



16 (1x8) 1-wire Multiplexer

Overview

The SMP3002 high-density multiplexer module is designed for scanning of multiple points to a common bus, either synchronously with an instrument (i.e., using triggers), or asynchronously with individual relay control.

Up to 768, 1-wire channels can be accommodated in a double-slot VXIbus card (SMP1200) for maximum density, or mixed and matched with other SMIP//™ cards for flexibility. Applications include cable harness testing, semiconductor and PCB testing, or applications where multiple points need to be switched to a common resource. All relays also have individual relay control, and each path allows for 2 A switching.

The SMP3002 consists of 16 individual (1x8) 1-wire multiplexers. All relays are also driven from the VXIbus +5 V supply line, since VXIbus mainframes always have ample current capacity on this supply line, as opposed to the +24 V or +12 V supply lines.

Specifications

Maximum Switching Voltage:	300 V ac, 300 V dc
Maximum Switching Current:	2 A
Maximum Switching Power:	60 W dc, 125 VA
Path Resistance:	< 500 mΩ
Insulation Resistance:	>1x10 ⁹ Ω
Maximum Thermal Offset Per Channel (HI-LO):	<7 μV
Capacitance:	
Open Channel:	<50 pF
Channel-Mainframe:	<20 pF
High-Low:	<50 pF
Bandwidth (-3 dB):	>100 MHz
Insertion Loss:	
100 kHz:	<0.1 dB
1 MHz:	<0.2 dB
10 MHz:	<0.5 dB
Crosstalk:	
100 kHz:	<-90 dB
1 MHz:	<-70 dB
10 MHz:	<-50 dB
Isolation:	
100 kHz:	<-90 dB
1 MHz:	<-70 dB
10 MHz:	<-60 dB
Rated Switch Operations:	
Mechanical:	1 x 10 ⁷
Electrical:	5 x 10 ⁵ at full load
Switching Time:	<3 ms

Features

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High-density Multiplexing/Scanning
(1x768 in a VXI Double-slot)

High Voltage and Current Carrying
Capabilities

Extensive Signal Shielding Employed
on PCBs for Excellent Signal Fidelity

Break-Before-Make (BBM) and
Make-Before-Break (MBB)
Accomplished in Hardware,
Considerably Improving Scanning
Time

Switching