

Bird®

Pulse Sensors

7027 Series



The RF Experts

Bird's® New Precision Pulse Power Sensor for precision semiconductor applications. The 7027 Series Power Sensors were designed to bring superb accuracy and ease of use together for the engineer in the laboratory and semiconductor fab environments. At the calibrated frequencies, these sensors are capable of 1% accuracy measurements of the gated power within a pulsed waveform. With calibration traceable to the National Institute of Standards and Technology, you can be confident of the measurements these sensors provide.

KEY FEATURES

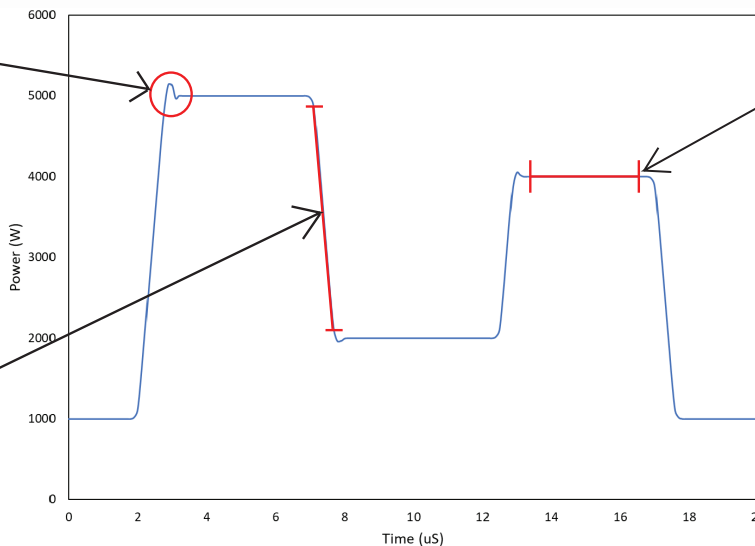
- Time Domain Display
- Gated power measurements with up to four sets of gates available
- Capable of $\pm 1\%$ power measurement accuracy over full dynamic range at calibrated frequencies
- NIST traceable calibration
- Measure pulse state widths down to 1us
- Measure pulse rep. rates from 10Hz up to 50kHz
- Harmonic filtering
- External sync input
- RF Interlock
- Automate with SCPI command set

APPLICATIONS

- RF generator calibration and verification
Our high-accuracy sensors help to give you confidence in the output of your RF generator
- Process development
Use the VPM3 to log and analyze the RF power data from experimental recipes
- In-situ processes monitoring
Keep an eye on your processes at runtime and detect anomalies
- Time domain analysis of RF pulse waveforms
Get a closer look at your high power RF pulses

ANALYZE COMPLEX RF PULSE WAVEFORMS

Identify irregularities in your pulses



Gated Power measurements allow you to measure the stable region of your pulses

Utilize up to four sets of gates to analyze complex pulses

Measure rise and fall times of your pulse states

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SENSOR SPECIFICATIONS

Models	Frequency Range	Power Range	Pulse Rep. Rate	Min. State Width
7027-1-524001-XXYY	400kHz \pm 10%	25W to 25KW	10Hz to 11.25kHz	44us
7027-1-664601-XXYY	1 MHz \pm 10%	5.5W to 5.5kW	10Hz to 10kHz	17us
7027-1-544601-XXYY	2 MHz \pm 10%	5.5W to 5.5kW	10Hz to 50kHz	11us
7027-1-594301-XXYY	13.56MHz \pm 5%	10W to 10kW	10Hz to 50kHz	1us

Other frequencies and power levels available upon request

Sensor Options

Input (XX) & output (YY) connector options:

01 – QC N(f) 02 – QC N(m) 12 – QC HN(f) 13 – QC HN(m) 14 – QC 7/16(f) 15 – QC 7/16(m)

Other connector options available upon request

GENERAL SPECIFICATIONS

Measurement Type	Thru-Line Power
Impedance, Nominal	50 Ohms
Power Measurement Accuracy	1% at calibrated frequencies 2% at all other frequencies within sensor bandwidth
VSWR Range	1.0:1 to 2.0:1
Insertion Loss, Max	<0.05 dB
Insertion VSWR, Max	1.05
RF Connectors	QC (See table above for options. Over-all power will be limited by connector selection)
Directivity, Min.	28 dB
Factory Calibration	NIST Traceable
Recommended Calibration Cycle	6 Months
Interface	USB 2.0
Power Supply	Via USB Cable
External Sync Input	TTL High, 2-5V TTL Low, 0-0.85V

MECHANICAL SPECIFICATIONS

Operating Temperature	+15 to +35 °C (+59 to +95 °F)
Storage Temperature	-20 to +70 °C (-4 to +158 °F)
Humidity, Max	95% maximum (non-condensing)
Altitude, Max	15,000 ft. (4,500 m)
Dimensions, Nominal	6.0" L x 1.9" H x 3.7" W (155 L x 50 H x 95 W mm) Not Including QC Connectors
Weight, Max	Less than 3 lbs
Mechanical Shock: and Vibration	Designed to meet MIL-PRF-28800F class 3
EMC	EMC Directive (2004/108/EC) European Standard: EN 61326—Electrical Equipment for measurement, control and laboratory use; EMC Requirements Test Spec (for radiated immunity): EN 61000-4-3—Testing and measurement techniques - 10V/meter
CE Mark	Required
RoHS	Required
Compatible Devices	VPM3
Standard Accessories	USB Cable

