Solid-State 24 x SPDT Switch Rack   ZT-24SP2T-63VH

50Ω   600-6000 MHz

Product Overview

Mini-Circuits' ZTS series platform allows multiple solid-state switch types to be combined and integrated into a single rack-mount package with software control via USB and Ethernet.

ZT-24SP2T-63VH accommodates 24 independent SPDT switches, each operating from 600 MHz to 6 GHz with fast switching, ultra-high isolation (better than 100 dB typ) and high power handling (+33 dBm). The system is configured with the 24 switch Com ports on the rear and ports 1-2 of each switch on the front of the 4U chassis. All connectors are N-type female.

The system can be controlled via USB or Ethernet (supporting both HTTP and Telnet network protocols). 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).

Mini-Circuits' novel daisy-chain control feature allows multiple ZT-24SP2T-63VH systems to be cascaded via their respective Serial Out & Serial In control connections on the rear, for control of all SPDT switches through a single USB or Ethernet interface and software application.

Key Features

Feature	Advantages
High performance switches	Mini-Circuits' high performance solid-state switch modules are used, combining fast switching with high isolation
Rack-mountable chassis	The 4U height, rack-mountable chassis allows easy integration into automated production test environments
Ethernet-TCP/IP (HTTP & Telnet)	Remote control from any Windows®, Mac®, or Linux® computer, or even a mobile device with a network connection and Ethernet-TCP/IP (HTTP or Telnet protocols) support. Using a VPN would allow remote control from anywhere in the world.
USB HID (Human Interface Device)	Local control via USB connection. Plug-and-Play, no driver required. Compatible with Windows® or Linux® operating systems using 32 and 64 bit architectures.
Full software support	The user friendly Windows GUI (graphical user interface automation) allows manual control straight out of the box. A full API (application programming interface), programming examples and manuals are provided to allow automation in most programming environments.

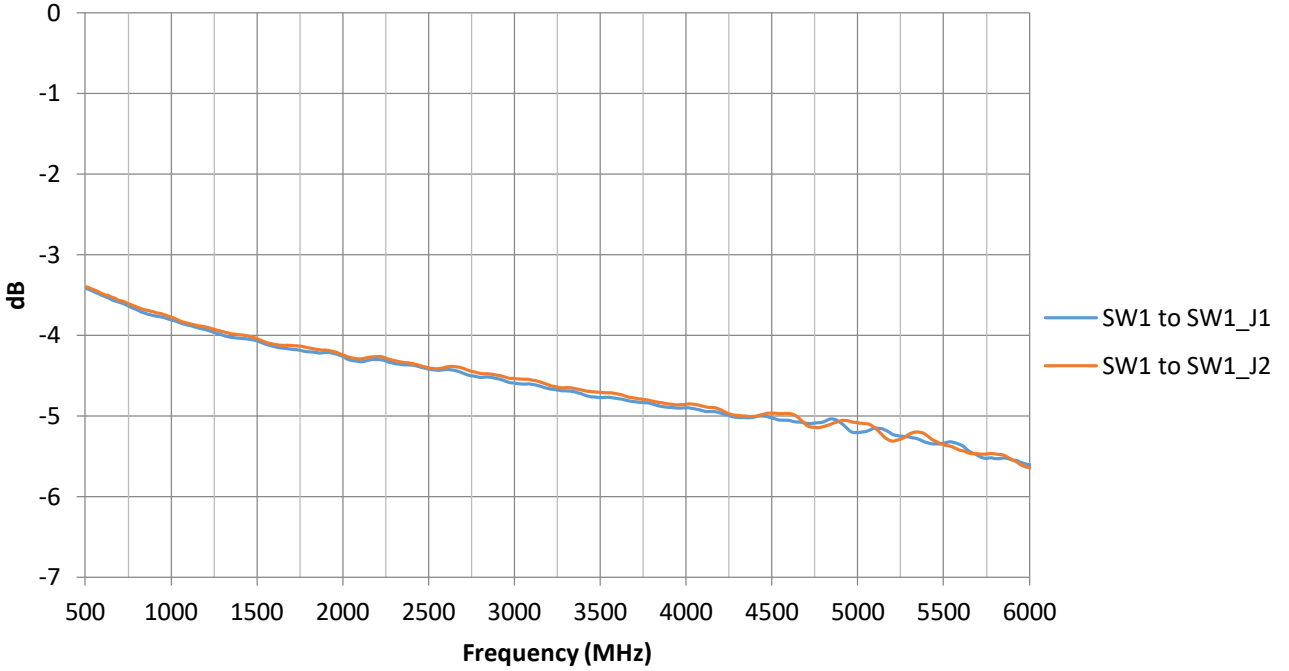Please contact *testsolutions@minicircuits.com* for support

