



*Trusted RF Solutions™*

## NuSwitch VU150MH01

VHF/UHF SPDT RF Switch

50 - 500 MHz

150 W Power Handling Capability

4  $\mu$ S Switching Speed



P/N: NW-SW-VU-150-MH01

**The NuSwitch VU150MH01 is a new high speed, low loss SPDT Switch that delivers excellent power handling for a multitude of UHF/VHF applications.**

With typical switch timing of 4  $\mu$ Sec and typical insertion loss better than 0.25 dB this switch is sure to be a great addition to any demanding system. This switch operates from a +5 VDC supply with a typical current draw of 350mA for great power efficiency. The switch control operates from a single TTL input, and operates from -40 to +85 °C with minimal change in performance. Power handling abilities at 150 W CW across the entire working range of 50 to 500 MHz, along with high isolation between ports, provide a great, stable switching solution.

### Features

- 150 W RF Power Handling
- 4  $\mu$ S Switch Time
- 50-500 MHz Operational Range
- Single TTL Input
- Low Insertion Loss
- Low Power Consumption
- Miniature Form Factor (3.54" x 4.20" x 0.98")

### Applications

- Military and Aerospace
- Satellite Communication
- RF Front End
- Half-Duplex RF Systems
- Test and Measurement Instrumentation

# VHF/UHF High Speed RF Switch

## Specifications

### Absolute Maximums

Parameter	Rating	Unit
Max Device Voltage	5.25	V
Max Device Current	400	mA
Max RF Input Power, $Z_L = 50 \Omega$	150	W
Max Operating Temperature (baseplate)	85	°C
Max Storage Temperature	85	°C

Export Classification
ITAR

### Electrical Specifications @ 12VDC, 25 °C, $Z_S=Z_L=50 \Omega$

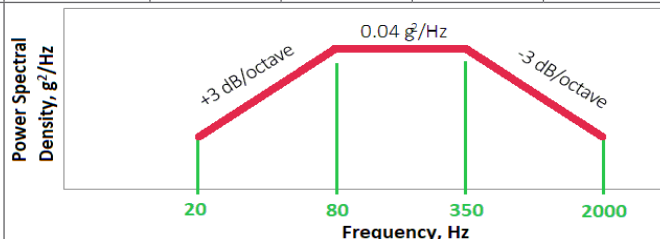
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Operating Frequency	BW	50		500	MHz	
RF Power Handling				150	W	
Switching Speed			4	5	$\mu$ S	
Insertion Loss - Transmit	IL		0.15		dB	
Insertion Loss - Receive	IL		0.25		dB	
Isolation - Transmit to Receive		30	43		dB	
Isolation - Receive to Transmit		25	39		dB	
Operating Voltage	VDC		5		V	
Operating Current	$I_{DD}$		350		mA	

### Mechanical Specifications

Parameter	Value	Unit	Limits
Dimensions	3.54 x 4.20 x 0.98	in	Max
Weight	1.3	oz	Max
RF Connector	SMA Female		
DC Power Connector	EMI Feed Through		

### Environmental Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature (baseplate)	$T_C$	-20		+70	°C
Storage Temperature	$T_{STG}$	-40		+85	°C
Relative Humidity (non-condensing)	RH			95	%
Altitude MIL-STD-810F - Method 500.4	ALT			30,000	ft
Vibration / Shock Profile (Random profile in x,y, z axis, as per Figure for 15 minute duration in each axis)					

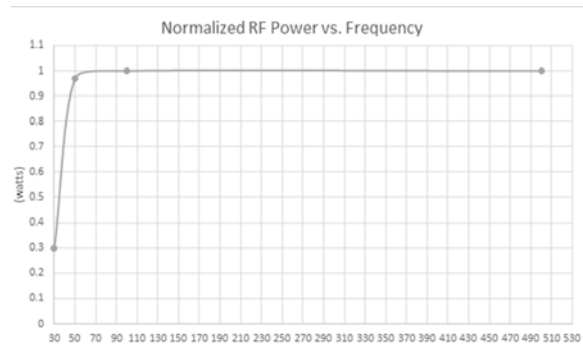


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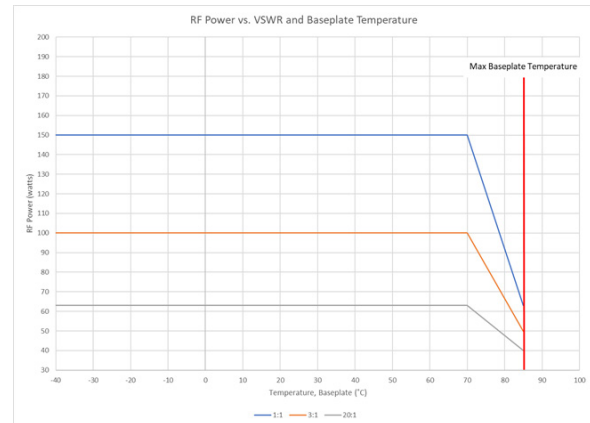
## Performance Plots

