

DESCRIPTION

AMCOM's AM003044WM-XX is a symmetric broadband SPDT T/R power switch. It has less than 2dB insertion loss, greater than 30dB isolation between the ON port and OFF port, and better than 2:1 VSWR from DC to 3.0GHz band. This T/R switch can handle up to 30W RF power from 0.7 to 3GHz. Switching time is less than 5 nanoseconds. AM003044WM-00 is the chip version and AM003044WM-BM-R is the packaged form. All data below are for the packaged switch.

FEATURES

- Broadband from DC to 3.0GHz
- Power handling is 43 dBm
- Typical 1.0 dB Insertion Loss at 2GHz
- Input & output matched to 50 Ohms

APPLICATIONS

- T/R modules
- Instrumentation
- Lab Measurements
- Modulators

TYPICAL PERFORMANCE *

Parameters	Minimum	Typical	Maximum
THROW1 ON/ THROW2 OFF		CTL1=0V CTL2=-12.5V	
THROW1 OFF/ THROW2 ON		CTL1=-12.5V CTL2=0V	
Frequency	DC – 2GHz	DC – 3.0GHz	
ON Insertion Loss at 2GHz**	-	1.0dB	1.3dB
Input /Output Return Loss	10dB	12dB	
Isolation at 1GHz		48dB	
Isolation at 2GHz		39dB	-
Isolation at 3GHz		33dB	
Input power at 0.1dB comp. at > 0.8GHz	42dB	43dBm	-
Input power at 0.5dB comp. at > 0.8GHz	43dB	44dBm	-
Maximum RF power handling		45dBm	
Switching Speed		5 nanoseconds	

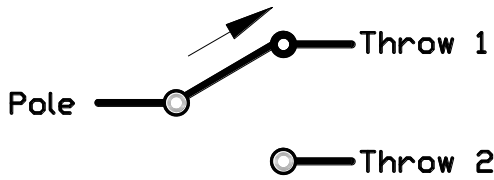
*Specifications subject to change without notice

ABSOLUTE MAXIMUM RATING

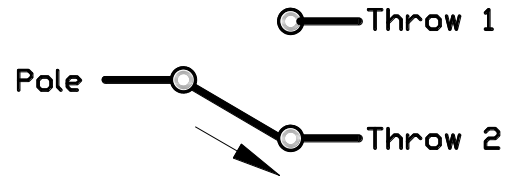
Parameters	Symbol	Rating
CTL1 & CTL2 Voltage	CTL1/CTL2	-15V to +0.5V
CTL1 & CTL2 DC Current	Idc	1mA
RF Power	Pin	45dBm

SMALL SIGNAL DATA**

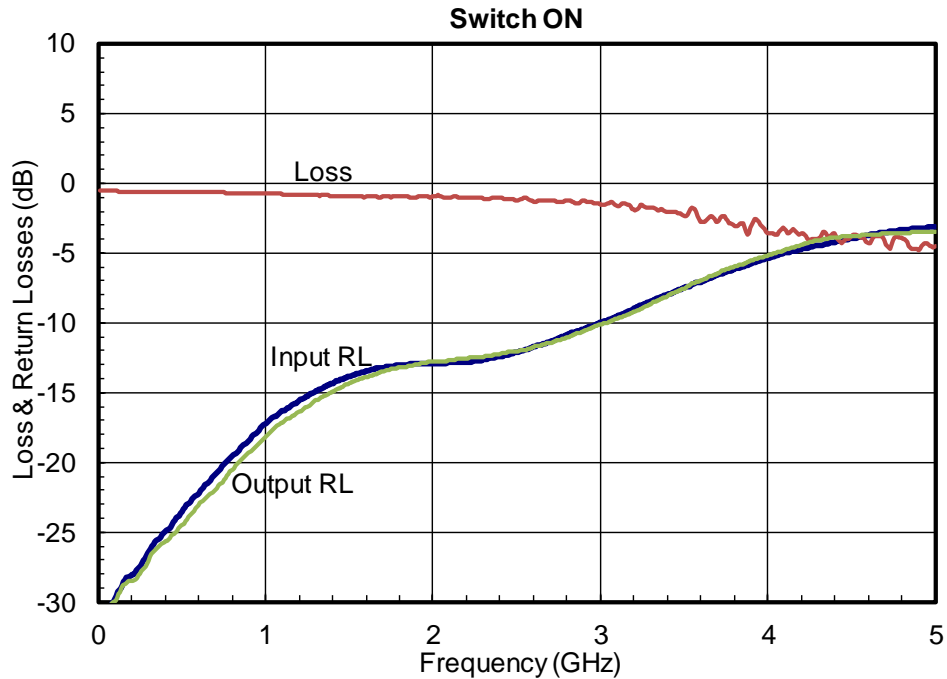
Symmetric SPDT
 State 1: Pole to Throw 1
 (CTL1=0V, CTL2=-Vg)