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Mechanical Specifications

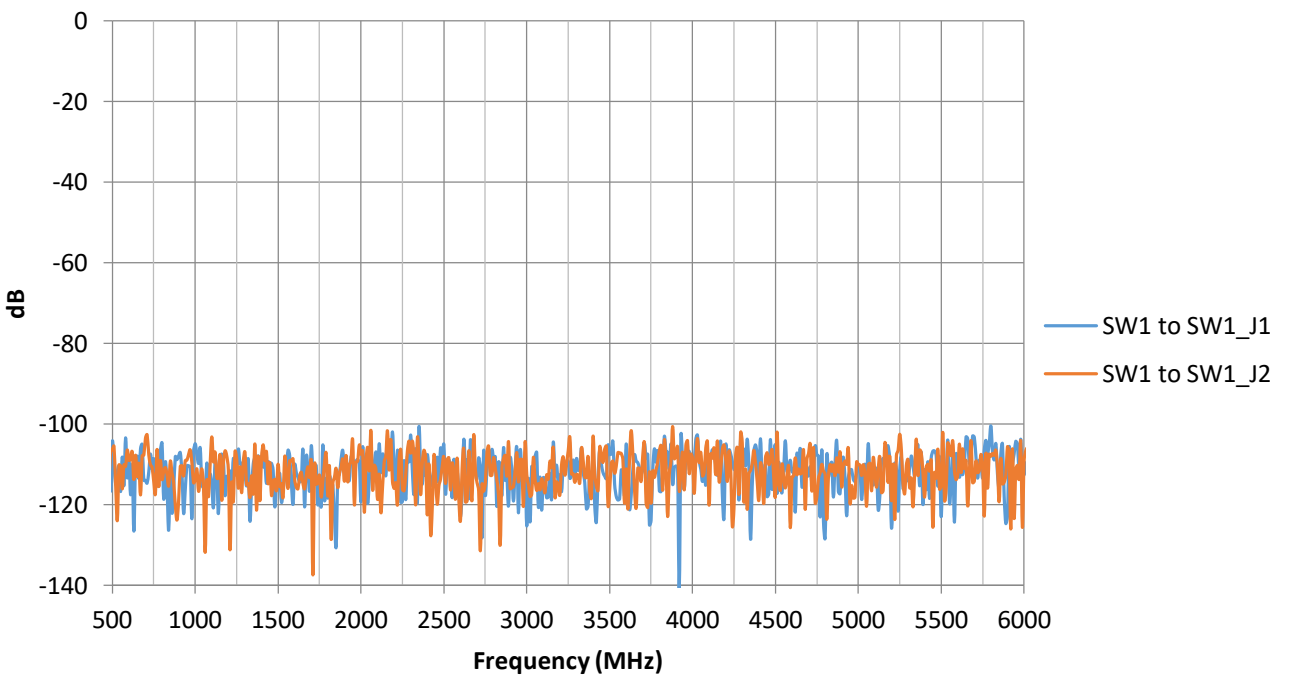|	
Dimensions	19" (W) x 4U (H) x 20" (D)
Case Material	Aluminum (with protective coatings to prevent corrosion)
Case Drawing	99-01-2580
RF Connectors	N-type female
Front panel	a) 48 x RF connectors (port -2 per switch), N-type female b) Carry handles
Rear panel	a) 24 x RF connectors (Com port per switch), N-type female b) On / off switch with LED indicator c) AC mains power supply input d) USB & RJ45 control connections e) Serial In & Out daisy-chain control connections f) Label with date code/serial number/MCL part# for traceability
Control Interface	a) USB and Ethernet TCP/IP supporting HTTP and TELNET protocols
Power supply	a) AC mains power supply (90-260 V, 47-63 Hz) b) 2A, 250V fuse rating
Operating temp	0° to +50° C

Electrical Specifications at 25°C (per Switch)

