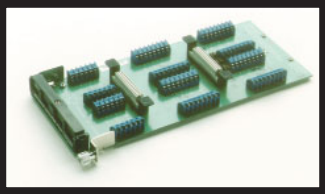
7015-C
7015-S

40-channel Solid State Multiplexer Cards

Quad 1×10 Configuration



- **Quad 1×10 (40-channel) solid-state multiplexer**
- **30,000 hours MTBF**
- **Scan/measure over 300 ch/s**

The Model 7015 40-channel solid state multiplexer is designed for multipoint measurement applications that require high reliability and increased scanning speeds. With an MTBF of more than 30,000 hours, the 7015 can handle applications that require continuous use over longer periods of time. The solid state switch technology also provides fast switching times for scanning rates of over 300 channels/measurements per second when used with the 7002/2001 or 7001/2001 combination.

MULTIPLEX CONFIGURATION: 4 independent 1×10 2-pole multiplex banks or 2 independent 1×10 4-pole multiplex banks. Adjacent banks can be connected together. Jumpers can be removed to isolate any bank from the backplane.

CONTACT CONFIGURATION: 2-pole Form A (Hi, Lo).

CONNECTOR TYPE:

7015-C: 96-pin male DIN connector.

7015-S: Screw terminal, #16AWG maximum wire size, with 0.092 inch O.D. 28 conductors per card maximum. #22AWG typical wire size with 0.062 inch O.D. 88 conductors per card maximum.

MAXIMUM SIGNAL LEVEL: 175V peak between any two pins, 34mA resistive load, 0.3VA max., 1×10^6V·Hz max.

COMMON MODE VOLTAGE: 175V peak, any pin to chassis.

CONTACT TYPE: Solid state switch.

CHANNEL RESISTANCE (per conductor): <210Ω.

CONTACT POTENTIAL: 7015-C: <5μV per channel contact pair. **7015-S:** <4μV per channel contact pair.

OFFSET CURRENT: <1nA.

ACTUATION TIME: <500μs.

ISOLATION: Bank: $>10^9$Ω, <25 pF.
Channel to Channel: $>10^9$Ω, <50 pF.
Differential: Configured as 1×10: $>10^9$Ω, <100pF. Configured as 1×40: $>10^9$Ω, <200pF.
Common Mode: Configured as 1×10: $>10^9$Ω, <375pF. Configured as 1×40: $>10^9$Ω, <1100pF.

INSERTION LOSS (50Ω Source, 1MΩ Load): <0.1dB below 250kHz, <3dB below 500kHz.

Ordering Information

7015-C	**40-channel, 2-pole Independent Switch with 96-pin Mass Terminated Connector Board**
7015-S	**40-channel, 2-pole Independent Switch with Screw Terminal Connector Board**

ACCESSORIES AVAILABLE

FOR 7015-C

7011-KIT-R	96-pin Female Connector Kit
7011-MTC-1	96-pin Mass Terminated Cable, Female to Female, 1m
7011-MTC-2	96-pin Mass Terminated Cable, Female to Female, 2m

FOR 7015-S

7015-ST	Extra screw terminal connection board

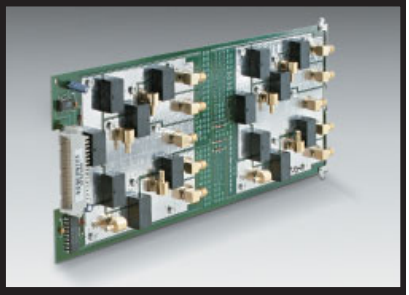
SERVICES AVAILABLE

7015-C-3Y-EW	1-year factory warranty extended to 3 years from date of shipment
7015-S-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

7016A

2GHz RF Switch Card

Dual 1×4 Configuration, 50Ω



- **DC to 2GHz, 50Ω, signal switching**
- **Off channels can be resistively terminated**

The Model 7016A has two independent bi-directional 1×4 multiplexers for the Models 7001 and 7002 Switch Mainframes. The characteristic impedance of the card is 50Ω. Signal connections are made to the card with SMA connectors. Off channels can be resistively terminated. SMB jack connectors, provided on the card, are designed to be used with user-supplied terminators to minimize signal reflection.

MULTIPLEXERS PER CARD: Two 1×4s (with isolated ground).

CHARACTERISTIC IMPEDANCE: 50Ω nominal.

CHANNELS PER MULTIPLEXER: 4.

CONTACT CONFIGURATION: 1 pole Form A common shield.

RELAY DRIVE CURRENT: 120mA.

CONNECTOR TYPE: SMA.

RECOMMENDED CABLE: RG-223/U.

TERMINATION: User supplied 50Ω SMB termination (on unselected inputs).

ACTUATION TIME: 8ms.

MAXIMUM VOLTAGE: Any terminal (center or shield) to any other center or chassis: 30V.

MAXIMUM CARRY CURRENT: 0.5A.

MAXIMUM CARRY POWER: 10VA up to 900MHz, 3VA @ 2GHz.

ISOLATION: Multiplexer to Multiplexer: >1GΩ. **Center to Shield:** >1GΩ, <50pF. **Channel to Channel:** >100MΩ.

RISE TIME: <200ps.

SIGNAL DELAY: <3ns; channels matched to 50ps.

CONTACT POTENTIAL: <6μV.

CONTACT RESISTANCE: 0.5Ω.

CONTACT LIFE: 3×10^5 @ 30V @ 10mA. 3×10^5 @ 900MHz, 1W. 1×10^6 @ cold switching.

ENVIRONMENT: Operating: 0° to 50°C; up to 35°C at 80% RH. **Storage:** –25°C to 65°C.

EMC: Conforms with European Union Directive 89/336/EEC.

SAFETY: Conforms with European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).

Ordering Information

7016A	**Dual 1×4, 2GHz, 50Ω Multiplexer with Optional Termination**

AC PERFORMANCE:

For $Z_L = Z_S = 50\Omega$	≤10 MHz	≤100 MHz	≤500 MHz	≤1 GHz	≤2 GHz
Insertion Loss (dB):	<0.3	<0.6	<1.0	<1.3	<3.0
Crosstalk (dB):[1]					
Channel-channel	<–90	<–80	<–65	<–55	<–45
Switch-Switch	<–90	<–80	<–70	<–65	<–45
VSWR	<1.06	<1.1	<1.2	<1.6	≤1.9

[1] Specification assumes 50Ω termination.

SERVICES AVAILABLE

7016A-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

Use with 7001 and 7002 switch mainframes

SWITCHING AND CONTROL

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Keithley Instruments, Inc.:

7015-S 7015-C 7016-A