

### 0.5-43.5GHz Envelope Detector, 40dB Range



#### Product Overview

AT-DET-0043E is a broadband envelope detector with 0.5-43.5GHz input frequency and 40dB detect range. Input power range is from -25dBm to +15dBm. The envelope bandwidth is 40MHz.

The RF input port is 2.92mm female and Vout is SMA Female.

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

#### Advantages

- ✓ Frequency: 0.5-43.5GHz
- ✓ RF Range: -25 to +15dBm
- ✓ Envelope Bandwidth: 40MHz
- ✓ Single Power Supply

#### Application

- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

#### Key Features

Parameter	Min	Typical	Max
Frequency		0.5-43.5GHz	
RF Detection Range		40dB	
Min Input Power		-25dBm	
Max Input Power		+15dBm	
Envelope Bandwidth		40MHz	
Nominal Input Impedance		50 Ohms	
Vout Offset NO RFIn		4mVpp	
Vout @Pin=-10dBm 35GHz		0.2V	
Vout @Pin=+10dBm 35GHz		2.2V	
RF Input Return Loss		-5dB	
Spec Temp		25C	





# AT-DET-0043E

0.5-43.5GHz Envelope Detector

## Mechanical Information

Item	Description
Input Port	2.4mm Female
Vout Port	SMA Female
DC Bias	PIN Solder
Case Material	Copper
Finish	Gold Plated
Weight (Without Heatsink)	90g
Size:	30x30x9.5 mm

## Order Information

Part Number	Description
AT-DET-0043E	Input 2.4mm Female
AT-DET-0043E-29	Input 2.92mm Female

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+13V
RF Input Power	+20 dBm
Operating Temperature	-20 to +70C
Storage Temperature	-65 to +150C

### Caution:

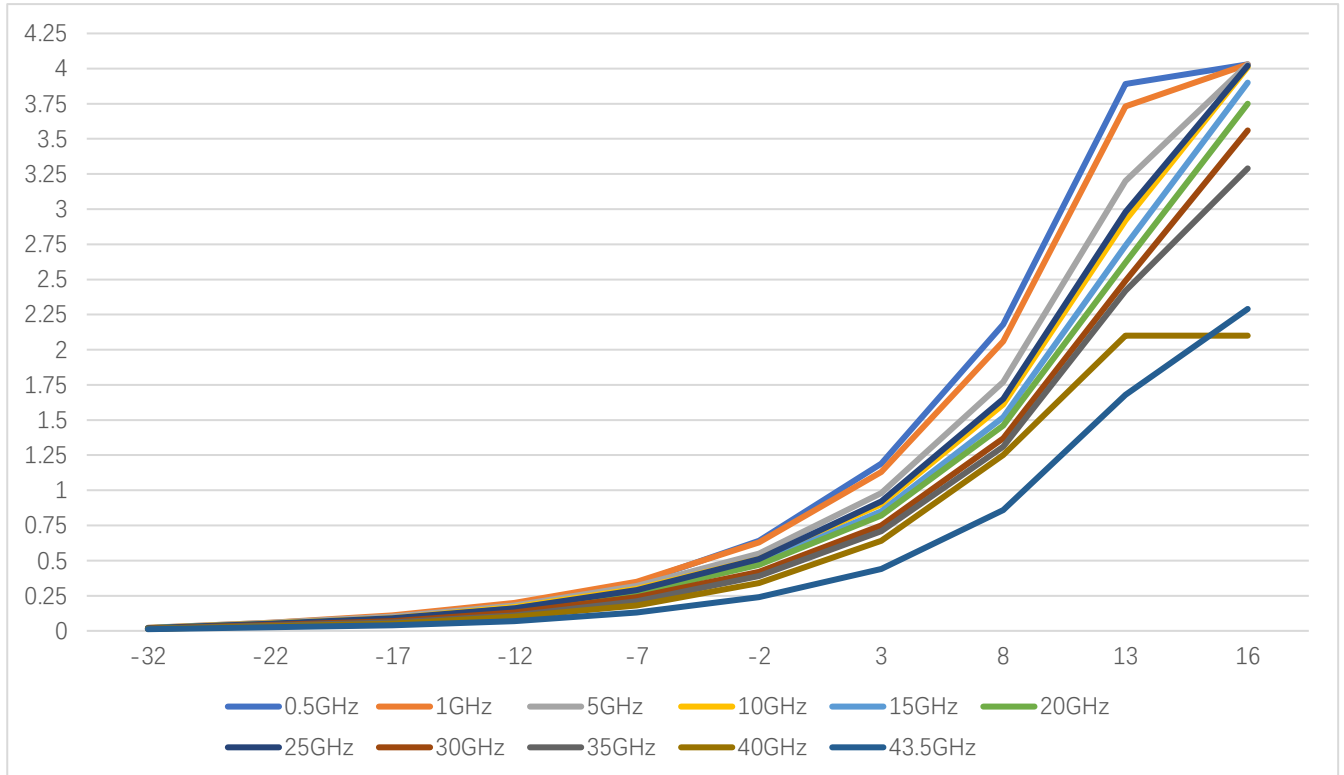
Please pay attention to the case temperature. If case temperature exceed higher than +50C, heat sink and fan are required, or the amplifier may be damaged.

