

Full Band Noise Sources

FEATURES:

- ❖ Frequency coverage: 26.5 to 140 GHz
- ❖ Full waveguide band operations
- ❖ +28 Vdc / 60 mA bias requirement
- ❖ CW or pulsed AM operation modes
- ❖ Precision calibrated ENR
- ❖ Instrumentation grade

APPLICATIONS:

- ❖ Test labs
- ❖ Instrumentations
- ❖ Radiometric systems



CNS Series

DESCRIPTION:

CNS series full band noise source are silicon IMPATT diode based solid state noise sources. These noise sources implement high performance diode and propriety circuit design to offer high ENR with extreme flatness in entire waveguide bandwidth in the frequency range of 26.5 to 140 GHz in seven waveguide bands. The catalog noise sources are integrated Faraday isolators to improve the port VSWR and result in more reliable noise figure measurement. The operating voltage of the standard noise sources is at +28Vdc via a BNC (F) connector, which offers immediate interface requirements with industry standard noise meters, such as Agilent Model 8970 or Ranatec Model 7100. In addition, the noise sources can work in either CW or pulse AM operation models. The AM modulation mode is triggered by TTL control signal via an SMA (F) connector. While the catalog models are equipped with a standard waveguide interface, other interfaces, such as with coaxial connector, are available as custom models.

SPECIFICATIONS:

| Waveguide Band | Ka | Q | U | V | E | W | F |
|-------------------------------|------------|----------|----------|----------|----------|-----------|-----------|
| Waveguide Size | WR-28 | WR-22 | WR-19 | WR-15 | WR-12 | WR-10 | WR-08 |
| Frequency Range (GHz) | 26.5 to 40 | 33 to 50 | 40 to 60 | 50 to 75 | 60 to 90 | 75 to 110 | 90 to 140 |
| ENR (dB, Typical) | 15 | 14.5 | 14.0 | 13.5 | 13.0 | 12.5 | 12.0 |
| ENR Variation (dB) | ±1.0 | ±1.2 | ±1.3 | ±1.4 | ±1.5 | ±1.5 | ±1.5 |
| VSWR (Max) | 1.4:1 | 1.4:1 | 1.4:1 | 1.4:1 | 1.4:1 | 1.4:1 | 1.4:1 |
| Temperature Stability (dB/°C) | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Long Term Stability (dB/Day) | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| Bias (Vdc/mA, Typical) | +28/60 | +28/60 | +28/60 | +28/60 | +28/60 | +28/60 | +28/60 |
| Bias Port Connector Type | BNC(F) | BNC(F) | BNC(F) | BNC(F) | BNC(F) | BNC(F) | BNC(F) |
| AM Modulation Trigger | TTL | TTL | TTL | TTL | TTL | TTL | TTL |
| AM Modulation Rate (KHz, Max) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| AM Modulation Connector Type | SMA(F) | SMA(F) | SMA(F) | SMA(F) | SMA(F) | SMA(F) | SMA(F) |

NOTES: THE MODELS WITH HIGH ENR AND NARROW OPERATION BANDWIDTH ARE AVAILABLE AS CUSTOM MODELS.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE