



USB, I²C & SPI

Solid-State Switch

U2C-1SP2T-63VH

Mini-Circuits

50Ω 10 to 6000 MHz SP2T SMA Female

THE BIG DEAL

- USB and I²C and SPI Power & Control
- High Power Handling, 2W, Hot Switching
- Ultra High Isolation, 110 dB over Full Frequency Range
- Small Case, 3.0 × 2.0 × 0.47"

APPLICATIONS

- Cellular BTS / Handset Testing
- High Volume Production Testing / ATE
- Design Verification Testing
- RF Signal Routing / Switch Matrices



Generic photo used for illustration purposes only

PRODUCT OVERVIEW

Mini-Circuits' U2C-1SP2T-63VH is a high isolation, high power, absorptive SPDT switch with USB, I²C and SPI control. The fast switching, solid state switch operates from 10 MHz to 6000 MHz with 700 ns typical transition time. High linearity (+52 dBm typ IP3), and very high isolation (110 dB typical) allow the model to be used for a wide variety of RF applications.

The U2C-1SP2T-63VH is housed in a compact, rugged metal case with 3 SMA (F) connectors (COM, J1 and J2), a USB Mini-B and three 10-pin digital connectors for control and power via USB, I²C and SPI.

Full software support is provided, including our user-friendly GUI application for Windows and a full API with programming instructions for Windows and Linux environments (both 32-bit and 64-bit systems).

Alternatively, the SPI and I²C interfaces provide options for controlling multiple switches at once via a simple serial interface (typically using a microcontroller), supporting up to 8 switches connected in parallel with I²C or up to 30 switches connected in series with SPI

KEY FEATURES

Feature	Advantages
Multiple Control Interfaces (I ² C, SPI & USB)	USB provides a quick and easy PC control method with full software support, while I ² C allows multiple switches to be controlled in parallel from a microcontroller / embedded system using minimal hardware (2 wire control).
RF SPDT Absorptive Switch	Wideband (10 to 6000 MHz) with low insertion loss (4 dB typ.), high isolation (110 dB typ.), and high power rating (+33 dBm terminated power).
Daisy-Chain SPI Control	Allows connecting up to 30 units in series to a single power supply and SPI control
High Linearity (IP3 +52 dBm typ)	Results in little or negligible inter-modulation generation, meeting requirements for digital communications signals.
DC Blocking at RF ports	Built in blocking capacitors eliminate the need for external DC blocking circuitry at RF ports.

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50Ω 10 to 6000 MHz SP2T SMA Female

ELECTRICAL SPECIFICATIONS AT -10 TO 60°C

Parameter	Ports	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range	-	-	10	-	6000	MHz
Insertion Loss	COM to any active port	10 - 700	-	3.2	4.7	dB
		700 - 2500	-	4.0	5.5	
		2500 - 5000	-	4.5	6.0	
		5000 - 6000	-	5.0	6.5	
Isolation	Between ports J1 & J2 (all states)	10 - 700	100	105	-	dB
		700 - 2500	100	110	-	
		2500 - 5000	100	105	-	
		5000 - 6000	100	103	-	
	COM to any terminated port (including Disconnected state)	10 - 700	100	110	-	
		700 - 2500	100	110	-	
		2500 - 5000	100	110	-	
		5000 - 6000	100	105	-	
Return Loss	COM port in all active states	10 - 700	-	14.5	-	dB
		700 - 2500	-	18	-	
		2500 - 5000	-	19	-	
		5000 - 6000	-	18	-	
	Any port connected to COM	10 - 700	-	14.5	-	
		700 - 2500	-	18	-	
		2500 - 5000	-	18	-	
		5000 - 6000	-	18	-	
	Any terminated port ¹	10 - 700	-	18	-	
		700 - 2500	-	18	-	
		2500 - 5000	-	18	-	
		5000 - 6000	-	18	-	
Power Input at 1 dB Compression ^{2,3,4}	COM to any active port	100 - 6000	-	39.5	-	dBm
Input IP3 ^{2,4,5}	COM to any active port	100 - 6000	-	52	-	dBm
Transition Time ⁶	-	-	-	0.7	2	μs
Minimum Dwell Time ⁷	High-speed mode	-	-	5	-	μs
Switching Time (USB) ⁸	-	-	-	2	-	ms
Supply Voltage (V _{DC})	USB or I ² C port	-	4.75	5	5.25	V _{DC}
Supply Current (I _{DC})		-	-	30	50	mA
Operating RF Input Power ^{3,9}	-	10 - 600	Max power derates linearly from +33 dBm @ 600 MHz to +19 dBm @10 MHz			dBm
		600 - 6000	-	-	+33	

1. Return Loss of COM port in disconnected state is the same as of other terminated ports.

2. Do not exceed absolute maximum ratings in table on page 3.

3. The model can handle Max RF input from both J1 and J2 at once. Max power derates linearly from +33 dBm @ 600 MHz to +19 dBm @10 MHz

4. Compression and IP3 may degrade below 100 MHz.

5. IP3 tested with 1 MHz span between signals, +5 dBm per tone.

6. Transition time spec represents the time that the RF signal paths are interrupted during switching and thus is specified without communication delays.

7. Minimum dwell time is the shortest time that can be achieved between 2 switch transitions when programming an automated switch sequence.

8. Switching time (USB) is the time from issuing a single software command via USB to the switch state changing. The most significant factor is the host PC, influenced by CPU load and USB protocol. The time shown is an estimate for a medium CPU load and USB 2.0 connection.

9. At high power input additional cooling may be needed.





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ABSOLUTE MAXIMUM RATINGS

Operating Temperature		0°C to 50°C
Storage Temperature		-20°C to 60°C
Max Case Temperature		80°C
DC supply voltage max.	at USB port (USB or I ² C control)	6 V
	at I ² C pin 10 (USB or I ² C control)	6 V
	at SPI In / Out pins 1-3 (for SPI control)	26 V
Voltage on I ² C control pins (Pins 7 & 8)		3.6 V
Voltage on SPI control pins (Pins 7-9)		6 V
Voltage on address pins (4 - 6 in I ² C)		3.6 V
RF Power at 10 - 600 MHz into any RF port		Derate linearly from +34 dBm @ 600 MHz to +20 dBm @10 MHz
RF Power at 600 - 6000 MHz into any RF port		+34 dBm
DC Voltage at RF Ports		12 V

Permanent damage may occur if any of these limits are exceeded. Operating in the range between operating power limits and absolute maximum ratings for extended periods of time may result in reduced life and reliability.

CONNECTIONS

Port Name	Connector Type
RF Switch (J1 to J4, COM)	(SMA female)
USB	(USB type Mini-B receptacle)
I ² C*	(10 pin Hirose DF11 socket) ¹⁰
SPI In*	(10 pin Hirose DF11 socket) ¹⁰
SPI Out*	(10 pin Hirose DF11 socket) ¹⁰

10. Mating connector is Hirose DF11-10DS-2C(20).

*PIN CONNECTIONS FOR ALL HIROSE DF11 CONNECTORS

Pin Number	I ² C Connector	SPI In	SPI Out
1	GND	Supply Voltage (Vcc)	Supply Voltage (Vcc)
2	GND	Supply Voltage (Vcc)	Supply Voltage (Vcc)
3	GND	Supply Voltage (Vcc)	Supply Voltage (Vcc)
4	A0	GND	GND
5	A1	GND	GND
6	A2	GND	GND
7	SDA	Data In	Data Out
8*	SCL	Clock In	Clock Out
9	GND	LE In	LE Out
10	Supply Voltage (Vcc)	Blank In	Blank Out

DC ELECTRICAL SPECIFICATION FOR SPI CONTROL

Parameter	Min.	Typ.	Max.	Units
Vcc, Supply Voltage	12	-	24	V _{DC}
Load on Vcc between In and Out ports	-	0.05	-	Ω
Icc, Supply Current	at 24 V	-	15	mA
	at 12 V	-	30	
Control Current	-	400	-	μA

CONTROL VOLTAGES FOR SPI & I²C CONTROL

Parameter	Min.	Typ.	Max.	Units
Control Input Low	SPI	-0.3	-	V
	I ² C	0	-	
Control Input High	SPI	2.0	-	
	I ² C	2.0	-	



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50Ω

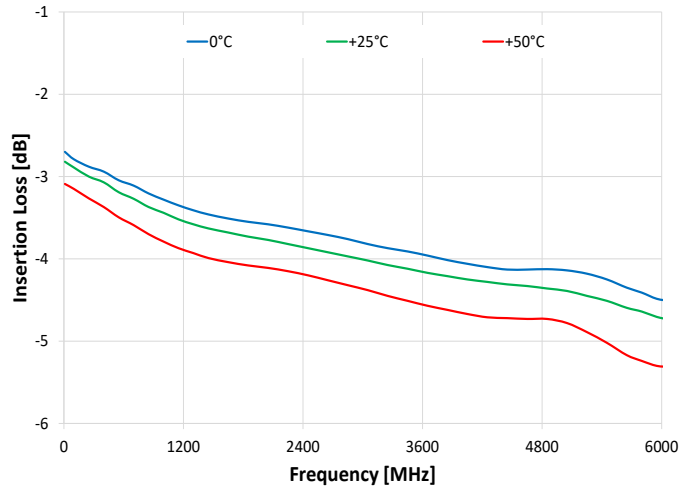
10 to 6000 MHz

SP2T

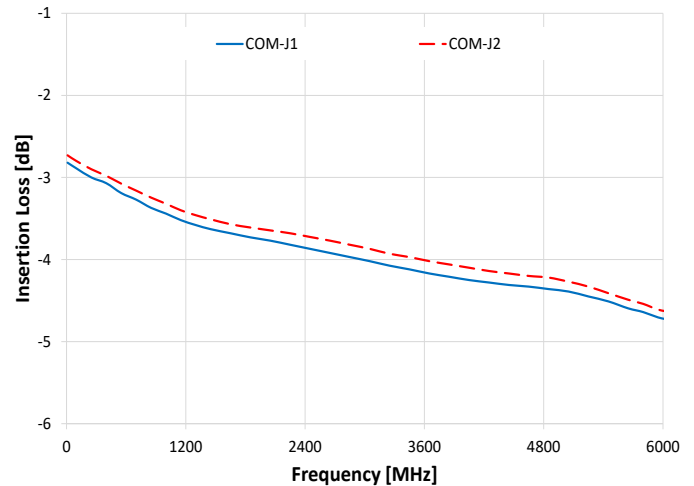
SMA Female

TYPICAL PERFORMANCE GRAPHS

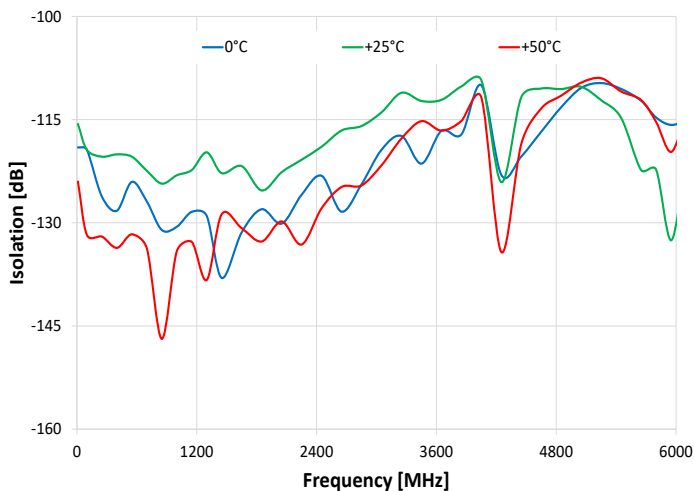
Insertion Loss over Temperature (J1 Active)



