# Keysight Technologies E8782A Pin Matrix and E8783A Pin Matrix Card

# Data Sheet

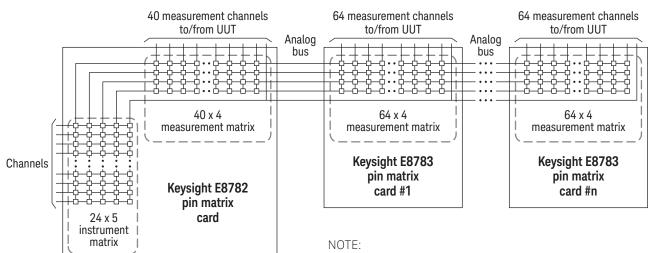
The Keysight Technologies, Inc. E8782A pin matrix with instrumentation and E8783A pin matrix card are new additions that double the number of supported channels offered by the previous E8792A and E8793A matrix cards. With this increase in supported channels, customers can now support tests on units with a higher number of pin counts using the E6198A switch/load unit.

Effectively, the E8782A pin matrix with instrumentation is configured with 24 instrument channels and 40 measurement channels and retains the features included with the older E8792A card.

The E8783A pin matrix card doubles the number of channels on the E8793A card and retains all features, including the switched auxiliary I/O channels for each row. These auxiliary channels are commonly used for digital I/O operations or other user-defined applications.

Both the E8782A and E8783A are compatible for use with existing E8792A and E8793A cards. Their architecture retains the same analog bus design which allows customers to easily cascade several cards in the E6198A switch/load unit.

## E8782A and E8783A conceptual overview



- The instrumentation matrix consist of 4 analog BUS lines and a 5th UUT common line, hence 24 x 5
- The auxiliary channels are not shown in this conceptual overview
- Cascading of cards to E8792A and E8793A are similar, using the analog bus



### E8782A and E8783A specifications

ParameterSpecificationPower requirementVoltage: +5 VdcCapacitance – DUT pin to UUT commonOpen channel: 100 pF Closed channel: 300 pFChannelsE8782AE8782AE8783A40 measurement 24 instrument64 measurement 24 instrumentResistanceDUT pin to auxiliary input: 1 ohm (maximum) DUT pin to analog bus connector: 1 ohm* (maximu * with 100 ohm protection resistor bypassedPin channel voltage200 volts	General specifications			
Capacitance – DUT pin to UUT common Open channel: 100 pF   Closed channel: 300 pF   Channels E8782A   E8782A E8783A   40 measurement 64 measurement   24 instrument 0UT pin to auxiliary input: 1 ohm (maximum)   DUT pin to analog bus connector: 1 ohm* (maximu   * with 100 ohm protection resistor bypassed	Parameter			
Closed channel: 300 pF   Channels E8782A E8783A   40 measurement 64 measurement   24 instrument 64 measurement   Resistance DUT pin to auxiliary input: 1 ohm (maximum)   DUT pin to analog bus connector: 1 ohm* (maximu   * with 100 ohm protection resistor bypassed	Power requirement			
40 measurement 64 measurement   24 instrument 000000000000000000000000000000000000	Capacitance – DUT pin to UUT common			
24 instrument   Resistance DUT pin to auxiliary input: 1 ohm (maximum)   DUT pin to analog bus connector: 1 ohm* (maximu   * with 100 ohm protection resistor bypassed	Channels			
DUT pin to analog bus connector: 1 ohm* (maximu * with 100 ohm protection resistor bypassed				
Pin channel voltage 200 volts	Resistance			
	Pin channel voltage			
Number of concurrent analog channels 4	Number of concurrent analog channels			
Operating temperature 0 to 40 °C	Operating temperature			
Operating humidity 80% relative humidity, 0 to 40 °C	Operating humidity			
Maximum current consumption 3 A at 5 V	Maximum current consumption			

#### **Relay characteristics**

Parameter	Specification
Туре	Dry reed
Switching speed	Close: 500 ms
	Open: 400 ms
Switching characteristics	1.0 A carry
	0.5 A while switching
	7.5 volt-amps maximum instantaneous switching
Other relay parameters	300 VDC standoff voltage
	200 VDC switching voltage

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