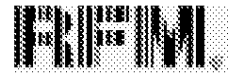
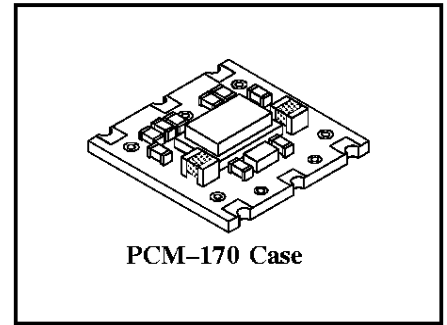


# AT1001

## 433.92 MHz Transmitter Module



*Ideal for 433.92 MHz Unlicensed Transmitters in Europe*  
*Self-Contained RF Functions Shorten Development Time*  
*Quartz SAW Frequency Stabilization*  
*Surface-Mountable Circuit Board with 1.7 cm<sup>2</sup> Footprint*



The AT1001 is a miniature transmitter module generates an on-off keyed (OOK) modulation from an external digital encoder (not included). The carrier frequency is quartz, surface-acoustic-wave (SAW) stabilized. The result is excellent performance in a simple-to-use, surface-mount device with a low external component count. The transmitter module is designed for unlicensed remote-control and wireless security transmitters operating in Europe under ETSI-IETS 300 220.

### Absolute Maximum Ratings

Rating	Value	Units
Power Supply and/or Modulation Input Voltage	10	V
Ten-Second Soldering Temperature	215	°C

### Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units	
Operating Radio Frequency	Absolute Frequency	f <sub>O</sub>	1, 2, 3, 4	433.720		434.120	MHz	
RF Output Power into 50 Ω at 25°C		P <sub>O</sub>	2, 4, 5	-3	0		dBm	
	Within Specified Temperature Range		2, 3, 4, 5	-5	0			
Harmonic Spurious Emissions			2, 4, 5		-40		dBc	
Modulation Input	Input HIGH Voltage	V <sub>IH</sub>	3, 4, 5	2.5		V <sub>CC</sub>	V	
	Input LOW Voltage	V <sub>IL</sub>		0.0		0.3		
	Input HIGH Current	I <sub>IH</sub>					500	μA
	Input LOW Current	I <sub>IL</sub>		0.0				
Data Timing Parameters	Modulation Rise Time	t <sub>R</sub>	3, 4, 5, 6		50	100	μs	
	Modulation Fall Time	t <sub>F</sub>			20	100		
Power Supply	Voltage	V <sub>CC</sub>	5, 7	2.7	3	3.3	VDC	
	Current at 25°C and 3.0 V	I <sub>CC</sub>	3, 4, 5, 8		8	10	mA	
	Current at 25°C and 3.0 V		5, 9			1.0	μA	
Operating Ambient Temperature		T <sub>C</sub>	5	-40		+85	°C	
Symbol Legend				AT1001				



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

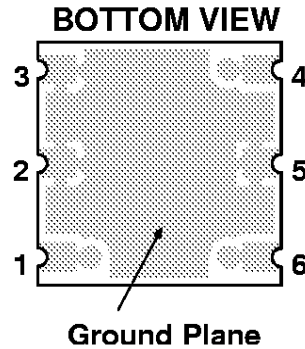
#### Notes:

- One or more of the following United States patents apply: 4,454,488; 4,616,197.
- Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
- Applies over the specified range of operating temperature.
- Applies over the specified range of operating power supply voltage.
- The design, manufacturing process, and specifications of this device are subject to change without notice.
- The maximum data rate is dependent on the characteristics of the external encoding circuitry (not included).
- Unless noted otherwise, temperature T<sub>C</sub> = +25°C ±2°C, test load impedance = 50 Ω, and modulation input is at logic HIGH.
- The maximum operating current occurs at the maximum specified power supply voltage and maximum specified operating temperature.
- Standby current is defined as the supply current consumed with the modulation input at logic LOW.

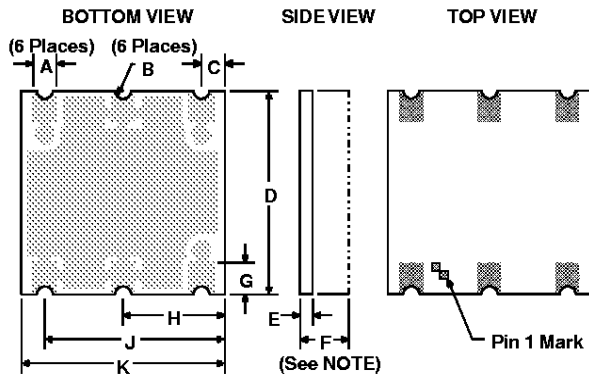
# AT Series of OOK Transmitters

## Electrical Connections

Terminal Number	Connection
1	Data Input
2	Ground
3	
4	RF Output to 50Ω
5	Ground
6	+DC Supply (V <sub>CC</sub> )



## Assembly Design

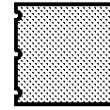


Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	1.524 Nominal		0.060 Nominal	
B	0.508 Nominal		0.020 Nominal	
C	1.524 Nominal		0.060 Nominal	
D	13.208 Nominal		0.520 Nominal	
E	0.813 Nominal		0.032 Nominal	
F		3.175		0.125
G	2.032 Nominal		0.080 Nominal	
H	6.604 Nominal		0.260 Nominal	
J	11.684 Nominal		0.460 Nominal	
K	13.208 Nominal		0.520 Nominal	

NOTE: Dimension "F" represents the Maximum component height, no lid is included.

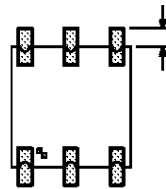
## Assembly Design

Actual Size Footprint:



## Typical Printed Circuit Board Land Pattern

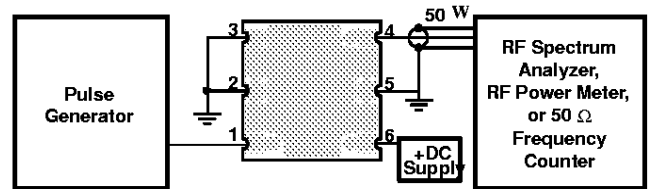
CAUTION: It is not recommended that any traces be located beneath the AT transmitter.



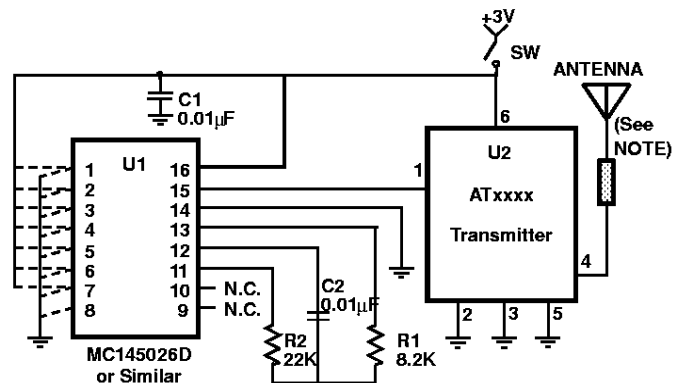
Typically 0.080" or 2.032 mm (6 Places)

(The optimum value of this dimension is dependent on the circuit board assembly process employed.)

## Typical Test Circuit



## Typical Transmitter Application



NOTE: This matching component is required only for antennas that are not 50 ohms. It is typically a chip inductor to match to stub antennas shorter than 1/4 wavelength. For very low radiated field-strength applications, a resistor can also be used.