

# KD06M2-01, KD06M2-10

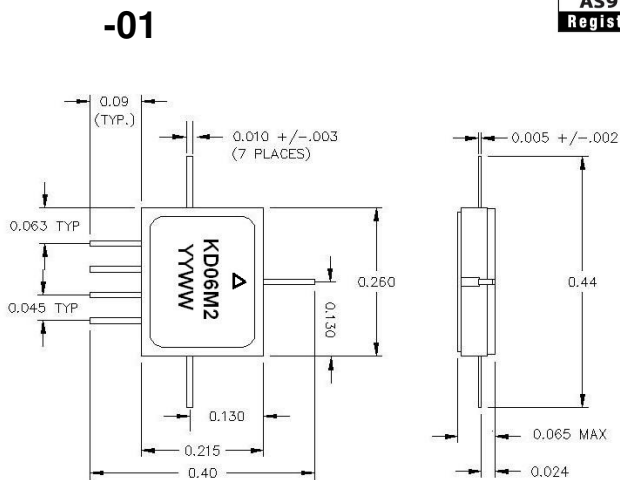
## SPDT Switch With Driver

### Non-Reflective DC – 6 GHz



#### Features:

- Single Positive Control
- Broadband operation from DC – 6 GHz
- Surface Mount Hermetic Package
- High Isolation, Non-Reflective Termination
- Capable of meeting MIL-STD requirements.



#### Description:

The KD06M2-01 is a Non-Reflective SPDT FET Switch with integral driver supplied in 7-lead microwave surface mount package. The driver simplifies the external driver circuit, thus saving PC board space and reducing component count. This switch is ideal for high performance commercial and high reliability applications where optimum performance is required. The KD06M2-10 is the gullwing version of this device for surface mount applications (see page 5 for outline drawing).

#### Absolute Maximum Rating

Characteristic	Min Value	Max Value
RF Input Power (RF in)		30 dBm
DC Bias - 5V @ 4 ma max	-5.25	-4.75
Control Voltage Low @ 100uA max	0	.5
Control Voltage High @ 100uA max	4.0	5.5
Operating Temperature (Top)	-54 °c	+95 °c
Storage Temperature (Tst)	-65 °c	+150 °c

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**Electrical Specification at 25°C (Vc Low = 0:Vc High = 5V)**

Parameter	Condition	Min	Typ	Max	Units
Insertion Loss /1	DC - 1.0 GHz		0.8	1.1	dB
	DC - 2.0 GHz		1.0	1.2	dB
	DC - 4.0 GHz		1.7	2.0	dB
	DC - 6.0 GHz		2.0	2.2	dB
Isolation	DC - 1.0 GHz	52	58		dB
	DC - 2.0 GHz	48	50		dB
	DC - 4.0 GHz	37	44		dB
	DC - 6.0 GHz	30	42		dB
VSWR (I/O)	DC - 1.0 GHz		1.2:1	1.3:1	
	DC - 2.0 GHz		1.3:1	1.5:1	
	DC - 4.0 GHz		1.6:1	1.8:1	
	DC - 6.0 GHz		1.8:1	2.0:1	