Parameter	Conditions	Min	Typ	Max	Units
Frequency		600		6000	MHz
Insertion Loss	600 MHz		4		dB
	6000 MHz		6		
Return Loss	600 MHz		15		dB
	6000 MHz		15		
Isolation	Between ports 1<>2		100		dB
	COM to 1 or 2 in "off" state		100		
Input Power	Per port			+33	dBm
	Max dissipation			+36	

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Typical Performance Data (per Switch)

Insertion Loss

Isolation - COM to 1 / 2 ("Off" State)

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Typical Performance Data (per Switch)

Return Loss

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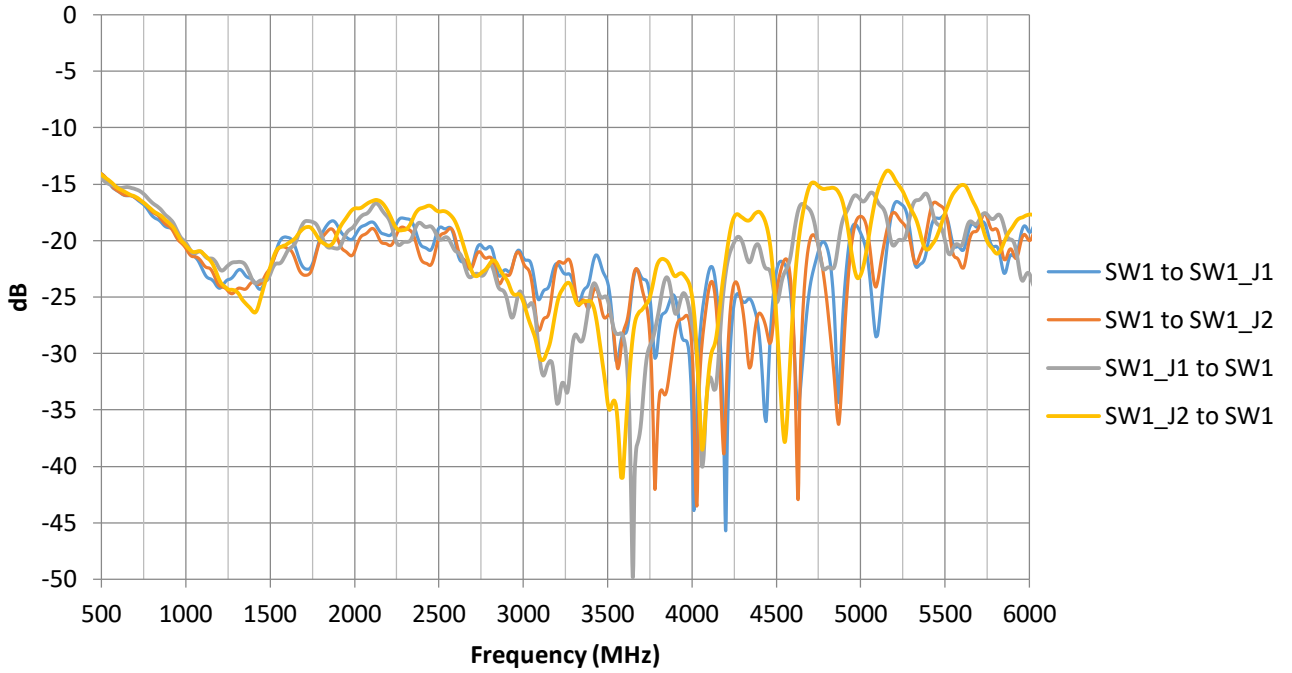
Outline Drawing
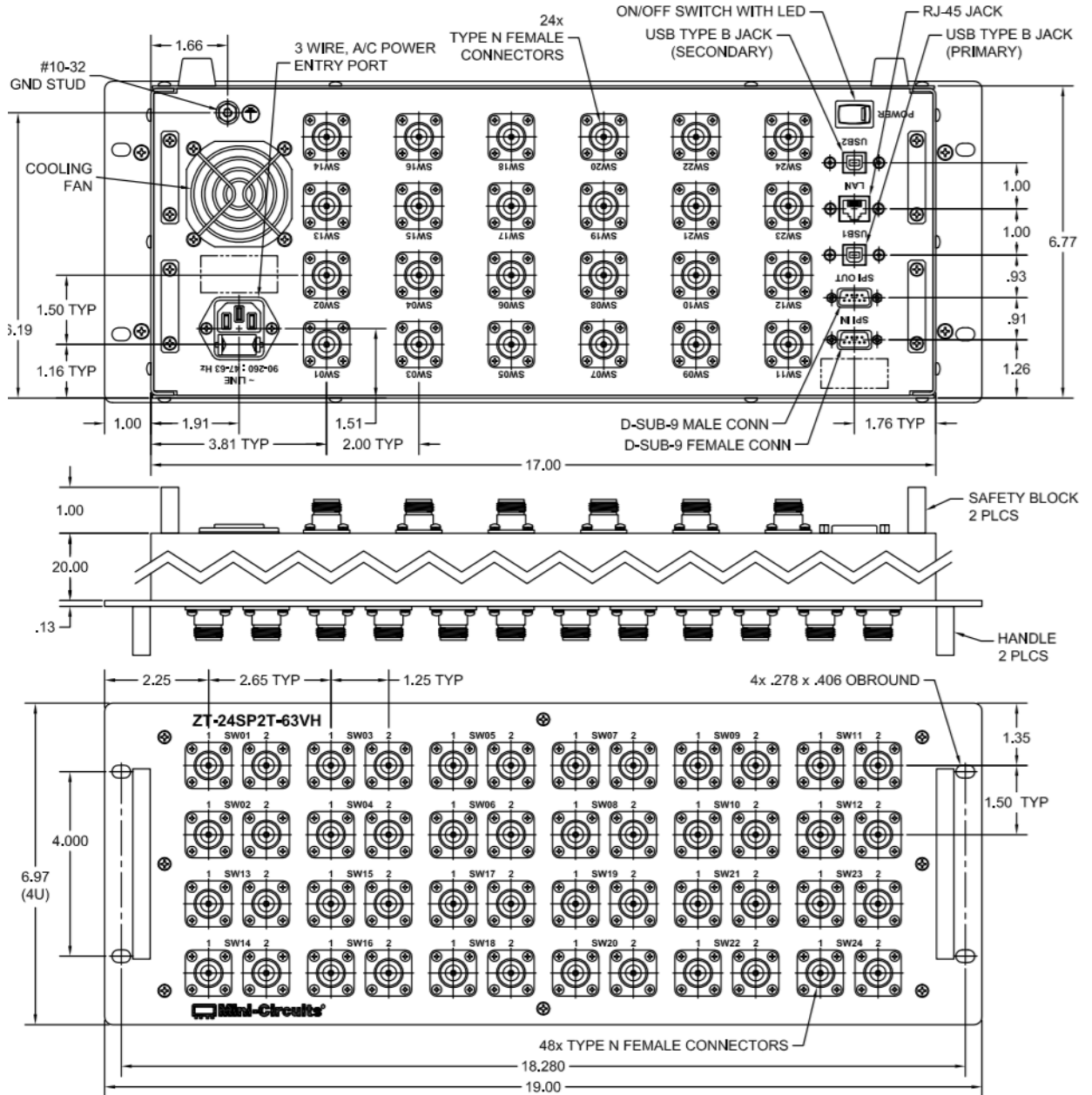
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Software Specifications

Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples are available on request
- Please contact testsolutions@minicircuits.com for support

Minimum System Requirements:

Parameter	Requirements	
Interface	USB HID & Ethernet (HTTP & Telnet)	
System Requirements	GUI	Windows 98 or later
	USB API DLL	Windows 98 or later and programming environment with ActiveX or .NET support
	USB Direct Programming	Linux; Windows 98 or later
	Ethernet	Windows, Linux or Mac computer with a network port and Ethernet TCP / IP support
Hardware	Pentium II or later with 256 MB RAM	

Application Programming Interface (API)

Ethernet Support:
- Simple ASCII / SCPI command set for attenuator control
- Communication via HTTP or Telnet
- Supported by most common programming environments

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 (refer to application note AN-49-001 for summary of supported 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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Graphical User Interface (GUI) for Windows - Key Features

- Connect via USB or Ethernet
- Run GUI in "demo mode" to evaluate software without a hardware connection
- View and set all switch states
- Rename and switch or port
- Control multiple ZT-24SP2T-63VH switch racks from a single GUI
- Configure Ethernet settings
- Upgrade firmware
- Send SCPI commands