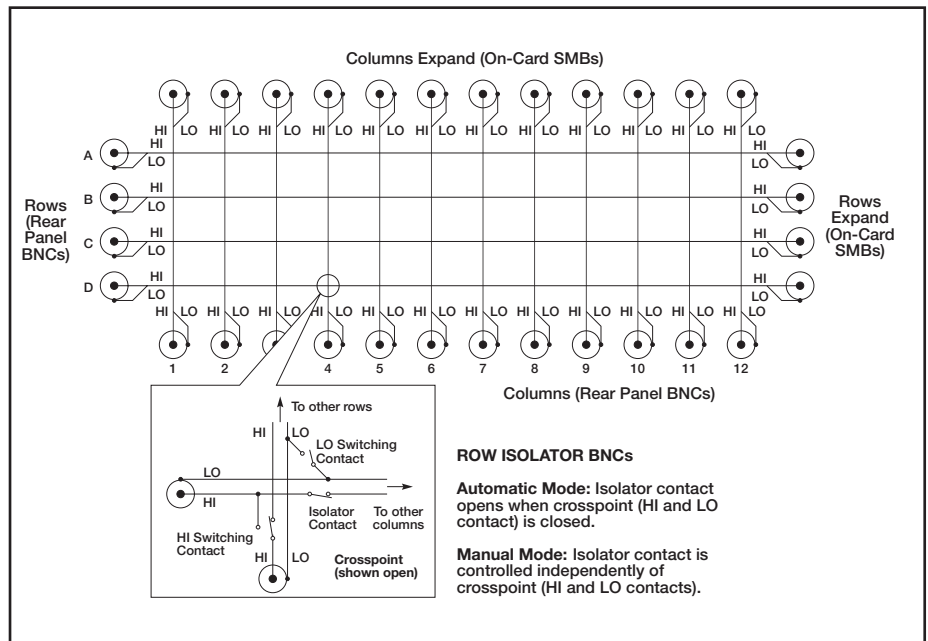
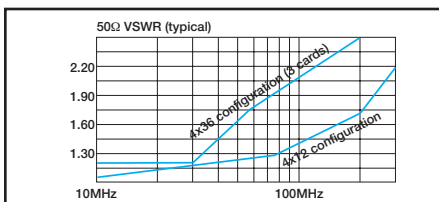
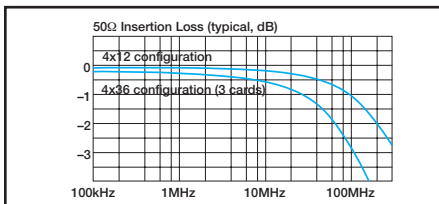
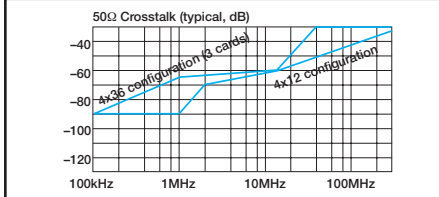
**EMC:** Conforms to European Union Directive 89/336/EEC.

**SAFETY:** Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).

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

**Storage:** -25° to 65°C.

Specifications apply for one 7173-50 with all row isolators in automatic mode.



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