### 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.



### Test Data:



Detector Vout vs Pin at different frequencies

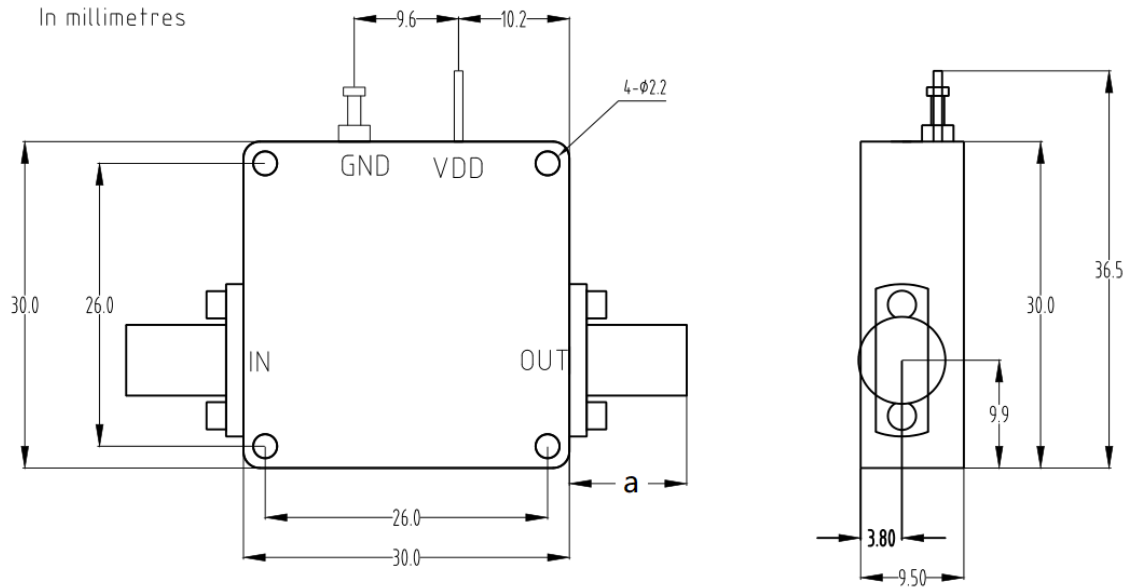
### Vout vs Input Power in Table

(Note: Vout value will vary from different modules)

Pin	0.5GHz	1GHz	5GHz	10GHz	15GHz	20GHz	25GHz	30GHz	35GHz	40GHz	43.5GHz
-32	0.018	0.021	0.022	0.02	0.019	0.018	0.019	0.016	0.015	0.014	0.012
-22	0.046	0.058	0.058	0.053	0.049	0.048	0.05	0.042	0.037	0.032	0.025
-17	0.082	0.11	0.1	0.09	0.08	0.08	0.09	0.07	0.06	0.05	0.04
-12	0.17	0.2	0.18	0.17	0.16	0.15	0.16	0.13	0.11	0.1	0.07
-7	0.34	0.35	0.32	0.3	0.28	0.27	0.29	0.24	0.21	0.18	0.13
-2	0.64	0.63	0.55	0.51	0.48	0.47	0.51	0.42	0.39	0.34	0.24
3	1.19	1.13	0.98	0.9	0.85	0.82	0.92	0.75	0.71	0.64	0.44
8	2.18	2.06	1.77	1.61	1.52	1.46	1.65	1.37	1.31	1.25	0.86
13	3.89	3.73	3.2	2.92	2.74	2.62	2.98	2.49	2.42	2.1	1.68
16	4.03	4.03	4.03	4.01	3.9	3.75	4.02	3.56	3.29	2.1	2.29



### Dimension: (unit in mm)



	<26.5GHz	<40GHz	<50GHz	<67GHz
Connector	SMA	2.92mm	2.4mm	1.85mm
Lenth of a	9.4mm	9.5mm	10.8mm	11.3mm

Note: Female Default. Contact with us for other types.

