



BIRD® OIL-DIELECTRIC

SC 13 SERIES

ULTRA-STABLE, OIL-DIELECTRIC RF TERMINATION LOADS FOR SEMICONDUCTOR PROCESSING APPLICATIONS

Let Bird® Be an Extension of Your RF Design Team!

The Bird® Engineering Design Team provides **over 250** years of collective RF Engineering experience.

Our R & D / Design Engineers focus on **leading edge** technology, product **integrity** and **quality** control.

We have the **expertise** to provide a **standard** or **custom** product to suit an environment or a specific design application.

Bird® Electronic Corporation **designs** and **manufactures** a diverse range of products, from RF power meters and antenna analyzers to high power RF load resistors. This broad product offering requires an equally diverse design skills base.



ADVANTAGES:

- No warm-up time
- Ultra stable: <0.1dB total change in VSWR from 0 to 100% rating power at 13.56 MHz
- Passive design
- Ultra-low VSWR - typically <1.05:1 at process critical frequencies
- Homogeneous RF design provides long-term repeatability

Bird® SC 13 Series Loads Frequently Asked Questions (FAQs):

Q: How is the stability spec defined for this load?

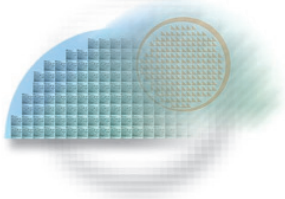
A: The stability spec of <.1 dB total change in VSWR is defined as the total delta change in VSWR as the load is operated from 0 to 100% rated power. For example, if the load VSWR at 0% power is 1.02 (.086 dB), then the maximum change in VSWR as the load is operated up to 100% rated power will be 1.043:1, which is .086 + .1 = .186 dB. This represents a total VSWR change of 1.043 - 1.02 = .0237

Q: What is the typical surface temperature of an Oil Load at rated power?

A: The sides and top fin area will typically run between 80 to 100°C depending upon the specific model and environmental conditions. The bottom of the radiator housing will typically be around 120°C.

Q: Do I have the option to select these loads as part of the Bird Calibration Cart?

A: Yes, you have the option to select these loads as part of the Bird Calibration Cart.



RF Measurement and Management in Your World



Bird® Technologies Group, consisting of Bird® Electronic Corporation and TXRX Systems®, is a global, innovative supplier of RF products, systems, services and educational solutions.

Bird® Technologies Group reserved the right to modify specifications or discontinue any product without notice.

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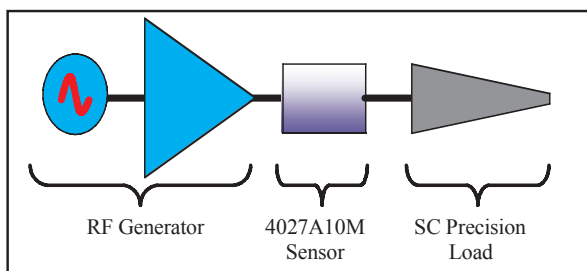
BIRD® OIL-DIELECTRIC LOAD

SC 13 SERIES SPECIFICATIONS

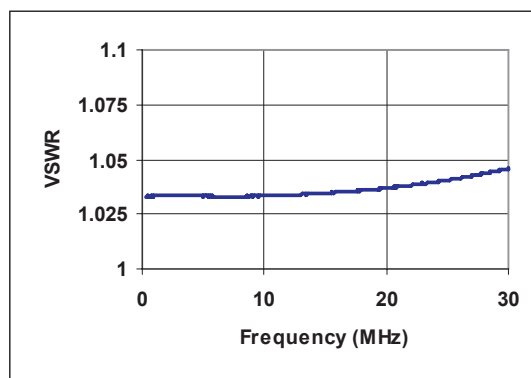
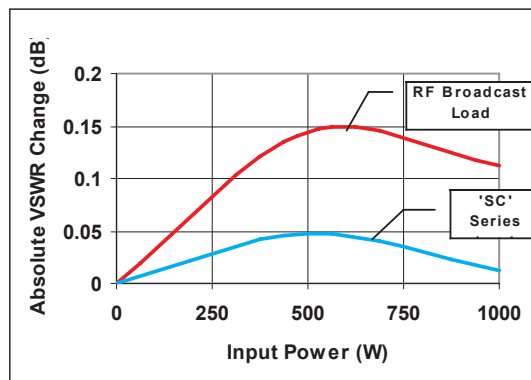
For maximum process repeatability and consistency, modern plasma applications require precise RF power regulation and control. A key component in ensuring accurate & repeatable RF power delivery to the chamber is calibration, regulation & monitoring of the RF generator.

Bird now offers ultra-stable, low VSWR loads for quick and precise measurement of generator power output when used with precision power sensors such as the Bird 4020 series.

Bird® models 8865SC13, 8890-300SC13, 8921SC13 and 8931 SC models not only provide low VSWR but also less than 0.1 dB total change in VSWR at process-critical frequencies. There is no need for load warm-up or risk of repeatability due to calibration for different lengths of time. This can minimize the errors associated with this calibration and control one of the more critical process variables in the etch process.



Typical RF generator calibration set-up with precision power sensor & load.



ULTRA-STABLE SC13 LOADS

Model	Frequency Range & VSWR	Power Rating	
8865SC13	DC to 28 MHz at 1.1 max. VSWR less than 1.05:1	1 kW	
8890-300SC13	DC to 28 MHz at 1.1 max. VSWR less than 1.05:1	2.5 kW	
8921SC13	DC to 28 MHz at 1.1 max. VSWR less than 1.05:1	5 kW	
8931-115SC13	DC to 28 MHz at 1.1 max. VSWR less than 1.05:1	10 kW	115 Volt
8931-230SC13	DC to 28 MHz at 1.1 max. VSWR less than 1.05:1	10 kW	230 Volt