VXI Technology™

96-channel 300 mA Open-Collector/Relay Driver

Overview

The SMP7500 is a high-performance I/O module with twelve groups of 8 bits (96 channels). Each group of 8 bits may be configured as an input or output under program control or via the front panel control line. The I/O may be either single buffered to provide real time data access or double buffered to provide synchronized data. Being part of the SMIP*II*™ series, up to 192 channels can be accommodated in a single-slot C-size card, or 576 channels in two VXIbus card slots.

The SMP7500 has the flexibility to source the input and output clocks from the front panel, allowing very large numbers of channels to be synchronized to collect or present data to a UUT. Additionally, the on-board SMIP*II*™ memory can be used to turn the SMP7500 into a memory backed word generator. In order to ease overall system cabling, all clamping diodes and open collector channels can be pulled up internally, rather than on a per-channel basis.

Each channel can sink 300 mA, and includes built-in clamping diodes, making this module ideal for driving and sensing external devices such as relays. Additionally, for relay driving, the SMP7500 supports all key features of the SMIP*II*™ family such as, scan lists, timing delays etc.

Features

- Twelve Groups of 8 I/O Bits Each
- Up to 192 Channels per Single VXIbus C-size Slot
- Register-based Data Access for Fast Data Throughput
- SMIP*II*™ Memory used for Memory Backed Word Generator
- Flexible Triggering and Handshaking Capability
- High Current Capability – Ideal for Driving External Relays

Specifications

Data Input Characteristics:

Vin(high)	> 2.0 V
Vin (low)	< 1.5 V
Vin (max)	60 V

Data Output Characteristics:

Vout (high)	> 2 V - 60 V
Vout (low)	< 1.5 V @ 300 mA

Clock and Control Input Characteristics:

Vout(high)	> 2.0 V
Vout(low)	< 0.8 V
Iin (Vin = 5.0 V)	< 1 mA, 10 µA
Iin (Vin = 0.5 V)	< -1 mA, 100 µA

Data Access Types: Direct register

Data Throughput:
(Dependent on controller and software)
500 ns typical, direct register access

4 MB per second using D16 access

Data Input Clock Sources: Front panel

Data Output Clock Sources: Front panel

Clocked Input Data Setup: 2 µs

Clocked Input Data Hold: 80 ns

Switching