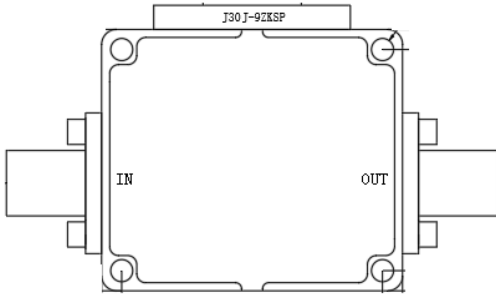


### 0.5dB LSB, 9kHz-40GHz, 6 bit Digital Attenuator



#### Description:

AT-DAT-0040-30 is a 9kHz-40GHz digital attenuator with 0.5dB LSB, 6bit control, 31.5dB attenuation range. The insertion loss is -5dB below 40GHz.

The attenuator is suitable for broadband test, and 5G millimeter wave application. The attenuator is with 2.92mm Female connector. DC Block AT-DC-29M29F required if RF line is not equal to 0V DC.

More information, visit [www.atmicrowave.com](http://www.atmicrowave.com)

#### Feature

- ✓ Frequency: 9kHz-40GHz
- ✓ 6bit, 0.5dB LSB
- ✓ Attenuation Range: 31.5dB
- ✓ Very fast speed

#### Application

- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System
- ✓ Telecom Communication

#### Electronical Specifications:

Parameter	Min	Typical	Max
Frequency		9kHz-40GHz	
Insertion Loss		100MHz-26.5GHz: -3dB 26.5-40GHz: -5dB	
Bit and Step		6bit, 0.5dB LSB	
Attenuation Range		31.5dB	
Control Voltage		0/3.3V	
Power Supply		VDD=+3.3V, VSS=-3.3V	
Digital Control		Low=0 to 0.8V High=1.2 to 3.3V	
Accuracy Referenced to IL	10MHz-26.5GHz: 26.5-40GHz	±(0.2 + 2% of state) ±(0.2 + 3% of state)	
Return Loss		-10dB	
P1dB		+25dBm	
Spec Temp		25C	





# AT-DAT-0040-30

## 9kHz-40GHz Digital Attenuator

### Mechanical Information

Item	Description
Input Port	2.92mm Female
Output Port	2.92mm Female
DC and Control	DB9, J30J-9ZKSP
Case Material	Copper
Finish	Gold Plated
Weight (Without Heatsink)	50g
Size:	27.9x26x10mm

### Absolute Maximum Ratings Table

Parameter	Value
VDD=+3.3V	-0.3 to +3.6V
VSS=-3.3V	-3.6 to -0.3V
Digital Control Voltage D1-D5	-0.3V to VDD+0.3V
RF Power to ATT Pin Port	+25dBm
RF Power to ATT Pout Port	+17dBm
Operating Temperature	-40 to +85C
Storage Temperature	-65 to +150C

### Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.



### True Table

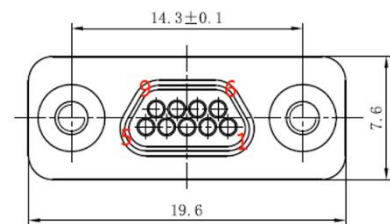
D5	D4	D3	D2	D1	D0	Attenuation State
Low	Low	Low	Low	Low	Low	0 (reference)
Low	Low	Low	Low	Low	High	0.5
Low	Low	Low	Low	High	Low	1.0
Low	Low	Low	High	Low	Low	2.0
Low	Low	High	Low	Low	Low	4.0
Low	High	Low	Low	Low	Low	8.0
High	Low	Low	Low	Low	Low	16.0
High	High	High	High	High	High	31.5

Low=0 to 0.8V

High=1.2 to 3.3V

DB9 (J30J-9ZKSP) Pin Description:

Pin Number	AT-DAT-0040-30	AT-DAT-0040-60
1	D0	D0
2	D1	D1
3	D2	D2
4	D3	D3
5	D4	D4
6	D5	D5
7	NC	D6
8	Vdd=+3.3V	Vdd=+3.3V
9	Vss=-3.3V	Vss=-3.3V



### Port Functions

Port	Function	Description
Port 1	Input Port	This Pin is dc-coupled to 0V and AC Matched to 50Ohms. No dc block is necessary when RF line is equal to 0V DC. DC block AT-DC-29M29F (50kHz-40GHz) required RF line is not equal to 0V.
Port 2	Output Port	This Pin is dc-coupled to 0V and AC Matched to 50Ohms. No dc block is necessary when RF line is equal to 0V DC. DC block AT-DC-29M29F (50kHz-40GHz) required RF line is not equal to 0V.



## Dimension (mm)