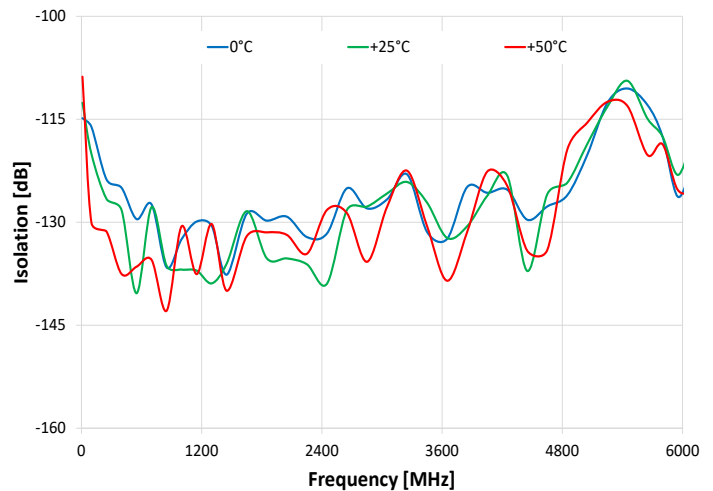
Insertion Loss J1 - J2 Active



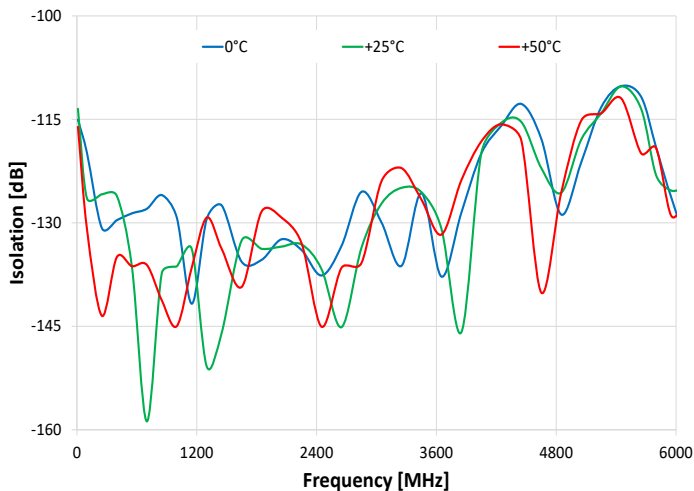
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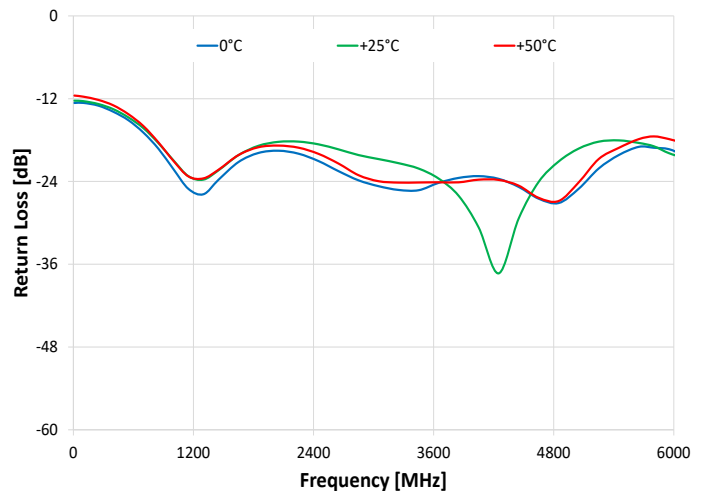
Isolation COM to J2 (J1 Active)



Isolation J1 to J2 (J1 Active)



Return Loss @ COM over Temperature (J1 Active)



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50Ω

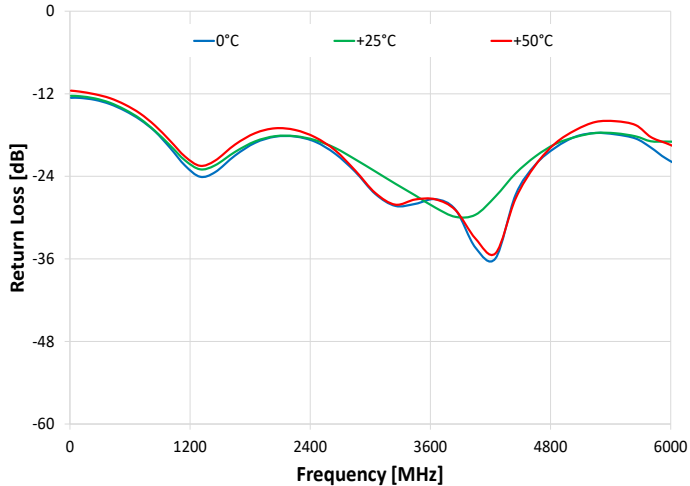
10 to 6000 MHz

SP2T

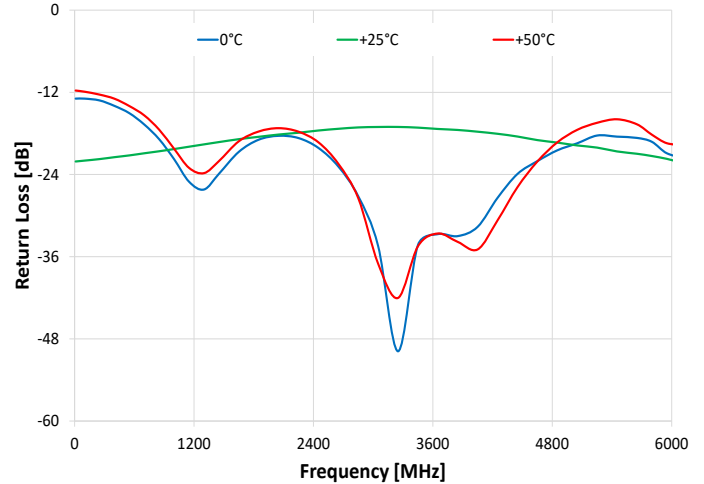
SMA Female

TYPICAL PERFORMANCE GRAPHS (CONTINUED)

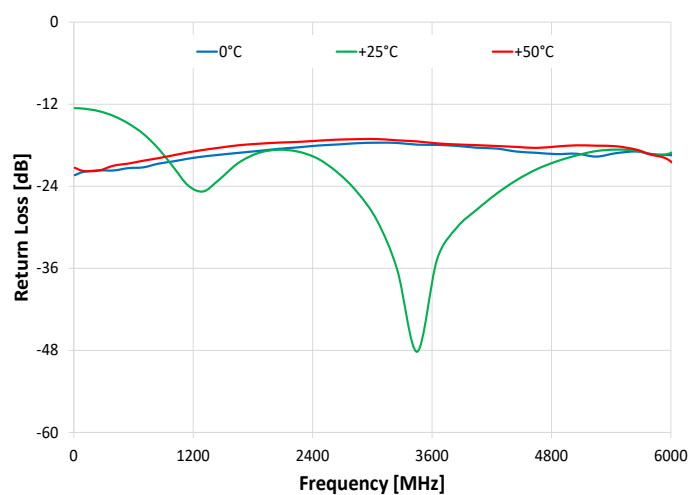
Crosstalk between switches
@ Active & Disconnected States



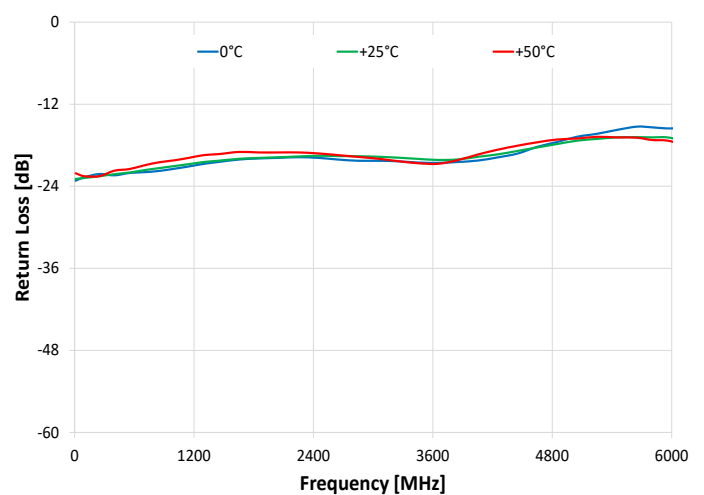
Return Loss @ J1 over Temperature (J1 Terminated)



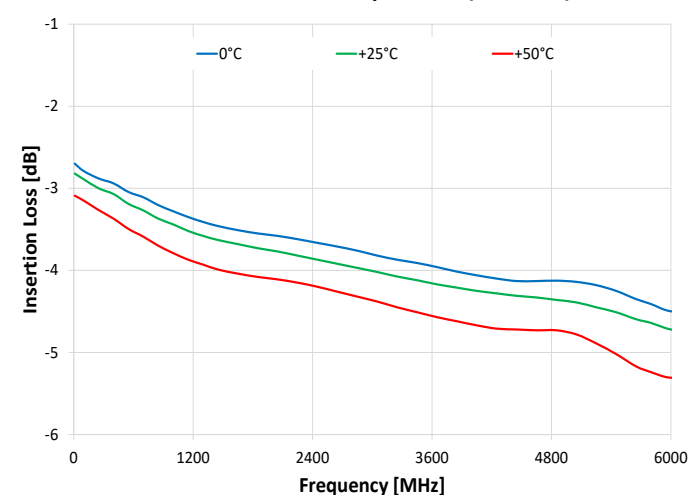
Return Loss @ J2 over Temperature (J2 Active)



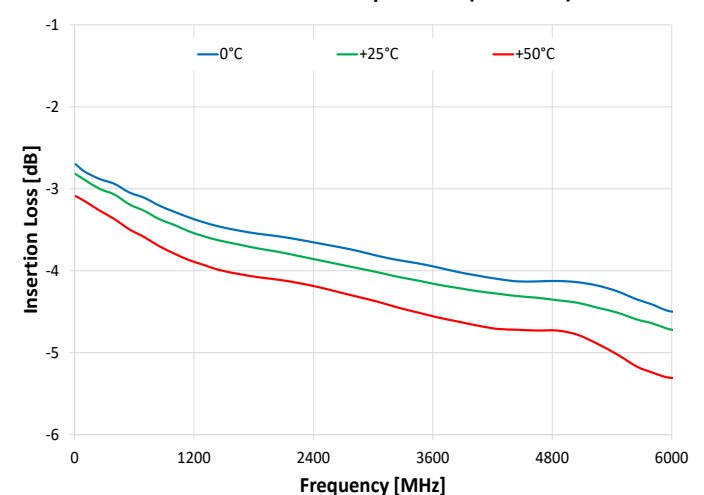
Return Loss @ J2 over Temperature (J2 Terminated)



Insertion Loss over Temperature (J1 Active)



Insertion Loss over Temperature (J1 Active)



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SPI CONTROL INTERFACE

The U2C-1SP2T-63VH SPI serial interface consists of 2 control bits per unit that select the desired switch state, as shown in the table below:

Switch State	A0	A1	Port Behavior		
			COM	J1	J2
Disconnected	0	0	Terminated Internally (50Ω)	Terminated Internally (50Ω)	Terminated Internally (50Ω)
COM -> 1	1	0	Connected to J1	Connected to COM	Terminated Internally (50Ω)
COM -> 2	0	1	Connected to J2	Terminated Internally (50Ω)	Connected to COM

The serial interface is an 8-bit serial in, parallel-out shift register buffered by a transparent latch. It is controlled by three-wire SPI protocol using Data, Clock and Latch Enable (LE), with an additional Blanking input. All signal voltages are compatible with TTL and LVTTTL. The serial input and output ports allow up to 30 switches to be connected in a "Daisy-Chain" configuration, with SPI data being passed down the chain from Master to Slaves.