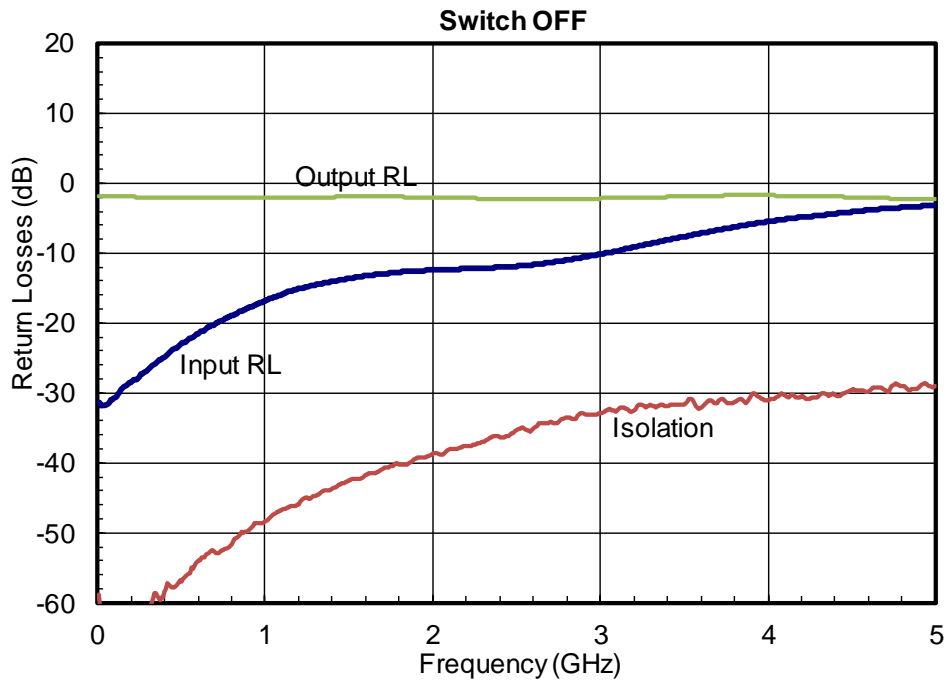
Symmetric SPDT
 State 2: Pole to Throw 2
 (CTL1=-Vg, CTL2=0V)



A) ON State



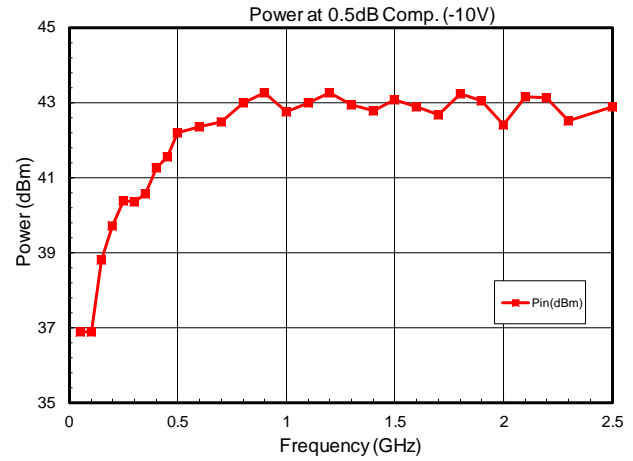
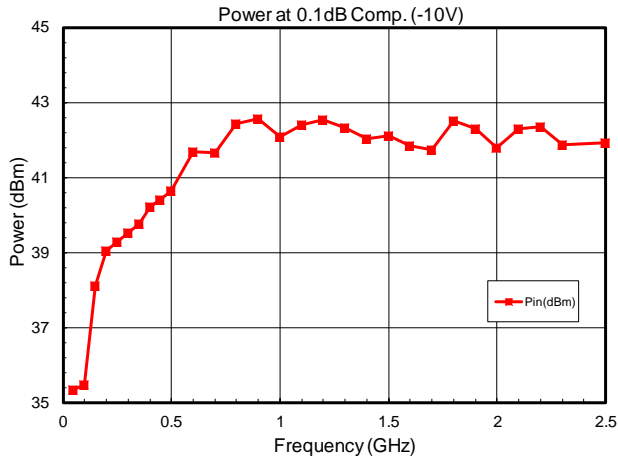
B) OFF State