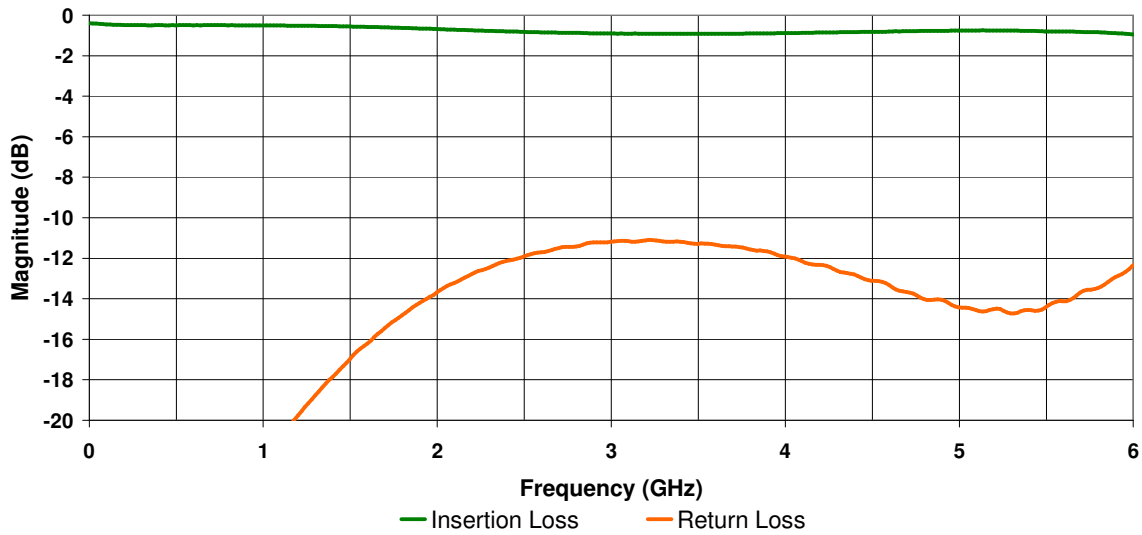
/1: Insertion Loss increases .004dB/°c

**Operating Characteristics at 25°C**

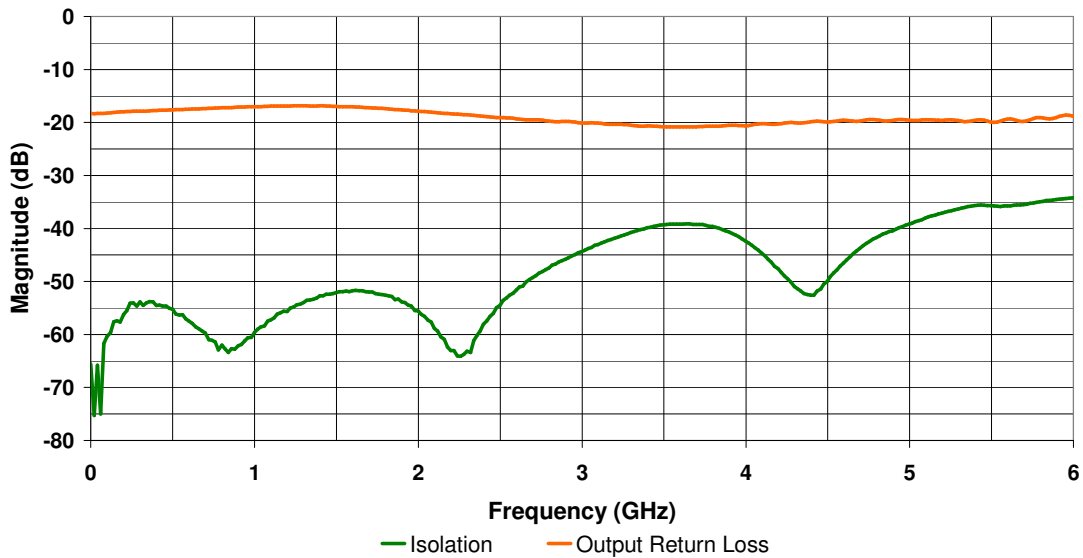
Parameter	Condition	Min	Typ	Max	Units
Switching	Rise/Fall (10/90% or 90/10%)		10	20	ns
	On/Off (50% Ctrl to 90/10% RF)		20	40	ns
	Video Feedthru		30	40	mV
1dB Compression	Frequency > 0.5GHz	20	23		dBm
	Frequency < 0.5GHz	12	15		dBm
	Note: Input Power @ Vctrl High =5V				
3 <sup>rd</sup> Order Intercept	Frequency > 0.5GHz	34	37		dBm
	Frequency < 0.5GHz	22	26		dBm
	Note:Two-tone Input Power = +13dBm				
Supply Voltages	Control Voltage : Low	0		0.5	V
	High	4		5.5	V
	Negative Supply	-4.75		-5.25	

## Typical Performance Data

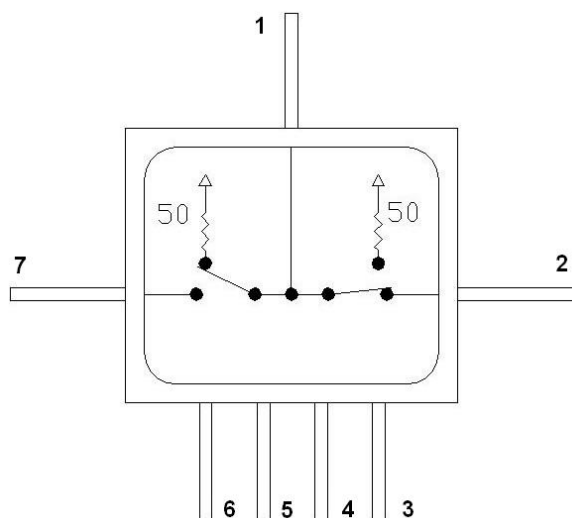
### Insertion Loss



### Isolation



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**Pin Out**

<b>1</b>	<b>J1</b>
<b>2</b>	<b>J2</b>
<b>3</b>	<b>GND</b>
<b>4</b>	<b>NC</b>
<b>5</b>	<b>Vctrl</b>
<b>6</b>	<b>-5 Vdc</b>
<b>7</b>	<b>J3</b>



**Electrostatic Sensitive device. Proper ESD precaution should be used when handling device.**

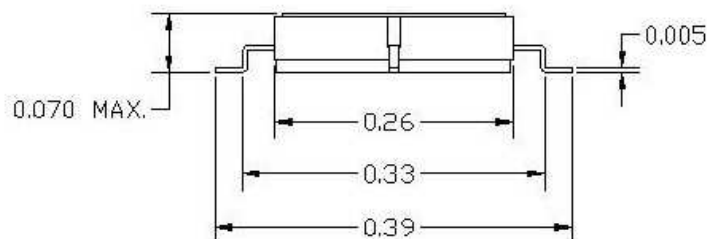
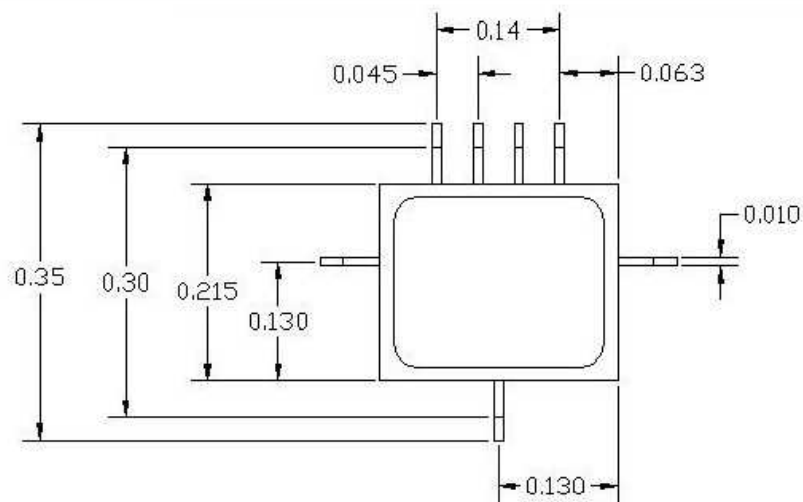
**Truth Table**

<b>Vctrl</b>	<b>J1 to J2</b>	<b>J1 to J3</b>
1	Insertion Loss	Isolation
0	Isolation	Insertion Loss

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**-10 PACKAGE OUTLINE**



**Package Material:** Ceramic  
**Package Base:** CuW  
**Package Lid:** Kovar  
**Lead Material:** Kovar  
**Plating Finish:** 50-100u" Au over 100-225u" Ni

**Maximum reflow temperature:** 265 °C