Rev 1.0

# WR-28 Transmitter, 27 to 31 GHz, 27 dBm $P_{1dB}$ , 25 dB Gain

**SST-2930432825-28-SE1** is a WR-28 integrated transmitter module for radar and communication systems. The transmitter has a typical conversion gain of 25 dB with a typical P1dB of 27 dBm in the frequency range of 27 to 31 GHz. The required LO power is +5 dBm between frequencies of 6.5 and 8.25 GHz. The RF transmit port is a WR-28 Uni-Guide™ Waveguide with UG-599/U Flange while the LO and IF port is female SMA connectors. Other port configurations, are also available under different model numbers.

## **Electrical Specifications:**

Parameter	Minimum	Typical	Maximum
RF Output Frequency	27 GHz		31 GHz
IF Input Frequency	DC		6 GHz
IF Input Power			+18 dBm
LO Frequency	6.5 GHz		8.25 GHz
LO Input Power		+5 dBm	+10 dBm
Conversion Gain		25 dB	
P <sub>1dB</sub> (DSB)		+27 dBm	
P <sub>sat</sub> (DSB)		+29 dBm	
Bias Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
Bias Current		850 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

## **Mechanical Specifications:**

Item	Specification	
RF Ports	WR-28 Uni-Guide™ Waveguide with UG-599/U Flange	
LO Port	SMA (F)	
IF Port	SMA (F)	
Bias	Solder Pin	
Case Material	Aluminum	
Finish	Gold Plated	
Weight	2.0 Oz	
Size	1.10" (W) X 2.38" (L) X 0.40" (H)	
Outline	SR-SA-3	

#### EXT Cont IF ERACANANT VIX-28 Transmitter RF SST-1900N09-SE1 SN: 12924-01 Not Serk Researd ERACANT

# ERAWANT

FEATURES	

ECCN 3A001.b.4

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- High Gain and Power
- Built in x4 LO Multiplier
- Fully Integrated Module

### **APPLICATIONS**

- 5G Systems
- Radar Systems
- Communication Systems

### SUPPLEMENTAL DETAILS

# SST-2930432825-28-SE1

# ERA₩ANT

# **Typical Conversion Gain vs. Frequency**

IF: -40 dBm; LO: +5 dBm



# Typical Output Power vs. Frequency; IF=1.0GHz

Bias: +8 V<sub>DC</sub>/975 mA RFsat: +8Vdc/1,380 mA



# SST-2930432825-28-SE1

#### 2.38[60.4] 1.44 36.6 GND BIAS MALE OR FEMALE COAX CONNECTOR MALE OR FEMALE COAX CONNECTOR (IF PORT) (LO PORT) 6 ERAVANI 1.10 27.9 M/N: X00000000 S/N: X00000000X æ 040 0.40[10.2] ۲ 0 0 **F** 0.22 5.6 WR-28 WAVEGUIDE 1.95 49.5 2 × 0.22 5.6 W/UG-599/U FLANGE 2 x 0.80[20.3] ٠Ġ ٠Ġ 2 x 0.97 [24.6] 2 x 0.80 [20.3] П 4 x 4-40 UNC - 2B ¥ 0.12[3.0] 4 x Ø 0.09[2.3] THRU 2 x 1.82 46.2

## Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])

### NOTE:

- The transmitter employs Eravant's trademarked and patent pending technology, Uni-Guide <sup>™</sup>, as its waveguide interfaces. The orientation of the input and the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be SSR-2930432825-28H-SE1 instead of the default SST-2930432825-28-SE1 which indicates vertical orientation output.
- Eravant reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

### CAUTION:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +50 °C. Use proper heatsink or fan if necessary.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model <u>SCH-08008-S1</u> is highly recommended