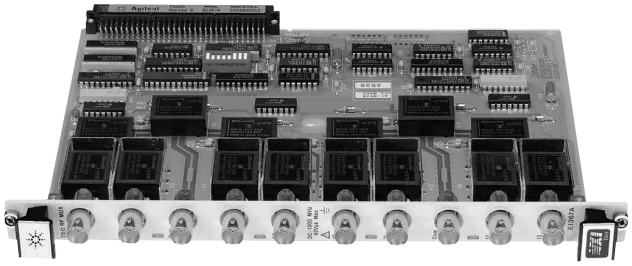
Agilent E1367A

Dual 1x4, 75 Ω RF Multiplexer

Data Sheet

- **1-Slot, B-size, register based**
- **Two 1x4 multiplexers**
- **Up to 1.3 GHz signals switched**
- **BNC connectors**
- **Off-channels terminated**
- **Tree-switched configuration provides high isolation**



Agilent E1367A

Description

The Agilent E1367A 75 Ω RF Multiplexer is a **B-size, 1-slot, register-based VXI module.** It is the ideal choice for video and telecommunications applications. The E1367A is identical to the E1366A, except that the E1366A has a 50 Ω characteristic impedance.

Switching consists of connecting a channel to its common terminal. The E1367A can easily be used with SCPI commands to scan multiple channels, where each channel is switched to its common, one at a time. When open (disconnected from common), each channel is connected to a 75 Ω termination.

The E1367A is arranged as two independent banks of channels (Bank 0 and Bank 1), each acting as a 1x4 one-wire multiplexer. Only one channel in each bank can be connected to its common at any time. Each channel consists of a nonlatching, armature relay. At power-on or reset, all channels are open and connected to their termination resistors. The termination resistor can be removed if desired. The multiplexer relays are arranged in a tree-switched configuration, providing high isolation and low VSWR.

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

Cables and Connectors

Various 75 Ω cables are available from Agilent for connecting to the BNC connectors on the front panel of the multiplexer. Adapters and other connectors are also available.

C-size Adapter

For installing the E1367A in a C-size mainframe, the E1403C active adapter is recommended.

Product Specifications

Input

Maximum voltage (center or shield-to-center, shield or chassis):	42 V
Maximum current (per channel or common):	
DC:	1 A
AC rms:	1 A
Maximum power (per channel or common):	
DC:	24 W
AC:	24 VA

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DC

Maximum thermal offset:	6 μV
Closed channel resistance (typical):	<1 Ω initial, <3 Ω end of relay life
Insulation resistance (between any two terminals):	>10E8 Ω ≤40°C, ≤65% RH

AC

Note: For AC performance, ZL=ZS=ZO, ≤40 °C, RH ≤95% for C-size, RH ≤65% for B-size

Characteristic impedance (Zo):	75 Ω
Insertion loss:	
<10 MHz:	<0.3 dB
<100 MHz:	<0.7 dB
<500 MHz:	<1.5 dB
<1.3 GHz:	<3.0 dB
<3 GHz (typ):	n/a
Crosstalk (channel-to-channel):	
Derate crosstalk specifications by 6 dB if all channels are unterminated.	
<10 MHz:	<–90 dB
<100 MHz:	<–80 dB
Crosstalk(1) (channel-to-channel, one channel closed or channel-to-common) (terminated):	
<200 MHz:	n/a
<500 MHz:	<–60 dB
<1.3 GHz:	<–40 dB
<3 GHz (typ):	n/a
VSWR:	
<10 MHz:	<1.2
<100 MHz:	<1.25
<200 MHz:	n/a
<500 MHz:	<1.35
<1.3 GHz:	<1.55
<3 GHz:	n/a
Risetime:	<300 ps
Signal delay:	<3 ns
Capacitance:	
Center-shield:	<60 pF
Chassis-shield:	<0.15 μF