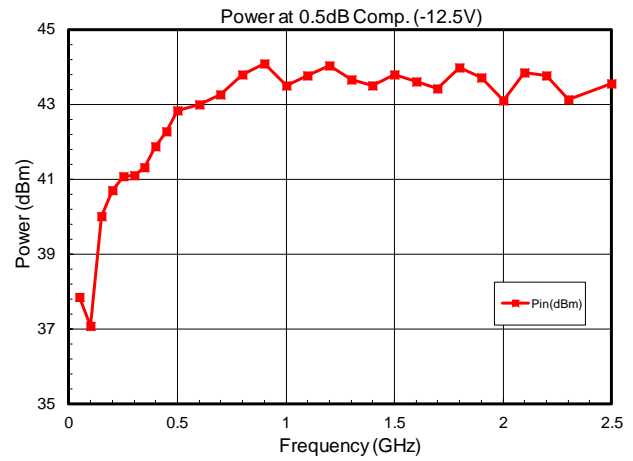
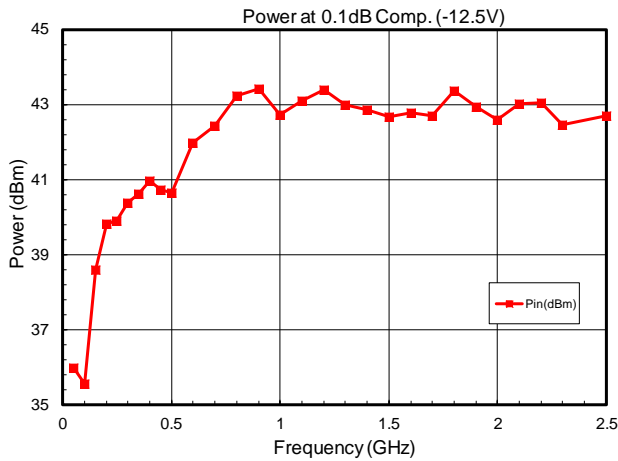
** Small signal S-parameters do not change with control voltage

POWER ***

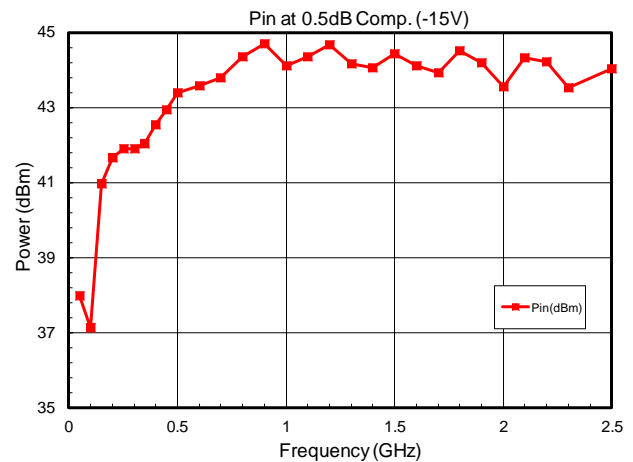
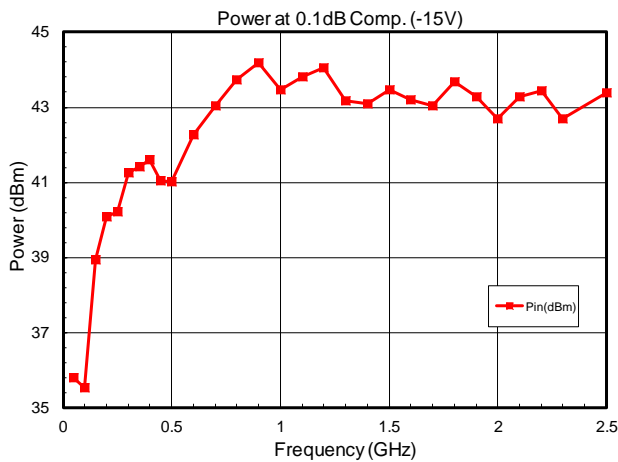
A) Controls -10V / 0V