BLANK INPUT

- Allows the SPI control input to be turned on and off to prevent spurious / inadvertent data entry
- When Blank is high, the SPI interface works as below using the data, clock and LE inputs.
- When Blank is low, the SPI interface is disabled so the data, clock and LE inputs have no effect, and all SPI Out pins are kept at digital low, regardless of input.
- It is recommended to hold Blank low when the switch will be operating in a given state for long periods, and only bring it to high when loading data in the shift register to set the switch state.

DATA & CLOCK INPUTS

- 8 data bits must be loaded for switch control but only the last 2 bits (LSB) are used to define the switch state (refer to table 1 above)
- Where multiple switches are connected in a daisy-chain configuration, 8 bits must be loaded per switch:
 - ◊ The first 8 bits loaded define the state for the final switch in the chain
 - ◊ The final 8 bits loaded are applied to the first switch in the chain

LATCH ENABLE (LE) INPUT

- When LE is high, the latch is transparent and the switch state will change as data is clocked into the shift register
- When LE is low, data can be clocked into the shift register without affecting the switch state.
- The recommended process is to hold LE low while clocking in data, then toggle LE high and low again to latch the switch state
- If multiple switches are connected in daisy-chain setup, the data for all switches in the chain should be loaded before toggling LE high and low.

Note:

1. In Daisy-Chain setup, LE will be connected in parallel to all units using the switches' internal buffers to prevent control current from increasing as more units are connected.
2. In Daisy-Chain setup, Blank will be connected directly to all units, causing the control current to increase as the more units are connected.



SPI CONTROL INTERFACE (CONTINUED)

Blank	LE	Digital Control Status	
		Shift Register	Latch
0	0	Parallel Output Locked	Locked
1	0	Active	Locked
0	1	Parallel Output Locked	Locked
1	1	Parallel Output Locked	Transparent

Figure 1: Serial Interface Timing Diagram

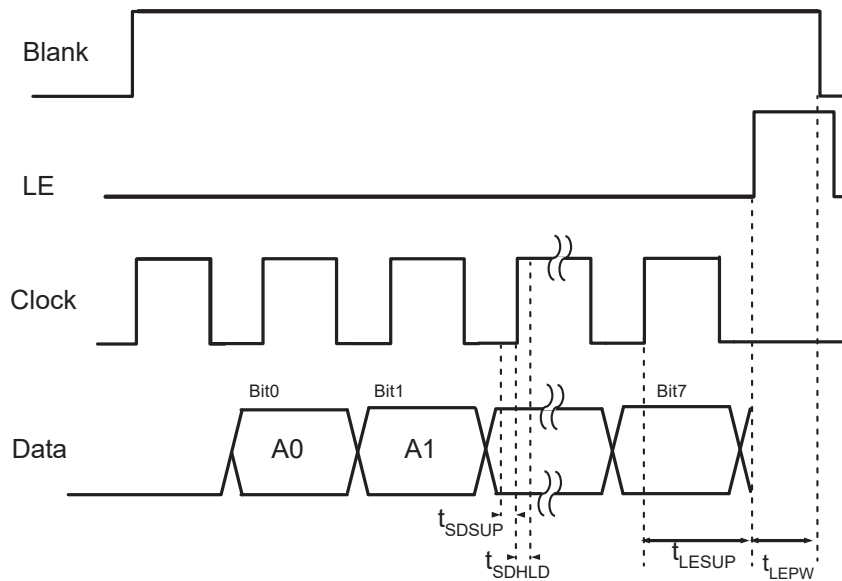


Table 2: Serial Interface AC Characteristic

Symbol	Parameter	Min.	Max	Units
f_{clk}	Serial data clock frequency		20	MHz
t_{clkH}	Serial clock HIGH time	8		ns
t_{clkL}	Serial clock LOW time	14		ns
t_{LESUP}	LE set-up time after last clock rising edge	8		ns
t_{LEPW}	LE minimum pulse width	8		ns
t_{SDSUP}	Serial data set-up time before clock rising edge	8		ns
t_{SDHLD}	Serial data hold time after clock falling edge	1		ns



SPI CONTROL INTERFACE (DAISY-CHAIN)

Figure 2: Connection Diagram For Multiple units in series

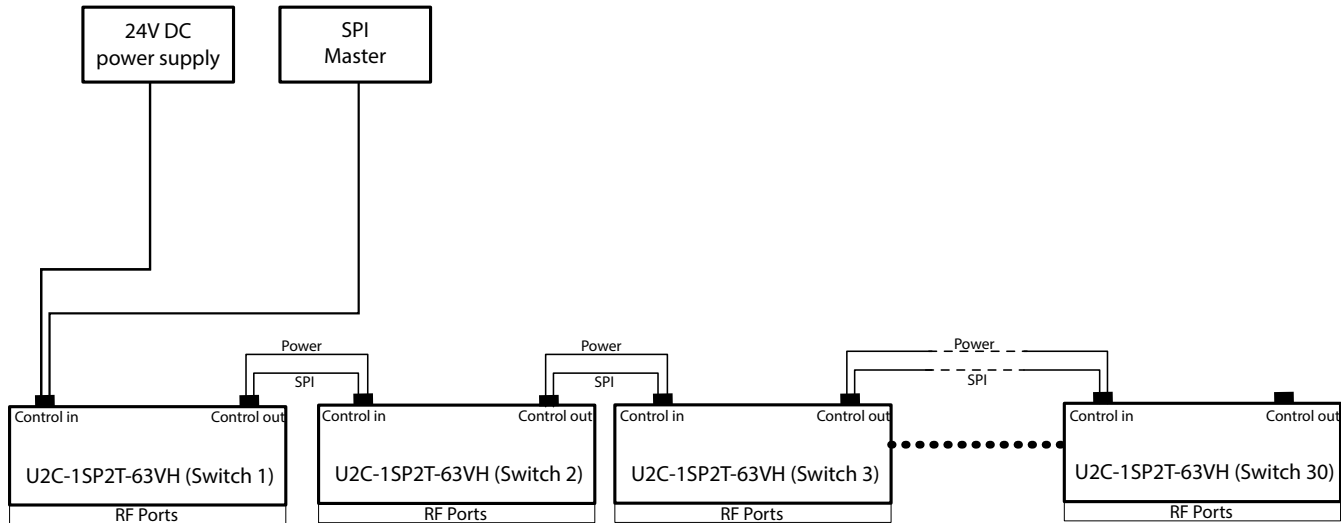


Figure 3: SPI Timing Diagram for 3 units in series

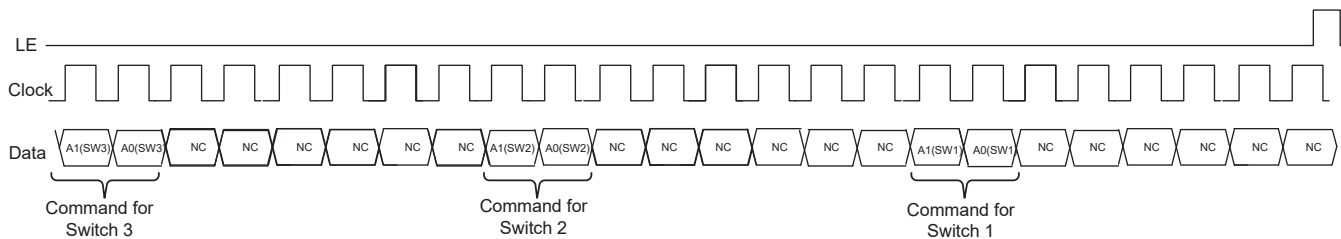
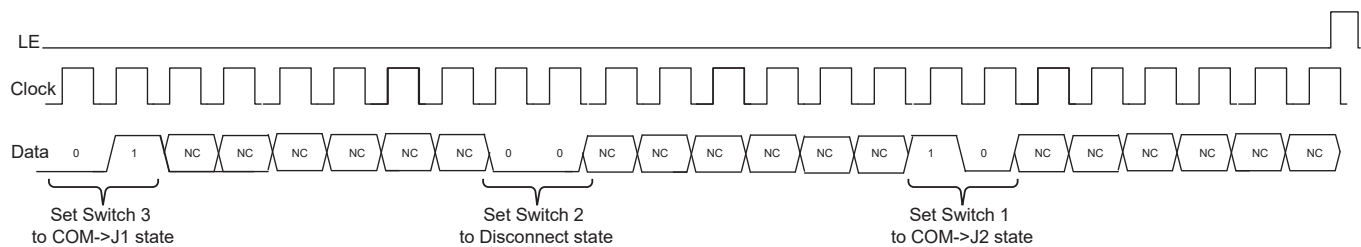
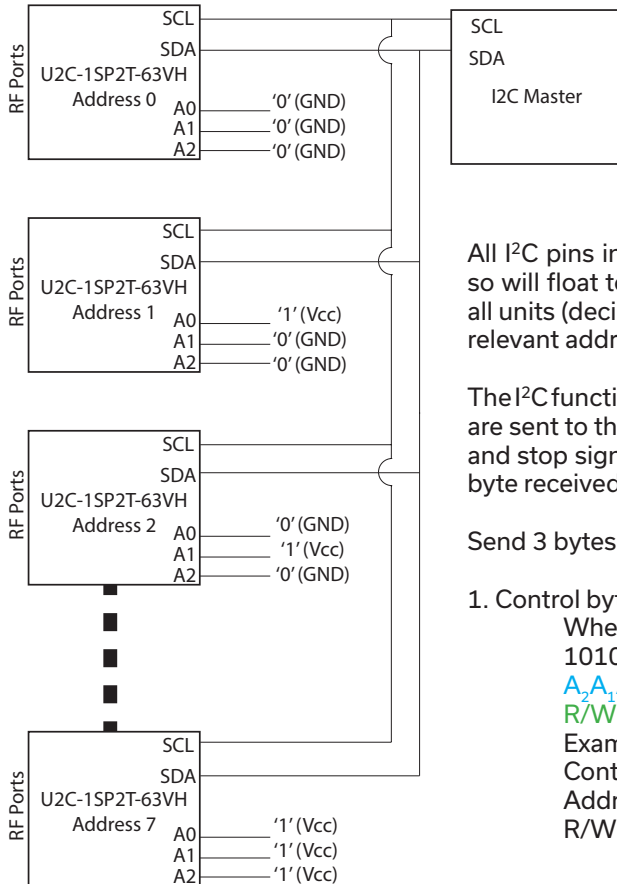


Figure 4: Example of command for 3 switches in series



I²C COMMUNICATIONS PARAMETERS

Parameter	Conditions		Min.	Typ.	Max.	Units
Voltage Levels	Logic Low Voltage	Input	0	-	0.8	V
	Logic High Voltage	Input	2.0	-	3.3	
Clock Frequency	-		-	-	400	kHz



I²C is a short-range synchronous communication protocol for simple 2-wire communication with slave devices using clock (SCL) and data (SDA) connections. The U2C-1SP2T-63VH interface also includes 3 address pins (A0, A1 and A2), allowing up to 8 switches to be controlled independently from a single master with shared SDA and SCL connections..

All I²C pins in the U2C-1SP2T-63VH are connected to an internal pullup resistor so will float to logic 1 when disconnected. This sets a default address of 111 for all units (decimal 7). Addresses from 0 to 7 can be set by externally grounding the relevant address pins (A0, A1 and A2).

The I²C functionality is limited to setting or reading switch states. Control sequences are sent to the switch in several bytes on the data connection, enclosed by a start and stop signal, and clocked at up to 400 kHz. The switch will acknowledge each byte received with a single "ACK" bit (logic 1) on the same data connection.

