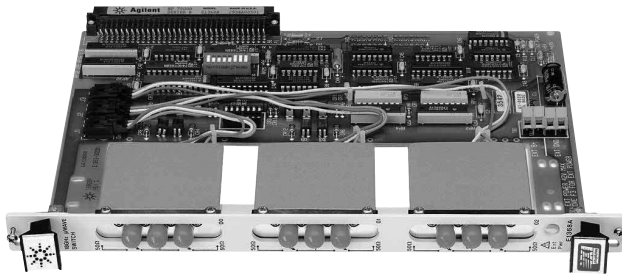**Agilent E1368A**

18 GHz Microwave Switch (3 channels)

Data Sheet

- 1-Slot, B-size, register based
- Signal switching from dc to 18 GHz
- Three internal SPDT 50 Ω terminated switches
- Two additional external switches allowed
- High isolation >90 dB provided
- Break-before-make operation

Agilent E1368A

Description

The Agilent E1368A Microwave Switch is a **B-size, 1-slot, register-based VXI module.** This module, which incorporates the 8762B microwave switch, provides 3-channels of single-pole, double-throw coaxial switching. The three coaxial switches provided have excellent electrical characteristics for transmission systems operating from dc to 18 GHz. The module panels are numbered 00, 01, 02 to indicate the channel numbers of each coaxial switch installed.

The E1368A microwave switch module contains three factory-installed 50 Ω switches, giving it broad bandwidth, high isolation, and excellent repeatability. The switches can by easily activated from a user's program via SCPI commands.

This module also comes with a 14-pin DIP socket for connecting two additional switches mounted remotely. The coaxial switches always operate in break-before-make fashion and are controlled by a latching solenoid.

Refer to the Agilent Technologies Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

Agilent Technologies

Configuration

Each SPDT (Form C) switch has three 3 mm SMA connectors labeled "1" (NC), "2" (NO), and "C" (Common).

These coaxial switches always operate in break-before-make fashion and are controlled by a latching solenoid. Internal coil contacts open and remove coil voltage after a switching operation to minimize the amount of heat dissipated near the switch. When a coil is energized and a switching operation occurs, a pivot armature in the microwave switch also operates both sets of contacts, either closing the switch or connecting it to the 50 Ω termination, so that a 50 Ω match is always maintained.

Product Specifications

Frequency:	dc to 18 GHz
Ports:	3
Internal termination:	Terminated
Insertion loss (dB):	<0.20 to 2 GHz
	<0.25 to 4 GHz
	<0.50 to 18 GHz
SWR (into termination or through line):	<1.1 to 2 GHz
	<1.2 to 4 GHz
	<1.3 to 18 GHz
Isolation (dB):	>90 to 18 GHz
Life and repeatability (typical):	10^6 cycles
	0.03 dB
Power (peak power is nonswitching):	1 Watt average
	100 Watts peak (+ 7 Vdc)
Switching speed:	30 ms
RF connectors:	SMA (female)
Switching dwell time:	35 ms
Driver output voltage:	5 V or 12 V

Control circuit can switch max 1 A per switch. Max current also depends on output capability of the mainframe.

Maximum external energizing voltage:	30 V

General Specifications

VXI Characteristics

VXI device type:	Register based, A16, slave only
Size:	B
Slots:	1
Connectors:	P1
Shared memory:	None
VXI busses:	None
C-size compatibility:	Requires E1403C

Instrument Drivers
See the Agilent Technologies Website (http://www.agilent.com/find/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.01
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
Panel Drivers:	Yes
VXI*plug&play* Win Framework:	Yes
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

	I_{PM}	I_{DM}
+5 V:	1.3	0.01
+12 V:	0	0
−12 V:	0	0
+24 V:	0	0
−24 V:	0	0
−5.2 V:	0	0
−2 V:	0	0

Cooling/Slot

Watts/slot:	5.00
ΔP mm H_2O:	0.08
Air Flow liter/s:	0.42

Ordering Information

Description	Product No.
18 GHz Microwave Switch	E1368A
Drive Cable, 40 GHz Attn 14pin DIP 16in	11764D

4x1 MW Switch
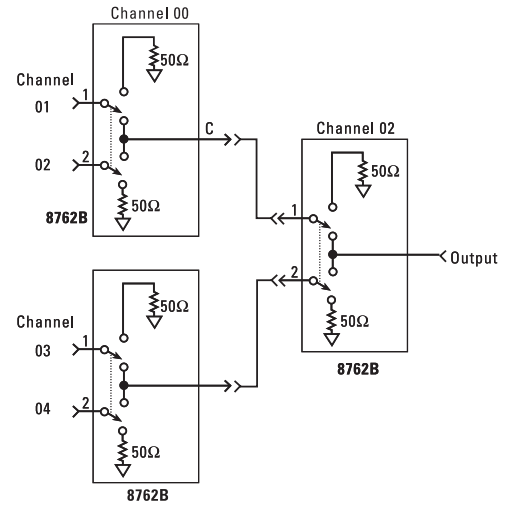
4 x 1 Microwave Switch Example
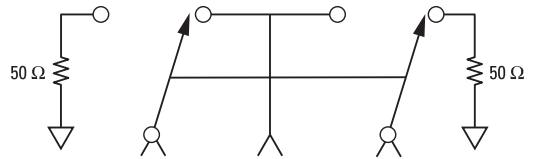
Agilent E1368A/E1369A/E1370A Drive Circuits

Related Literature

2000 Test System and VXI Catalog CD-ROM,
Agilent Pub. No. 5980-0308E (detailed specifications for VXI products)

2000 Test System and VXI Catalog,
Agilent Pub. No. 5980-0307E (overview of VXI products)

1998 Test System and VXI Products Data Book,
Agilent Pub. No. 5966-2812E

Online

Internet access for Agilent product information, services and support
www.agilent.com/find/tmdir

VXI product information
www.agilent.com/find/vxi

Defense Electronics Applications
www.agilent.com/find/defense_ATE

Agilent Technologies VXI Channel Partners
www.agilent.com/find/vxichanpart

Agilent Technologies' HP VEE Application Website
www.agilent.com/find/vee

Agilent Technologies Data Acquisition and Control Website
www.agilent.com/find/data_acq

Agilent Technologies Instrument Driver Downloads
www.agilent.com/find/inst_drivers

Agilent Technologies Electronics Manufacturing Test Solutions
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