General Characteristics

Relays:	Non-latching armature
Power up/down state:	All open
Minimum relay life:	
No load:	5x 10E6 operations
Rated load:	10E5 operations

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:	No
VXI*plug&play* Win95/NT Framework:	No
VXI*plug&play* HP-UX Framework:	No

Module Current

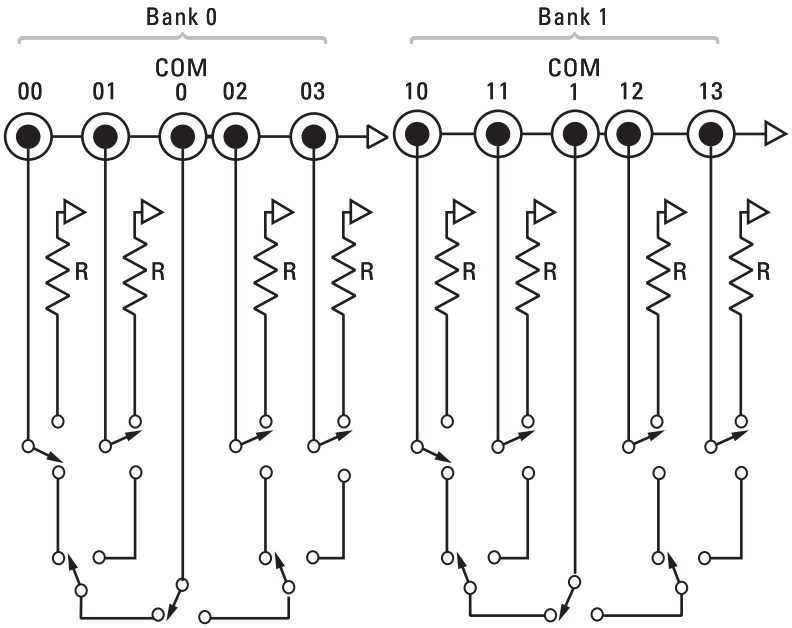
	I_{PM}	I_{DM}
+5 V:	0.1	0.01
+12 V:	0.18	0.01
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	3.00
ΔP mm H_2O:	0.05
Air Flow liter/s:	0.25

Ordering Information

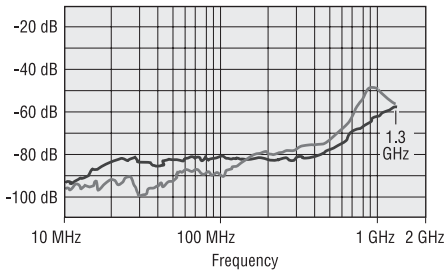
Description	Product No.
Dual 1x4 75 Ω RF Multiplexer	E1367A
Service Manual	E1367A 0B3



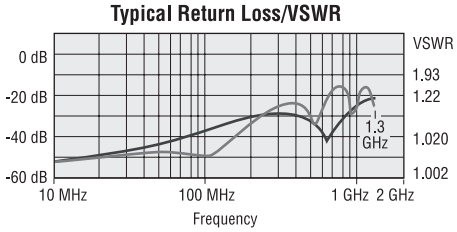
Agilent E1367A-Circuit Diagram

E1367A
E1474A, E1475A

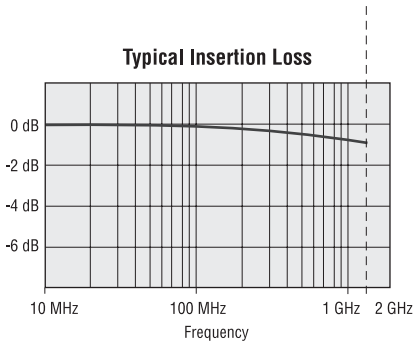
Typical Crosstalk (Channel-to-channel)



Typical Return Loss/VSWR



Typical Insertion Loss



75 Ω Mux Typical AC Performance Graphs

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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Data Subject to Change

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