Send 3 bytes to set the switch state:

1. Control byte (1010A₂A₁A₀R/W)

Where:

1010 = Control code for U2C-1SP2T-63VH

A₂A₁A₀ = 3-bit address for the U2C-1SP2T-63VH switch module

R/W = Read / write select bit ('0' to write or '1' to read)

Example:

Control byte = 10101000

Address = 100 (binary) = 4 (decimal)

R/W = 0 (write to switch)

2. Switch selector byte (00000001) - U2C-1SP2T-63VH contains only 1 switch so this byte is always 00000001.

3. Switch state byte (0000XYZ) - The switch state, represented by a binary string according to the truth table below.

Switch State	Switch State Byte	Port Behavior		
		COM	J1	J2
Disconnected	0000 0000	Terminated Internally (50Ω)	Terminated Internally (50Ω)	Terminated Internally (50Ω)
COM -> 1	0000 0001	Connected to J1	Connected to COM	Terminated Internally (50Ω)
COM -> 2	0000 0010	Connected to J2	Terminated Internally (50Ω)	Connected to COM

In I²C protocol the Data line may not change states while the Clock is high, except for the start and stop signals which enclose each sequence of bytes. While the Clock is high a falling edge (transition from logic 1 to logic 0) signifies the start of a sequence, while a rising edge (transition from logic 0 to logic 1) signifies a stop signal. All other transitions must occur while the clock is low.



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50Ω

10 to 6000 MHz

SP2T

SMA Female

CONTROL INTERFACES

USB Control	Supported protocols	HID (Human Interface Device) - Full-speed
	Min communication time ¹¹	3 ms typ (full transmit/receive cycle)
I ² C Control	Refer to I ² C Communication Parameters section for more details.	

11. USB min communication time is based on the polling interval of the USB HID protocol (1 ms polling interval, 64 bytes per packet), medium CPU load and no other high speed USB devices using the USB bus.

SOFTWARE & DOCUMENTATION

Mini-Circuits' full software and support package including user guide, Windows GUI, API, programming manual and examples can be downloaded free of charge (refer to the last page for the download path).

A comprehensive set of software control options is provided:

- GUI for Windows – Simple software interface for control via Ethernet and USB.
- Programming / automation via USB:
 - DLL files provide a full API for Windows with a set of intuitive functions which can be implemented in any programming environment supporting .Net Framework or ActiveX.
 - Direct USB programming is possible in any other environment (not supporting .Net or ActiveX).

Please contact testsolutions@minicircuits.com for support.

MINIMUM SYSTEM REQUIREMENTS

GUI	Windows 7 or later
USB API DLL	Windows 7 or later and programming environment with ActiveX or .NET support
USB Direct Programming	Linux, Windows 7 or later
I ² C	Any computer with a suitable I/O port
Hardware	Intel i3 (or equivalent) or later

APPLICATION PROGRAMMING INTERFACE (API)

USB SUPPORT (WINDOWS):

- ActiveX COM DLL file for creation of 32-bit programs
- .NET library DLL file for creation of 32 / 64-bit programs
- Supported by most common programming environments

USB SUPPORT (LINUX):

- Direct USB programming using a series of USB interrupt codes
- Full programming instructions and examples available for a wide range of programming environments / languages





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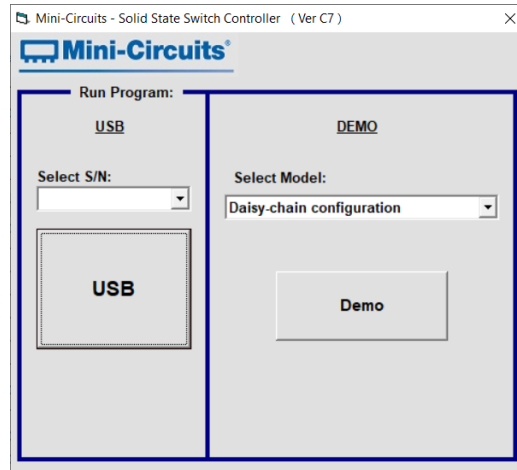
U2C-1SP2T-63VH

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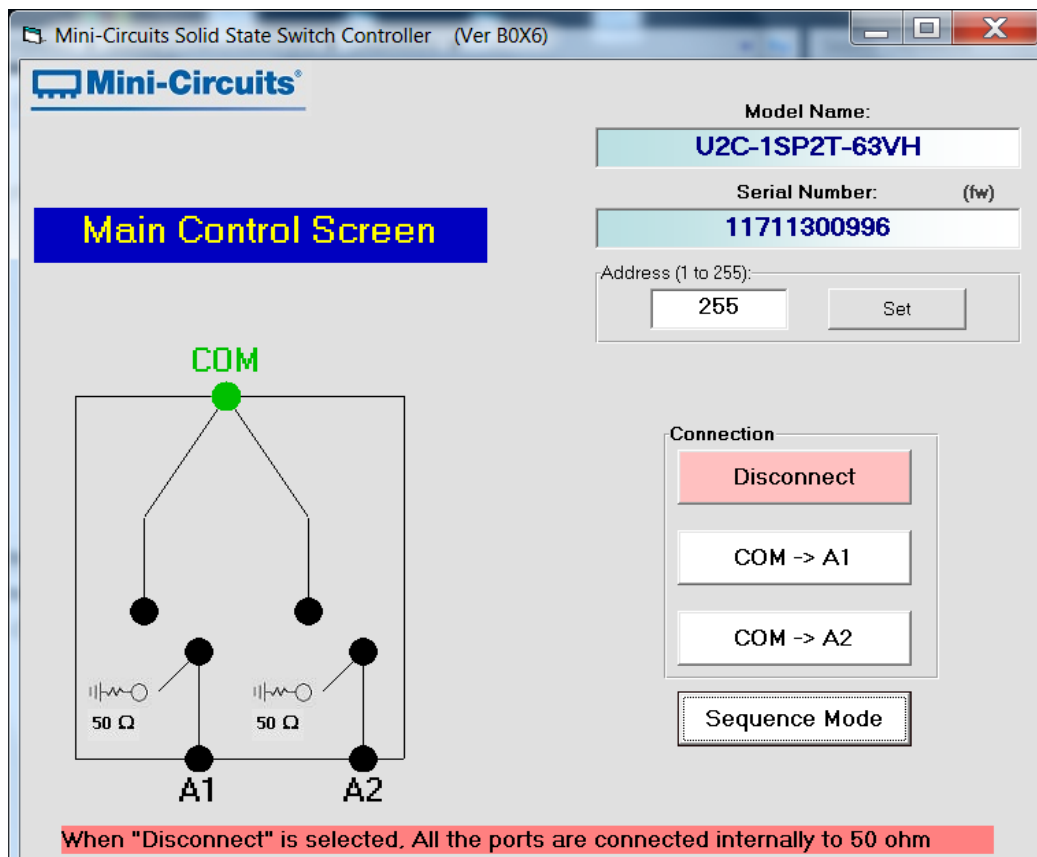
50Ω 10 to 6000 MHz SP2T SMA Female

GRAPHICAL USER INTERFACE (GUI) FOR WINDOWS - KEY FEATURES

- Connect via USB
- Run GUI in "demo mode" to evaluate software without a hardware connection



- View and set switch states at the click of a button
- Configure and run timed switching sequences



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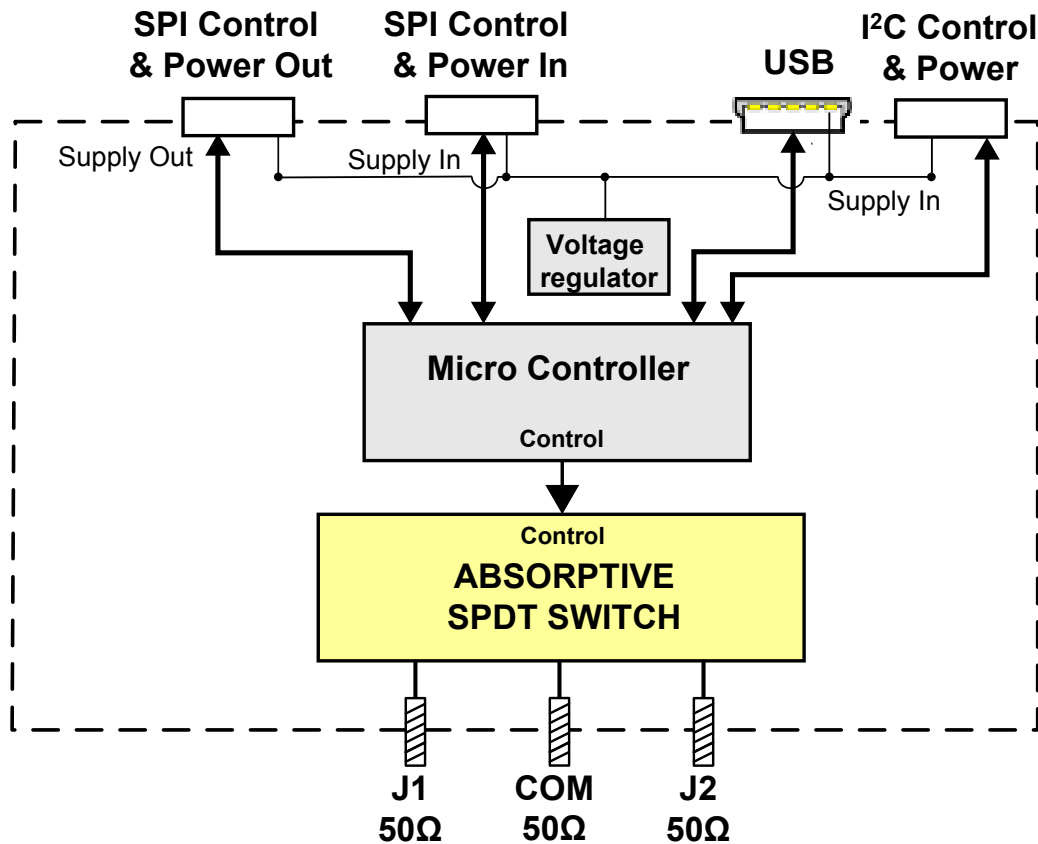
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BLOCK DIAGRAM



Note: Power supply is needed from only one port at a time. Power can be supplied to USB port, I²C port, or SPI in port according to the control method used.

'SPI Control & Power Out' port is used only to transfer power and control to additional units when connecting multiple units in "Daisy-Chain" configuration.