Test Conditions: +28 VDC, +25 °C,  $Z_s=Z_L=50 \Omega$

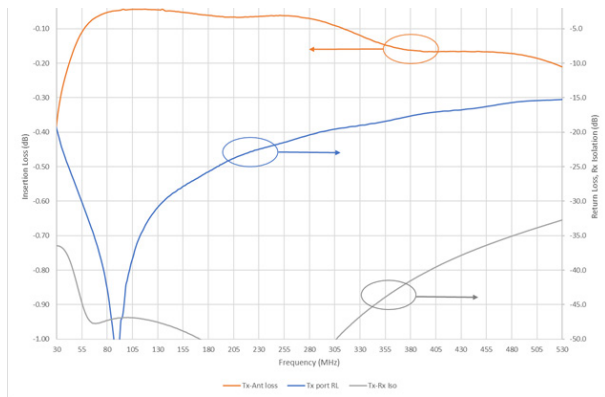
Normalized RF Power vs Frequency



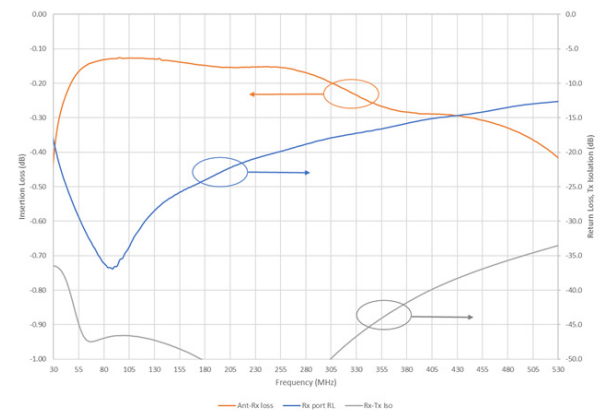
RF Power vs VSWR and Baseplate Temperature



Tx Mode, Tx to Antenna Port and Tx to Rx Isolation

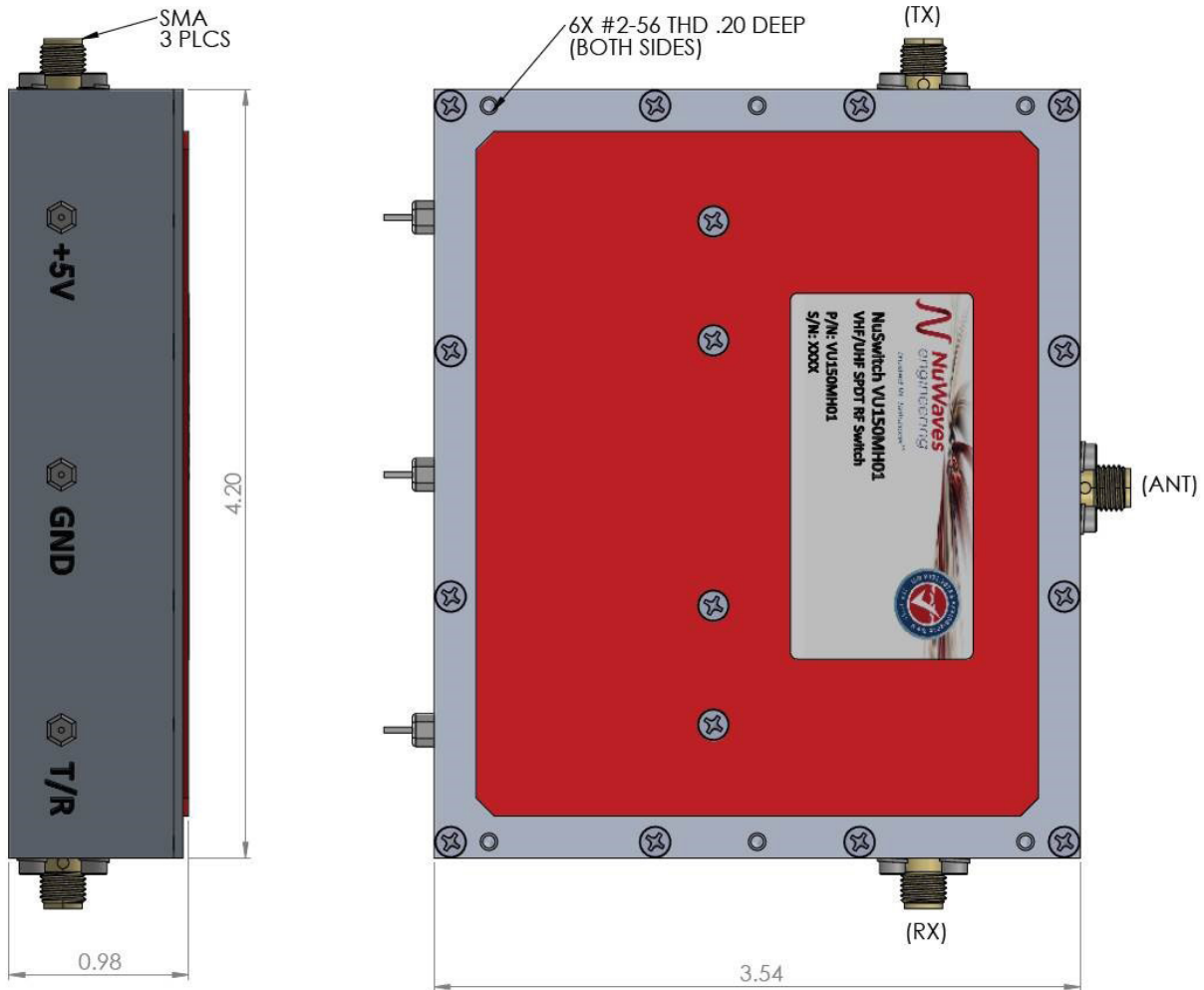


Rx Mode, Antenna to Rx Port and Rx to Tx Isolation



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## Mechanical Outline



For information on product disposal (end-of-life), please refer to this document:  
<https://nuwaves.com/wp-content/uploads/Product-Disposal-End-of-Life.pdf>

## Contact NuWaves



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**NuWaves**  
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