



## 10209-Type 1:1 Redundancy Switch Units



### Description

The 10209-type redundancy switch plug-in modules are designed to protect for systems against laser, photodiode, or fiber failure. The modules can be configured according to application requirements, as indicated in the block diagrams below. In the conventional 1:1 redundancy scenario, the RF output is split and sent to two separate transmitter and receiver links supported by a 10209 switch. In site-diversity applications, the optical output is split so that it can be sent over two separate fiber links and then fed into the 10209 switch.

### Features

- 50  $\Omega$  or 75  $\Omega$
- 10 MHz to 18 GHz
- BNC, Type F, and SMA interface
- Remote status monitoring
- Remote control
- Automatic control

### Applications

- 1:1 redundancy
- Site diversity

### Block Diagram

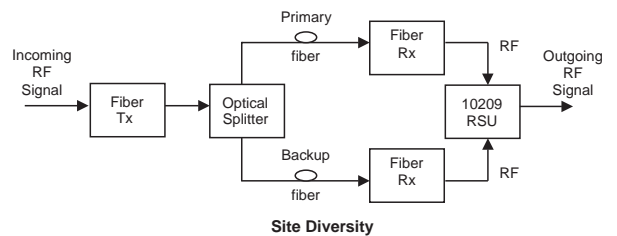
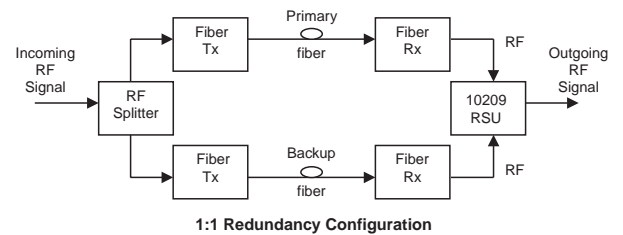


Figure 1. 10209-Type Redundancy Switch Unit Application Configurations

## Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Max	Unit
Operating Temperature Range	TOP	-0	50	°C
Storage Temperature Range	Tstg	-20	65	°C
Humidity	—	—	95 noncondensing	%

## Electrical/Optical Characteristics

Table 1. Electrical and Optical Characteristics (10209A/C/E)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Frequency Range: 10209A/C/E 10209A/C 10209E	F	—	10 — —	— — —	— 2300 18000	MHz MHz MHz
Impedance: 10209A/C 10209E	Z	—	— —	— —	75 50	$\Omega$ $\Omega$
Insertion Loss: Plug-in and Cables: 10209A/C 10209E Plug-in Only: 10209A/C 10209E	LINS	Over Any 40 MHz	— — — —	1.0 1.5 0.5 0.6	1.5 2.0 — —	dB dB dB dB
Flatness: Plug-in and Cables: 10209A/C 10209E Plug-in Only: 10209A/C 10209E	—	Over Any 40 MHz	— — — —	$\pm 0.20$ $\pm 0.25$ $\pm 0.04$ $\pm 0.06$	$\pm 0.25$ $\pm 0.50$ — —	dB dB dB dB
Flatness: Plug-in and Cables: 10209A/C 10209E Plug-in Only: 10209A/C 10209E	—	Over Any 500 MHz	— — — —	$\pm 0.25$ $\pm 0.30$ $\pm 0.05$ $\pm 0.08$	$\pm 0.50$ $\pm 0.60$ — —	dB dB dB dB
VSWR: 10209A/C 10209E	—	All Ports, with Switch in Corresponding Position	<1.8:1 <2.0:1	— —	— —	— —
Switch Speed	—	—	—	—	25	ms
Port-to-Port Isolation	ISO	—	—	>-50	>-65	dB
Drive Voltage Range	VDRIVE	Pin 1, Supplied by Chassis and Power Supply	15	—	24	Vdc

## Electrical/Optical Characteristics (continued)

Table 1. Electrical and Optical Characteristics (10209A/C/E) (continued)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drive Current	IDRIVE	Steady State	—	45	60	mA
Drive Current	IDRIVE	Peak When Switching	—	—	300	mA
10209A/C/E			—	190	—	mA
10209A/C			—	218	—	mA

## Pin Information

Table 2. dc Interface Pin Descriptions

Plug-in Unit, 9-pin D-sub Connector	Corresponding 5-pin <i>Molex</i> <sup>1, 2</sup> Connector	10209-Type Redundancy Switch Unit
1	—	+VCC
2	—	NC
3	—	NC
4	—	Power Ground
5	1	Reference Ground
6	2	Input: Low Optical Power Alarm, Primary
7	3	Input: Low Optical Power Alarm, Backup
8	4	Input <sup>3</sup> : RF Position Control, If In Manual and Remote (Primary = 0 V or Open Backup = 5 V)
9	5	Output <sup>3</sup> : Position of RF switch

- Molex* is a registered trademark of Molex, Inc.
- The pin numbers above are based on the numbers on the chassis backplane. Some connector vendors switch the order of the numbers, so if in doubt when wiring the connectors, use the number on the Lucent chassis.
- Open position available for the user.

Table 3. Chassis Interface

Backplane Connector	Mating Connector	Crimp Pins
P11-P18	<i>Molex</i> P/N 22-01-2057	<i>Molex</i> P/N 08-50-0114
P19	<i>Molex</i> P/N 22-01-2097	<i>Molex</i> P/N 08-50-0114
P20	<i>Molex</i> P/N 09-50-3031	<i>Molex</i> P/N 08-50-0108

## Package Information

Dimensions are in inches and (millimeters): 5.06 x 1.39 x 9.12 (129 x 35 x 232).

## Ordering Information

For ordering information, please contact a Lucent account manager at Microelectronics Group, Opto West, 1-800-362-3891 (for sales staff, please press option 2).

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For additional information, contact your Microelectronics Group Account Manager or the following:

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