SWITCH STATE TABLE

State	Switch Path
0	All ports disconnected
1	COM to 1
2	COM to 2
3	COM to 3
4	COM to 4

CONNECTIONS

Port Name	Connector Type
RF ports switch A (COM &1 - 4)	SMA female
RF ports switch B (COM &1 - 4)	SMA female
USB	USB type Mini-B receptacle
Serial In (digital control 2 port)	Digital snap fit connector ¹²
Serial Out (digital control 1 port)	Digital snap fit connector ¹²

12. Mating connector is Hirose ST40X-10S-CV(30).



USB, I²C & SPI

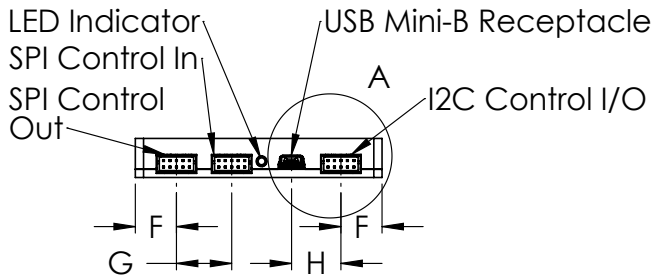
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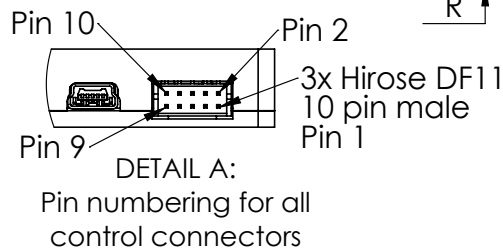
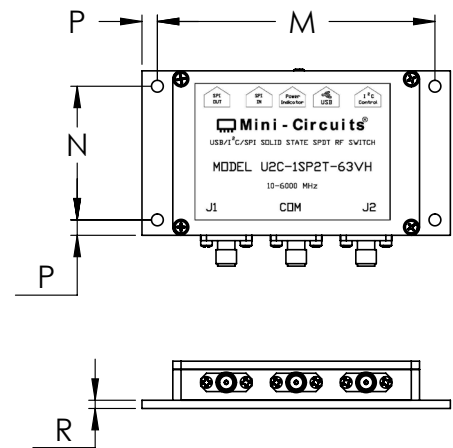
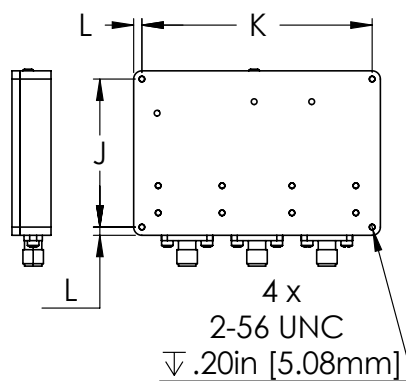
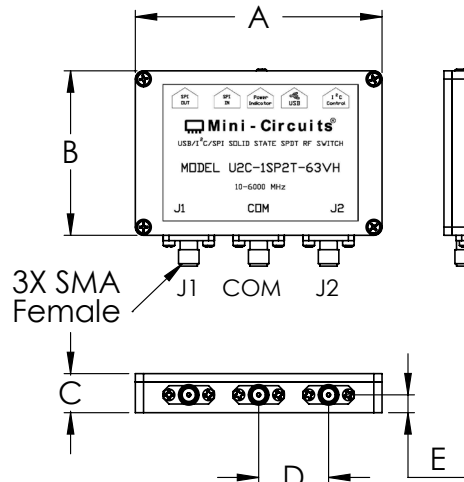
CASE STYLE DRAWING (NR2563)



Top View

Bottom View

Bracket Option Top View



Case Material - Aluminum alloy

Case Finish - Clear chemical conversion coating, non-chrome or trivalent chrome based

OUTLINE DIMENSIONS (INCH)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	weight
3.00	2.00	0.475	0.85	0.217	0.50	0.672	0.60	1.80	2.80	0.10	3.375	1.625	0.188	0.144	0.10	grams
76.20	50.80	12.070	21.59	5.510	12.70	17.070	15.24	45.72	71.12	2.54	85.730	41.280	4.770	3.660	2.54	100

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Solid-State Switch

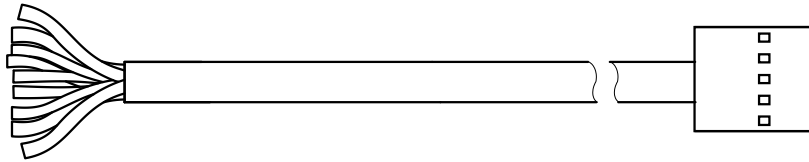
U2C-1SP2T-63VH

50Ω 10 to 6000 MHz SP2T SMA Female

RECOMMENDED ACCESSORIES

An optional cable accessory for SPI and I²C control which is available with U2C-1SP2T-63VH, the CBL-DF11-3FPD+ 'pig tail' cable. CBL-DF11-3FPD+ is a shielded cable with a 'pig tail' (bare wires) end allowing customer to assemble their own cable with any connector they need. Cable length is 4.9 feet / 1.5 meters using 32 AWG wires.

CONTROL CABLE CBL-DF11-3FPD+



Pin Number	When used for SPI control		When used for I ² C control		Pigtail Wire Color
	Function	Description	Function	Description	
1	Vcc	Supply Voltage	GND	Ground connection	WHITE
2	Vcc	Supply Voltage	GND	Ground connection	BLACK
3	Vcc	Supply Voltage	GND	Ground connection	RED
4	GND	Ground connection	A0	Set Address bit A0	GREEN
5	GND	Ground connection	A1	Set Address bit A1	YELLOW
6	GND	Ground connection	A2	Set Address bit A2	BLUE
7	Data	Data for SPI	SDA	Data for I ² C	BROWN
8	Clock	Clock for SPI	SCL	Clock for I ² C	ORANGE
9	LE	Latch Enable for SPI	GND	Ground connection	GRAY
10	Blank	Blank for SPI	Vcc	Supply Voltage	VIOLET



USB, I²C & SPI

Solid-State Switch

U2C-1SP2T-63VH

50Ω 10 to 6000 MHz SP2T SMA Female

DETAILED MODEL INFORMATION IS AVAILABLE ON OUR WEBSITE

[CLICK HERE](#)

Performance Data & Graphs	Data Graphs
Case Style	NR2563
Environmental Rating	ENV55
User Guide	https://www.minicircuits.com/softwaredownload/solidstate.html
Regulatory Compliance	Refer to user guide for compliance information  https://www.minicircuits.com/app/AN49-012.pdf
Support	testsolutions@minicircuits.com

INCLUDED ACCESSORIES ¹³

	Part No.	Description	Qty.
	MUSB-CBL-3+	3 ft (0.9 m) USB Cable: USB type A (Male) to USB type Mini-B (Male)	1

13. Additional quantities are available for purchase as optional accessories.

OPTIONAL ACCESSORIES

	Part No.	Description
	MUSB-CBL-7+	6.6 ft (2.0 m) USB Cable: USB type A (Male) to USB type Mini-B (Male)
See Page 15	CBL-DF11-3FPD+	3.0 ft (0.9 m) I ² C & SPI Cable: DF11 (plug) to Pigtail 32 AWG wires
	USB-AC/DC-5	AC/DC +5V power adaptor with USB connector ^{14, 15}
See Outline Drawing	BKT-39-23+	Bracket kit including 3.75 x 2.00" bracket, mounting screws and washers

14. The power adaptor may be used to provide additional power via USB port when connecting several units in daisy-chain control.

15. Includes power plugs for US, UK, EU, IL, AU & China. Plugs for other countries are also available. If you need a power cord for a country not listed, please contact testsolutions@minicircuits.com

NOTES

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 0°C, Pin=8dBm

FREQUENCY (MHz)	INSERTION LOSS		VSWR, Active Ports			VSWR, Internally Terminated Ports		
	(dB)		(:1)			(:1)		
	COM-1	COM-2	J1	J2	COM	J1	J2	COM
10	2.70	2.61	1.61	1.16	1.58	1.16	1.15	1.16
20	2.72	2.62	1.61	1.17	1.58	1.17	1.15	1.16
50	2.76	2.66	1.61	1.17	1.58	1.17	1.15	1.16
100	2.79	2.69	1.61	1.17	1.59	1.17	1.16	1.17
200	2.85	2.75	1.60	1.18	1.58	1.18	1.17	1.18
300	2.89	2.78	1.58	1.18	1.54	1.18	1.17	1.17
400	2.94	2.83	1.54	1.18	1.51	1.18	1.16	1.17
500	3.00	2.88	1.49	1.19	1.46	1.19	1.17	1.17
700	3.11	2.98	1.39	1.19	1.36	1.19	1.17	1.18
800	3.17	3.04	1.34	1.20	1.30	1.20	1.18	1.18
1000	3.28	3.15	1.23	1.21	1.19	1.21	1.19	1.19
1100	3.33	3.20	1.18	1.22	1.14	1.22	1.19	1.19
1300	3.41	3.28	1.13	1.23	1.09	1.23	1.20	1.20
1400	3.45	3.32	1.14	1.24	1.09	1.24	1.21	1.20
1600	3.50	3.37	1.18	1.25	1.14	1.25	1.22	1.21
1700	3.51	3.39	1.21	1.25	1.17	1.25	1.22	1.21
1900	3.55	3.43	1.26	1.26	1.21	1.26	1.23	1.21
2000	3.56	3.44	1.28	1.27	1.22	1.27	1.23	1.21
2200	3.60	3.47	1.28	1.27	1.23	1.27	1.23	1.21
2300	3.62	3.48	1.28	1.28	1.22	1.28	1.23	1.20
2500	3.67	3.51	1.24	1.29	1.19	1.29	1.22	1.20
2600	3.70	3.54	1.21	1.29	1.17	1.29	1.22	1.19
2800	3.75	3.59	1.16	1.30	1.13	1.30	1.21	1.18
2900	3.78	3.62	1.13	1.30	1.11	1.30	1.21	1.18
3100	3.83	3.67	1.09	1.30	1.08	1.30	1.21	1.17
3200	3.85	3.70	1.08	1.30	1.07	1.30	1.21	1.17
3400	3.90	3.75	1.08	1.29	1.06	1.29	1.21	1.16
3500	3.93	3.77	1.08	1.29	1.06	1.29	1.21	1.16
3700	3.97	3.81	1.09	1.29	1.07	1.29	1.21	1.17
3800	4.00	3.83	1.08	1.29	1.07	1.28	1.21	1.18
3900	4.03	3.86	1.07	1.28	1.08	1.28	1.21	1.18
4100	4.07	3.89	1.03	1.28	1.08	1.27	1.22	1.20
4200	4.09	3.90	1.02	1.28	1.08	1.27	1.23	1.21
4400	4.11	3.93	1.07	1.27	1.07	1.26	1.25	1.23
4500	4.12	3.94	1.11	1.26	1.06	1.26	1.26	1.24
4700	4.12	3.95	1.18	1.25	1.05	1.25	1.28	1.26
4800	4.13	3.96	1.21	1.24	1.06	1.24	1.30	1.27
5000	4.14	3.98	1.26	1.24	1.10	1.24	1.33	1.29
5100	4.15	3.99	1.29	1.24	1.13	1.24	1.35	1.30
5300	4.20	4.05	1.29	1.25	1.19	1.24	1.36	1.31
5400	4.23	4.08	1.29	1.25	1.22	1.25	1.38	1.31
5600	4.32	4.17	1.27	1.25	1.24	1.25	1.40	1.32
5700	4.37	4.22	1.26	1.25	1.24	1.25	1.40	1.32
5900	4.45	4.31	1.20	1.23	1.26	1.24	1.41	1.33
6000	4.48	4.35	1.18	1.23	1.24	1.23	1.41	1.30
6100	4.52	4.38	1.17	1.24	1.24	1.23	1.40	1.29
6200	4.56	4.42	1.19	1.23	1.25	1.23	1.39	1.28
6300	4.59	4.45	1.22	1.23	1.28	1.22	1.37	1.26
6400	4.63	4.50	1.27	1.22	1.32	1.21	1.35	1.24
6600	4.73	4.63	1.39	1.19	1.43	1.19	1.32	1.20
6700	4.79	4.71	1.44	1.19	1.50	1.18	1.30	1.17
6900	4.95	4.90	1.52	1.17	1.61	1.16	1.26	1.13
7000	5.04	4.99	1.54	1.15	1.64	1.15	1.24	1.12

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 0°C, Pin=8dBm

FREQUENCY (MHz)	ISOLATION @ Active states			ISOLATION @ Disconnected state		
	(dB)					
	COM-1	COM-2	J1-J2	COM-1	COM-2	J1-J2
10	119.04	114.84	115.05	113.88	113.43	123.15
20	119.68	114.54	115.48	113.62	112.13	125.21
50	119.69	115.05	116.02	115.19	113.35	138.33
100	119.40	116.12	119.82	117.94	114.46	139.80
200	125.87	121.22	123.01	122.78	120.86	138.50
300	123.62	125.62	132.14	123.93	124.33	128.31
400	128.24	124.97	129.61	135.00	127.22	134.94
500	124.22	126.84	128.53	142.51	127.14	137.47
700	126.90	127.40	127.96	126.37	128.49	132.97
800	128.73	128.59	126.37	124.97	130.06	138.74
1000	130.58	132.45	129.24	123.09	134.58	131.32
1100	127.57	132.53	129.69	127.47	142.93	138.23
1300	129.00	130.53	129.42	129.90	128.96	133.25
1400	145.85	142.76	132.95	127.72	134.83	136.64
1600	129.72	130.44	135.16	133.22	147.91	148.12
1700	130.76	127.96	126.38	131.50	136.35	137.57
1900	125.34	136.24	143.11	140.60	132.63	162.19
2000	136.44	132.63	131.74	124.91	137.41	143.07
2200	128.25	141.34	127.49	125.21	139.30	131.02
2300	127.68	131.85	140.74	123.88	128.57	127.40
2500	122.29	127.05	139.84	124.47	136.53	128.03
2600	128.12	121.96	133.78	123.91	128.28	131.64
2800	121.33	127.66	132.10	127.71	127.40	144.75
2900	123.31	125.33	129.23	121.92	123.18	128.69
3100	116.78	121.14	125.19	122.56	143.95	126.28
3200	117.71	125.53	130.48	120.75	133.59	131.06
3400	118.41	126.12	127.04	122.71	128.15	126.62
3500	122.05	135.56	122.76	123.47	130.66	128.47
3700	115.68	129.33	137.74	126.87	128.16	133.75
3800	115.43	136.56	134.08	130.26	135.64	132.30
3900	115.44	125.77	137.87	126.02	135.37	132.14
4100	110.07	122.01	116.45	128.11	127.16	132.87
4200	115.41	127.78	114.77	129.56	124.51	136.10
4400	123.52	123.81	112.31	119.11	122.96	126.95
4500	118.89	132.41	114.91	120.61	120.22	131.04
4700	116.69	137.34	121.84	118.73	127.93	127.87
4800	113.45	131.77	134.41	119.69	135.70	148.32
5000	110.96	122.79	121.80	122.39	132.26	132.43
5100	110.07	117.48	118.58	117.49	129.20	130.93
5300	109.23	110.78	112.64	115.78	122.24	126.60
5400	110.58	111.21	110.00	115.53	128.69	149.52
5600	112.61	111.29	110.26	115.54	121.72	130.85
5700	112.83	113.87	114.20	116.87	124.64	129.88
5900	116.11	123.37	124.90	118.96	126.18	135.17
6000	115.95	128.06	133.07	116.43	134.23	132.87
6100	115.00	122.04	131.70	116.26	125.08	130.65
6200	113.20	120.44	126.94	117.43	129.85	128.39
6300	113.15	118.51	133.82	116.92	124.65	130.12
6400	113.65	119.60	135.92	116.29	128.50	134.67
6600	111.42	123.95	129.93	114.13	147.43	136.59
6700	110.26	129.26	123.68	112.85	132.32	131.07
6900	109.56	132.97	119.76	112.66	127.18	123.42
7000	112.03	121.49	108.97	111.82	115.40	113.35

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 25°C, Pin=8dBm

FREQUENCY (MHz)	INSERTION LOSS		VSWR, Active Ports			VSWR, Internally Terminated Ports		
	(dB)		(:1)			(:1)		
	COM-1	COM-2	J1	J2	COM	J1	J2	COM
10	2.82	2.73	1.64	1.61	1.62	1.17	1.15	1.16
20	2.83	2.74	1.64	1.61	1.62	1.17	1.15	1.16
50	2.87	2.78	1.64	1.61	1.61	1.17	1.15	1.16
100	2.89	2.80	1.64	1.61	1.61	1.17	1.16	1.16
200	2.95	2.86	1.62	1.59	1.60	1.18	1.16	1.17
300	3.01	2.92	1.59	1.56	1.57	1.18	1.16	1.17
400	3.07	2.98	1.55	1.52	1.53	1.18	1.17	1.18
500	3.14	3.04	1.50	1.47	1.49	1.19	1.17	1.18
700	3.27	3.16	1.40	1.36	1.39	1.20	1.18	1.19
800	3.33	3.21	1.34	1.30	1.33	1.20	1.19	1.19
1000	3.44	3.32	1.24	1.19	1.22	1.22	1.19	1.20
1100	3.50	3.38	1.19	1.15	1.18	1.22	1.20	1.21
1300	3.58	3.46	1.15	1.12	1.12	1.23	1.21	1.21
1400	3.61	3.50	1.16	1.14	1.12	1.24	1.21	1.22
1600	3.66	3.55	1.20	1.19	1.16	1.25	1.22	1.23
1700	3.69	3.58	1.22	1.22	1.19	1.26	1.22	1.23
1900	3.73	3.61	1.27	1.26	1.24	1.27	1.23	1.24
2000	3.75	3.63	1.28	1.26	1.26	1.28	1.23	1.24
2200	3.80	3.66	1.29	1.26	1.28	1.29	1.23	1.25
2300	3.82	3.68	1.28	1.25	1.28	1.30	1.23	1.25
2500	3.87	3.73	1.26	1.21	1.26	1.31	1.24	1.26
2600	3.90	3.75	1.24	1.19	1.24	1.31	1.23	1.26
2800	3.96	3.81	1.19	1.13	1.21	1.32	1.23	1.26
2900	3.98	3.84	1.17	1.11	1.19	1.32	1.23	1.26
3100	4.03	3.89	1.14	1.06	1.16	1.33	1.23	1.26
3200	4.06	3.91	1.12	1.04	1.14	1.33	1.23	1.26
3400	4.11	3.96	1.10	1.01	1.13	1.32	1.23	1.26
3500	4.13	3.98	1.09	1.02	1.12	1.32	1.23	1.25
3700	4.18	4.02	1.08	1.04	1.11	1.31	1.22	1.25
3800	4.20	4.05	1.07	1.05	1.10	1.31	1.22	1.24
3900	4.22	4.07	1.07	1.07	1.09	1.31	1.22	1.24
4100	4.25	4.11	1.07	1.10	1.05	1.29	1.23	1.23
4200	4.27	4.13	1.09	1.11	1.03	1.29	1.24	1.22
4400	4.30	4.16	1.13	1.14	1.05	1.27	1.25	1.21
4500	4.31	4.17	1.16	1.16	1.08	1.27	1.26	1.21
4700	4.34	4.20	1.21	1.19	1.14	1.25	1.28	1.20
4800	4.35	4.22	1.23	1.21	1.17	1.25	1.29	1.19
5000	4.38	4.26	1.27	1.24	1.23	1.23	1.31	1.19
5100	4.41	4.28	1.28	1.25	1.26	1.23	1.32	1.18
5300	4.47	4.35	1.30	1.26	1.28	1.22	1.33	1.17
5400	4.50	4.38	1.30	1.26	1.29	1.21	1.34	1.17
5600	4.58	4.47	1.28	1.26	1.29	1.20	1.34	1.16
5700	4.61	4.50	1.27	1.25	1.28	1.19	1.34	1.16
5900	4.68	4.57	1.25	1.24	1.26	1.18	1.33	1.14
6000	4.71	4.61	1.25	1.25	1.25	1.17	1.33	1.14
6100	4.75	4.65	1.26	1.27	1.26	1.17	1.32	1.14
6200	4.80	4.69	1.27	1.30	1.27	1.16	1.31	1.14
6300	4.84	4.73	1.29	1.33	1.30	1.16	1.30	1.14
6400	4.89	4.78	1.32	1.37	1.33	1.15	1.29	1.14
6600	5.00	4.92	1.37	1.48	1.40	1.15	1.27	1.16
6700	5.05	4.98	1.39	1.52	1.43	1.15	1.26	1.17
6900	5.18	5.13	1.41	1.58	1.45	1.16	1.25	1.22
7000	5.24	5.20	1.40	1.60	1.45	1.18	1.24	1.25

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 25°C, Pin=8dBm

FREQUENCY (MHz)	ISOLATION @ Active states			ISOLATION @ Disconnected state		
	(dB)					
	COM-1	COM-2	J1-J2	COM-1	COM-2	J1-J2
10	115.63	112.60	113.47	111.26	109.83	114.86
20	114.28	116.41	124.90	111.88	113.47	115.54
50	116.57	117.92	131.65	114.56	117.95	123.73
100	119.40	120.07	126.44	118.10	121.72	129.77
200	123.41	127.75	131.55	122.11	127.07	135.74
300	121.24	130.76	126.37	120.54	136.39	139.65
400	120.05	128.21	126.10	120.87	135.85	142.02
500	122.29	129.66	134.69	119.75	134.73	142.39
700	122.43	127.79	158.78	122.29	131.31	131.02
800	121.43	133.42	129.60	120.65	134.88	129.84
1000	123.09	136.89	136.30	121.26	135.22	137.14
1100	120.39	143.80	137.87	121.80	128.74	133.81
1300	119.75	138.90	150.83	119.98	131.39	136.81
1400	120.97	128.84	134.57	125.53	133.51	135.82
1600	122.29	130.96	132.63	121.84	141.74	147.95
1700	123.02	126.08	139.98	117.22	147.22	136.94
1900	121.19	134.11	131.72	127.16	137.05	132.82
2000	122.64	129.64	145.75	119.15	142.90	144.92
2200	120.63	132.78	127.70	117.82	132.11	140.99
2300	118.72	136.77	136.57	114.82	128.82	163.48
2500	117.15	131.89	127.88	116.76	148.65	129.30
2600	116.55	129.59	127.34	118.02	126.40	131.33
2800	116.41	128.73	132.73	114.90	134.72	128.66
2900	115.26	125.70	139.17	115.46	131.48	127.05
3100	113.57	122.68	123.21	114.97	139.81	137.15
3200	112.26	122.38	125.08	115.13	137.72	139.10
3400	112.94	126.86	124.30	116.83	126.65	148.94
3500	112.52	128.74	126.16	116.11	134.38	132.86
3700	111.63	133.08	135.71	116.55	133.94	125.62
3800	110.73	131.67	127.35	116.36	133.85	128.09
3900	110.02	130.02	140.77	115.61	127.75	132.27
4100	111.56	120.59	116.63	118.97	132.45	123.74
4200	128.13	118.79	116.26	114.35	126.21	127.16
4400	113.03	132.28	114.62	111.76	122.42	136.21
4500	112.25	126.77	116.93	112.79	138.72	131.93
4700	111.19	126.72	125.79	112.51	130.83	131.93
4800	110.52	124.74	124.01	111.49	127.43	142.99
5000	110.14	118.83	119.31	112.73	128.52	140.96
5100	110.93	116.95	118.16	113.58	126.29	129.32
5300	112.37	111.79	112.09	111.79	121.15	127.90
5400	114.30	110.62	110.09	111.93	121.08	129.55
5600	120.04	112.89	111.34	113.78	120.16	142.85
5700	128.65	115.07	116.58	114.54	122.82	132.30
5900	139.17	120.06	125.82	117.01	127.75	136.76
6000	121.99	123.53	133.21	120.33	125.95	131.15
6100	122.09	118.71	124.95	117.03	126.24	131.88
6200	123.22	118.69	124.47	118.27	123.57	132.99
6300	120.19	118.08	127.57	117.54	127.17	135.12
6400	117.97	119.34	136.23	119.18	130.00	136.62
6600	115.98	127.02	122.62	119.58	128.16	132.05
6700	114.91	140.88	121.29	123.83	135.87	131.30
6900	111.69	125.55	121.11	121.66	129.41	136.08
7000	115.25	119.21	118.05	113.83	122.54	119.33