B) Controls -12.5V / 0V

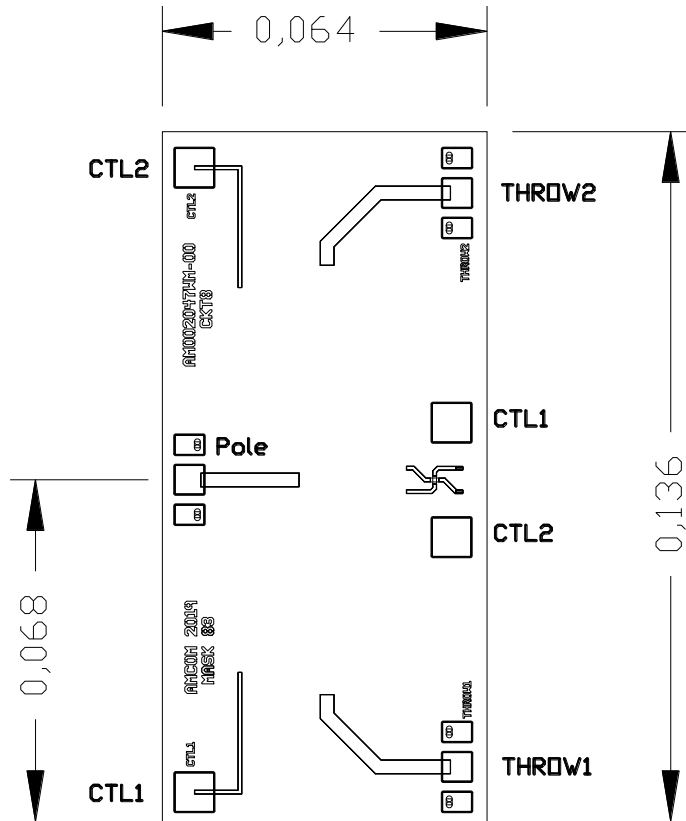


C) Controls -15V / 0V



*** Power variation occurs due to VSWR of the measurement system

CHIP OUTLINE*

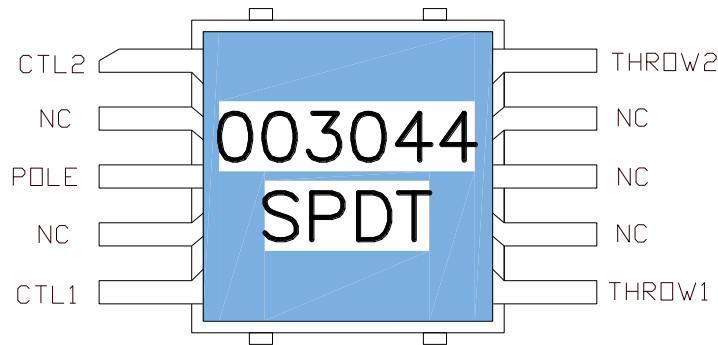
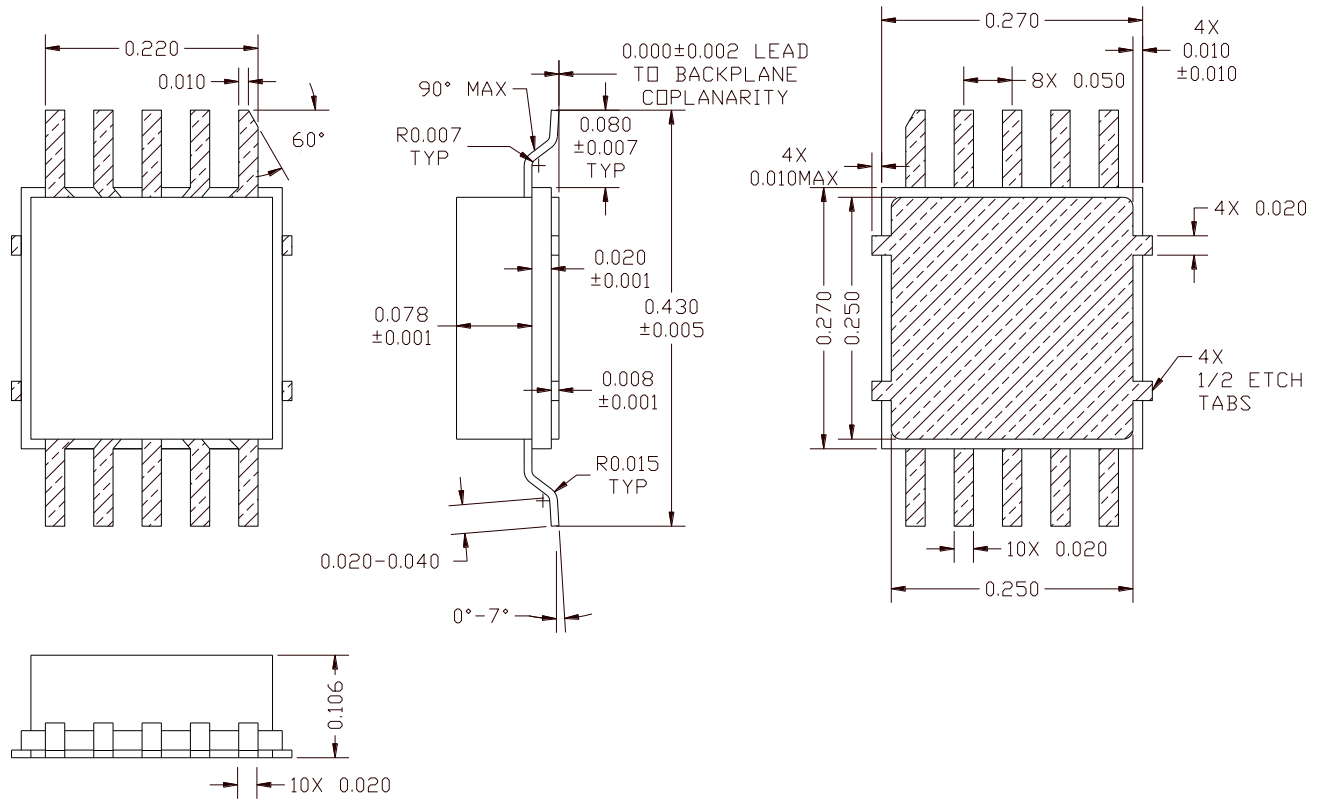


Chip size is: 0.064 x 0.136" (1625x3455 microns)

Notes:

- 1- Maximum DC current through CTL1 & CTL2 bias pin is 1mA.
- 2- CTL1=0V and CTL2=-12.5V THROW1 is ON & THROW2 is OFF, CTL1=-12.5V and CTL2=0V THROW2 is ON & THROW1 is OFF.
- 3- Maximum input RF power is 45dBm
- 4- Maximum negative CTL1 & CTL2 voltage is -15V.
- 5- Maximum positive CTL1 & CTL2 voltage is +0.5V.

CM PACKAGE OUTLINE*



Notes:

- 1- Maximum DC current through CTL1 & CTL2 bias pin is 0.1mA.
- 2- CTL1=0V and CTL2=-12.5V THROW1 is ON & THROW2 is OFF, CTL1=-12.5V and CTL2=0V THROW2 is ON & THROW1 is OFF.
- 3- Maximum input RF power is 45dBm
- 4- Maximum negative CTL1 & CTL2 voltage is -15V.
- 5- Maximum positive CTL1 & CTL2 voltage is +0.5V.

BM TEST FIXTURE