Notes

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 50°C, Pin=8dBm

FREQUENCY (MHz)	INSERTION LOSS		VSWR, Active Ports			VSWR, Internally Terminated Ports		
	(dB)		(:1)			(:1)		
	COM-1	COM-2	J1	J2	COM	J1	J2	COM
10	3.09	3.02	1.72	1.19	1.70	1.19	1.17	1.18
20	3.11	3.03	1.72	1.19	1.70	1.19	1.17	1.18
50	3.14	3.06	1.71	1.18	1.70	1.18	1.17	1.18
100	3.15	3.07	1.70	1.18	1.68	1.18	1.16	1.17
200	3.20	3.12	1.68	1.17	1.66	1.17	1.16	1.17
300	3.29	3.21	1.65	1.19	1.63	1.19	1.17	1.18
400	3.37	3.28	1.61	1.20	1.58	1.20	1.18	1.19
500	3.44	3.35	1.56	1.20	1.53	1.20	1.19	1.20
700	3.59	3.49	1.44	1.21	1.40	1.21	1.20	1.20
800	3.66	3.56	1.38	1.22	1.34	1.22	1.21	1.21
1000	3.79	3.68	1.26	1.24	1.22	1.24	1.22	1.22
1100	3.85	3.74	1.21	1.25	1.18	1.25	1.23	1.22
1300	3.93	3.84	1.16	1.26	1.13	1.26	1.24	1.23
1400	3.97	3.88	1.17	1.27	1.13	1.27	1.25	1.23
1600	4.02	3.93	1.23	1.29	1.17	1.29	1.25	1.23
1700	4.04	3.95	1.26	1.29	1.19	1.29	1.25	1.24
1900	4.07	3.98	1.31	1.30	1.24	1.30	1.26	1.23
2000	4.09	3.99	1.33	1.30	1.25	1.30	1.26	1.23
2200	4.13	4.01	1.33	1.31	1.25	1.31	1.25	1.22
2300	4.15	4.03	1.32	1.31	1.25	1.31	1.25	1.22
2500	4.20	4.08	1.27	1.32	1.21	1.32	1.25	1.21
2600	4.24	4.11	1.23	1.31	1.19	1.32	1.24	1.21
2800	4.31	4.18	1.16	1.32	1.15	1.32	1.23	1.20
2900	4.34	4.21	1.13	1.32	1.13	1.32	1.23	1.19
3100	4.40	4.27	1.08	1.32	1.10	1.32	1.22	1.19
3200	4.43	4.31	1.08	1.32	1.08	1.32	1.21	1.18
3400	4.49	4.36	1.09	1.31	1.07	1.31	1.21	1.18
3500	4.52	4.38	1.09	1.31	1.07	1.31	1.21	1.18
3700	4.59	4.43	1.09	1.31	1.09	1.30	1.21	1.19
3800	4.61	4.46	1.08	1.30	1.09	1.29	1.22	1.19
3900	4.64	4.49	1.07	1.29	1.09	1.29	1.22	1.19
4100	4.68	4.54	1.04	1.28	1.09	1.28	1.24	1.20
4200	4.70	4.57	1.03	1.28	1.09	1.28	1.25	1.21
4400	4.71	4.59	1.08	1.28	1.07	1.28	1.28	1.23
4500	4.72	4.60	1.11	1.28	1.07	1.28	1.29	1.24
4700	4.72	4.61	1.18	1.29	1.07	1.28	1.31	1.27
4800	4.73	4.61	1.22	1.29	1.08	1.28	1.32	1.28
5000	4.77	4.64	1.29	1.29	1.13	1.29	1.33	1.30
5100	4.81	4.67	1.33	1.29	1.16	1.29	1.34	1.31
5300	4.92	4.75	1.36	1.29	1.22	1.29	1.35	1.31
5400	4.99	4.80	1.38	1.28	1.25	1.28	1.35	1.32
5600	5.13	4.92	1.36	1.27	1.28	1.27	1.33	1.32
5700	5.20	4.97	1.33	1.26	1.30	1.26	1.32	1.31
5900	5.27	5.07	1.26	1.22	1.31	1.23	1.30	1.29
6000	5.29	5.11	1.24	1.21	1.30	1.21	1.29	1.27
6100	5.32	5.15	1.23	1.19	1.31	1.19	1.29	1.25
6200	5.35	5.19	1.25	1.17	1.32	1.17	1.28	1.24
6300	5.38	5.24	1.29	1.15	1.34	1.15	1.28	1.22
6400	5.41	5.30	1.33	1.13	1.37	1.13	1.27	1.20
6600	5.51	5.45	1.44	1.11	1.46	1.11	1.25	1.15
6700	5.56	5.54	1.47	1.11	1.50	1.10	1.25	1.12
6900	5.71	5.72	1.51	1.12	1.56	1.12	1.24	1.08
7000	5.80	5.81	1.51	1.14	1.58	1.14	1.23	1.09

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Solid State

USB/SPI/I²C SPDT Switch

U2C-1SP2T-63VH

Typical Performance Data

TEST CONDITIONS: @Temperature = 50°C, Pin=8dBm

FREQUENCY (MHz)	ISOLATION @ Active states			ISOLATION @ Disconnected state		
	(dB)					
	COM-1	COM-2	J1-J2	COM-1	COM-2	J1-J2
10	124.01	108.79	116.09	116.00	116.72	125.99
20	122.40	117.57	115.92	118.54	120.52	129.42
50	127.08	123.59	123.66	127.03	127.01	129.15
100	131.77	130.09	130.85	129.91	124.40	137.49
200	137.64	131.02	133.99	134.79	132.90	125.95
300	128.15	127.67	132.92	132.77	127.76	134.50
400	133.64	137.53	134.95	127.33	136.23	139.88
500	131.58	129.18	131.83	128.44	131.43	130.35
700	133.71	135.48	136.10	132.56	131.42	157.39
800	135.76	141.36	128.48	126.36	128.44	126.50
1000	134.13	130.58	144.97	129.76	132.86	141.84
1100	134.31	136.61	144.60	136.78	132.23	137.28
1300	138.31	130.25	129.24	133.93	142.44	132.46
1400	128.50	144.30	143.07	131.94	133.49	137.64
1600	134.71	133.94	127.05	135.92	142.52	136.25
1700	135.85	134.85	134.56	129.12	147.93	141.61
1900	140.57	127.74	137.98	127.42	129.07	146.16
2000	125.68	133.56	123.74	127.48	141.18	135.62
2200	138.72	130.52	130.93	123.61	132.17	134.14
2300	124.97	135.05	136.55	126.46	137.01	129.58
2500	127.99	134.17	127.61	127.59	131.68	140.25
2600	128.43	136.82	141.42	130.37	131.15	132.38
2800	123.04	133.87	133.99	127.34	137.76	128.00
2900	122.39	130.57	128.71	125.14	128.80	126.32
3100	118.88	122.64	125.66	125.39	131.61	126.14
3200	118.78	122.61	128.42	126.12	135.81	129.14
3400	119.35	129.56	123.98	125.02	148.81	126.38
3500	115.80	152.65	133.91	124.90	127.63	136.12
3700	115.37	133.35	140.74	123.66	134.44	126.86
3800	116.84	127.12	122.55	122.13	132.86	131.60
3900	112.68	135.07	128.04	128.11	129.09	129.37
4100	114.39	121.28	117.45	125.55	125.76	122.06
4200	121.31	125.05	114.99	124.29	128.26	129.36
4400	121.05	129.03	118.05	119.93	125.29	135.77
4500	115.61	124.82	119.24	122.41	127.95	128.69
4700	112.81	127.33	131.21	122.22	140.56	127.41
4800	112.02	118.96	120.61	120.02	135.90	132.97
5000	110.52	116.89	116.94	122.63	124.89	130.43
5100	109.51	113.96	115.83	121.53	123.96	125.24
5300	108.44	112.07	112.68	118.49	123.20	128.80
5400	110.71	113.32	113.00	117.63	122.82	120.23
5600	112.15	115.21	114.71	117.40	119.66	124.38
5700	111.23	123.43	124.24	116.10	123.10	121.65
5900	116.98	124.24	124.29	122.74	127.63	119.99
6000	117.19	129.92	121.91	114.28	124.04	119.75
6100	114.66	125.18	127.47	111.37	127.28	124.29
6200	112.28	121.65	139.07	110.98	127.55	131.66
6300	113.55	121.31	139.43	111.85	133.74	131.52
6400	112.54	121.61	126.42	110.37	140.74	128.69
6600	111.72	132.41	139.49	110.71	134.37	129.85
6700	111.82	129.26	128.59	111.09	145.13	130.07
6900	112.62	120.52	121.83	109.15	140.66	127.10
7000	112.87	114.93	110.89	110.14	113.69	112.83

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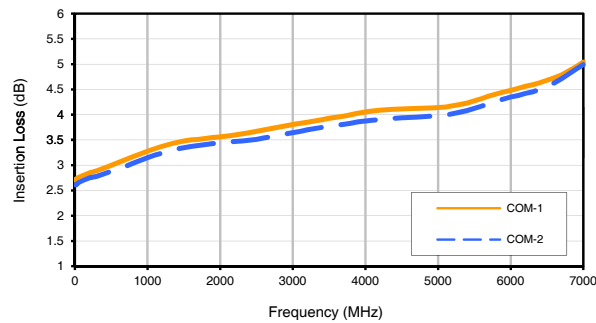
Solid State USB/SPI/I²C SPDT Switch

Typical Performance Curves

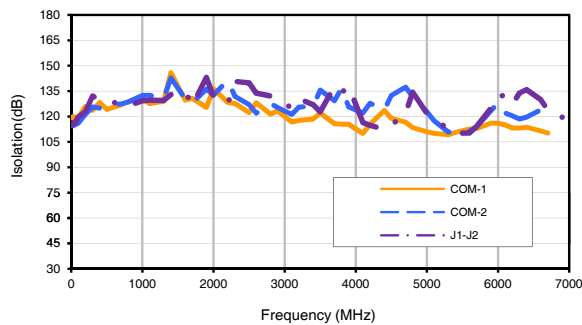
U2C-1SP2T-63VH

TEST CONDITIONS: @Temperature = 0°C, Pin=8dBm

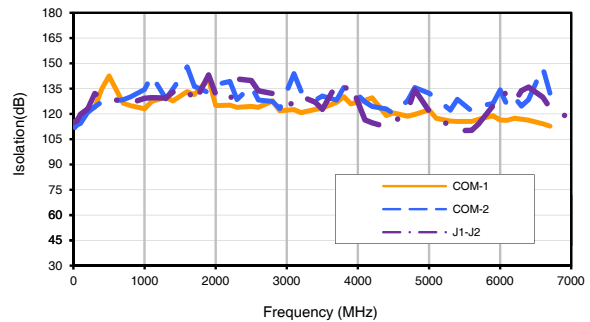
Insertion Loss



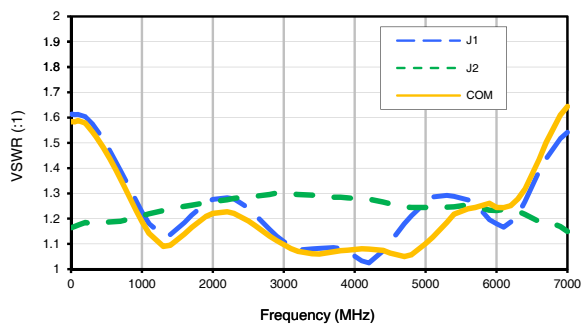
Isolation @ Active states



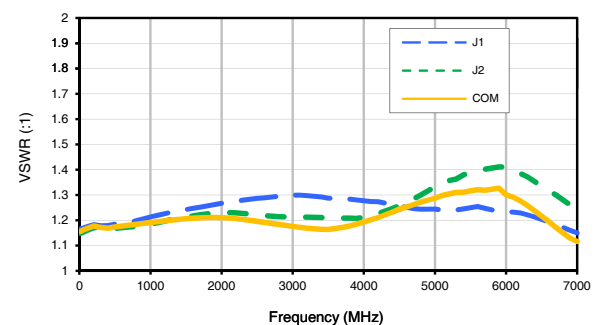
Isolation @ Disconnected state



VSWR, Active Ports



VSWR, Terminated Ports



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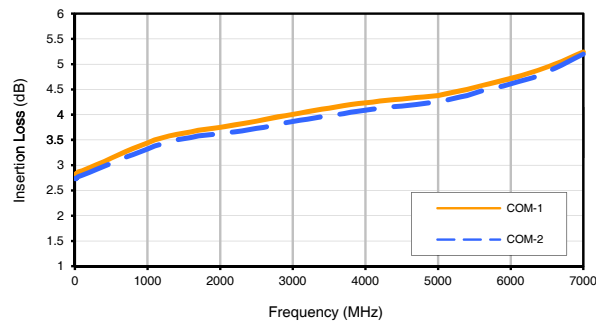
Solid State USB/SPI/I²C SPDT Switch

Typical Performance Curves

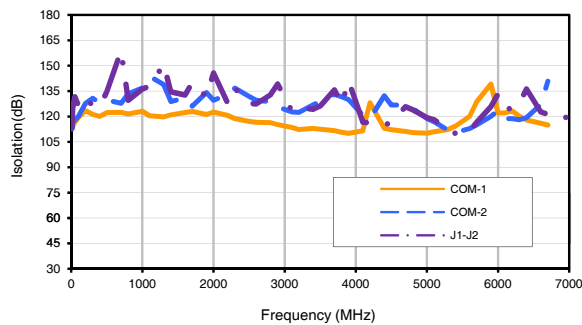
U2C-1SP2T-63VH

TEST CONDITIONS: @Temperature = 25°C, Pin=8dBm

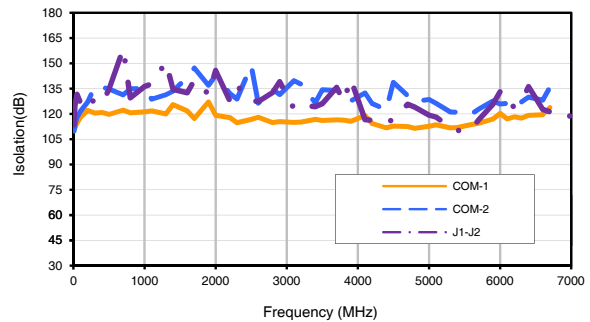
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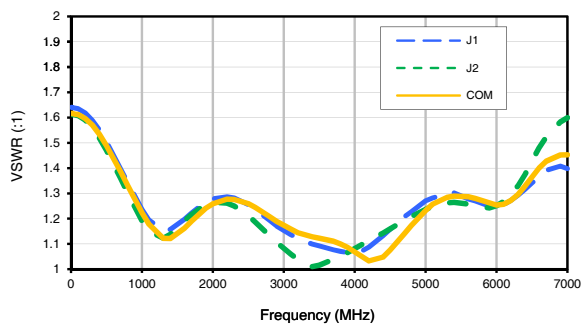
Isolation @ Active states



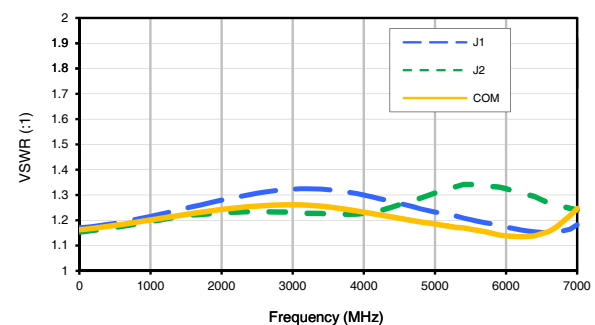
Isolation @ Disconnected state



VSWR, Active Ports



VSWR, Terminated Ports



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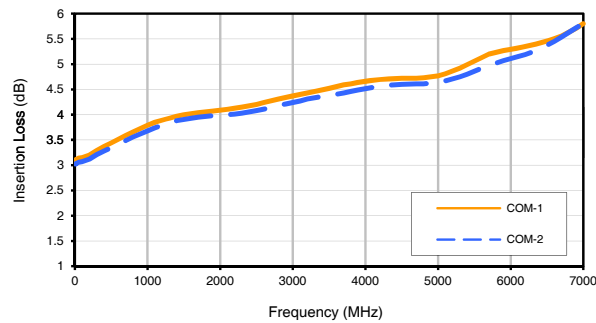
Solid State USB/SPI/I²C SPDT Switch

Typical Performance Curves

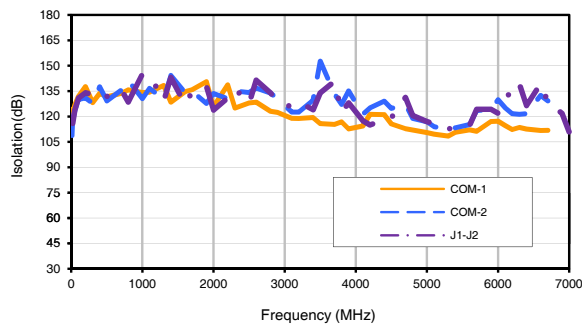
U2C-1SP2T-63VH

TEST CONDITIONS: @Temperature = 50°C, Pin=8dBm

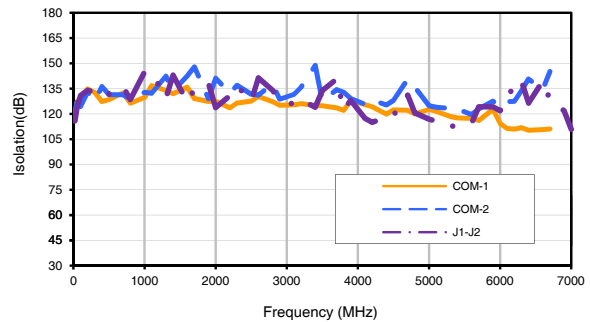
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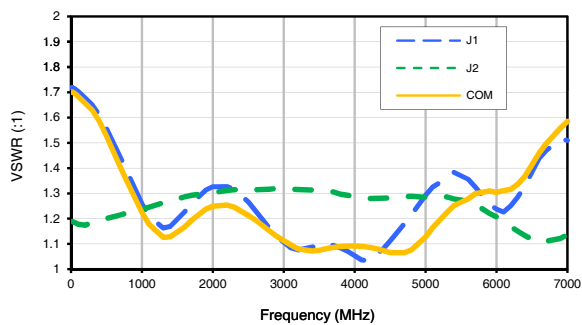
Isolation @ Active states



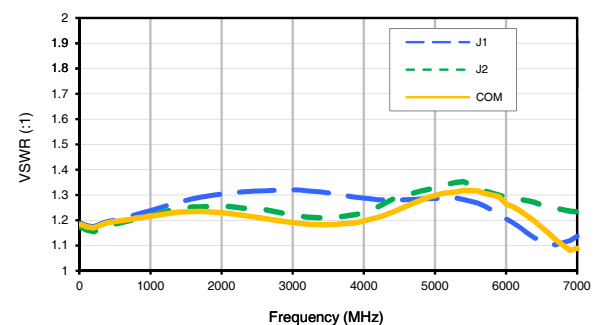
Isolation @ Disconnected state



VSWR, Active Ports



VSWR, Terminated Ports



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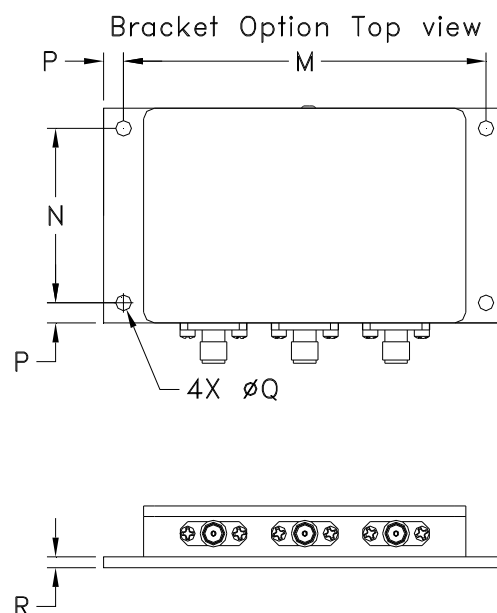
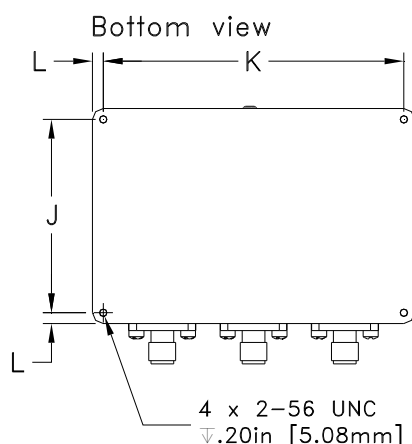
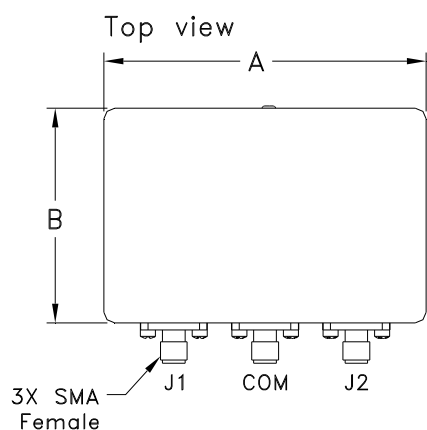
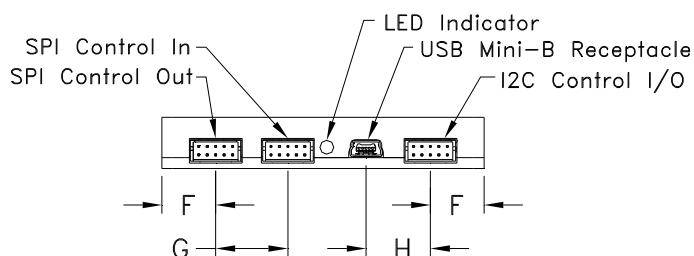


Case Style

NR

Outline Dimensions

NR2563



CASE#	A	B	C	D	E	F	G	H	J	K	L	M
NR2563	3.000 (76.20)	2.000 (50.80)	.475 (12.07)	.850 (21.59)	.217 (5.51)	.500 (12.70)	.672 (17.07)	.600 (15.24)	1.800 (45.72)	2.800 (71.12)	.100 (2.54)	3.375 (85.73)

CASE#	N	P	Q	R	WT. GRAMS
NR2563	1.625 (41.28)	.188 (4.77)	.144 (3.66)	.100 (2.54)	100

Dimensions are in inches (mm). Tolerances: 2PL. +/- .03; 3PL. +/- .015

Notes:

1. Case material: Aluminum alloy.
2. Case finish for RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based



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Environmental Specifications ENV55

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-0° to 50° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-20° to 60° C Ambient Environment	Individual Model Data Sheet
Operating and Storage Humidity	5% to 85% RH (non-condensing)	Ambient
Bench Handling Test	Bench Top Tip 45° & Drop	MIL-PRF-28800F
Transit Drop Test	Free Fall Drop, 20 cm (7.9 inches)	MIL-PRF-28800F Class 3