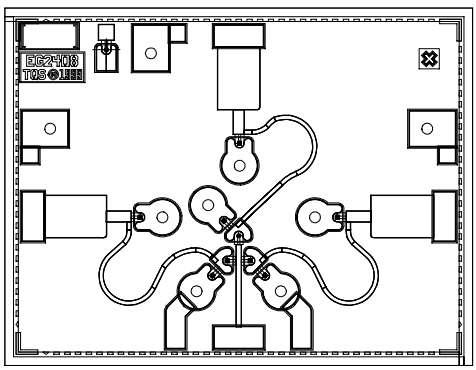
SP3T PIN Switch

TGS2303-EEU

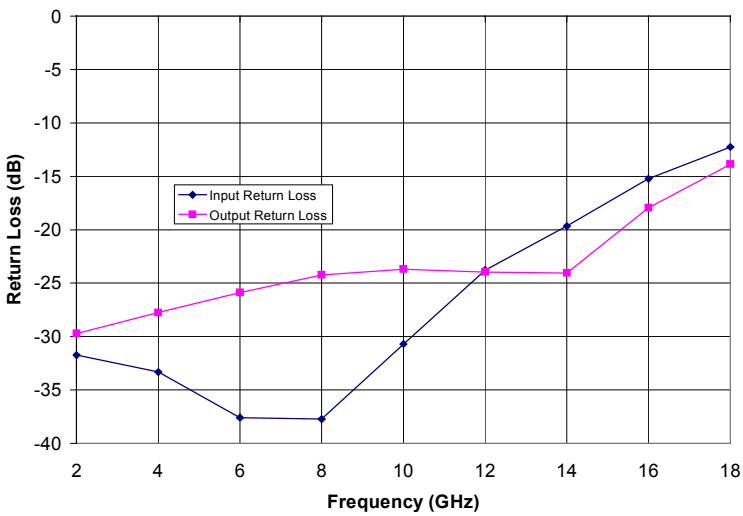


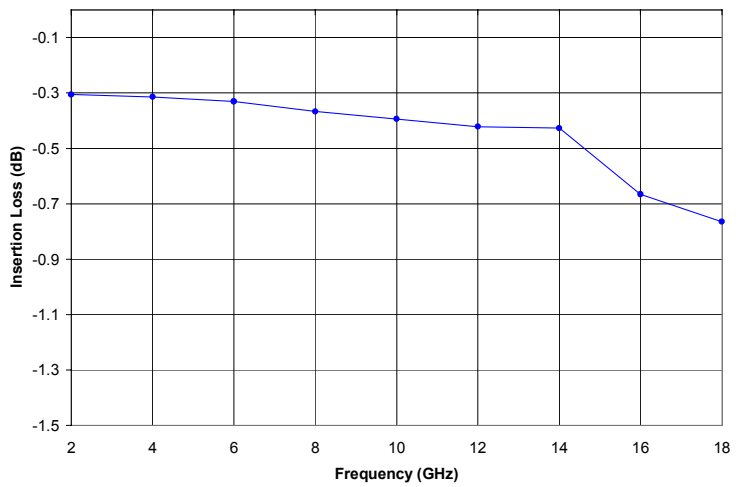
Chip Dimensions 2.16 x 1.65 x 0.1 mm

Key Features and Performance

- Vertical PIN Monolithic Process
- 0.2-18 GHz Frequency Range
- 0.5 dB Insertion Loss, Typical
- 35 dB Isolation, Typical
- 20 dB Typical Input and Output Return Loss
- Compatible with Fully Automated Assembly
- Series-Shunt-Shunt Configuration

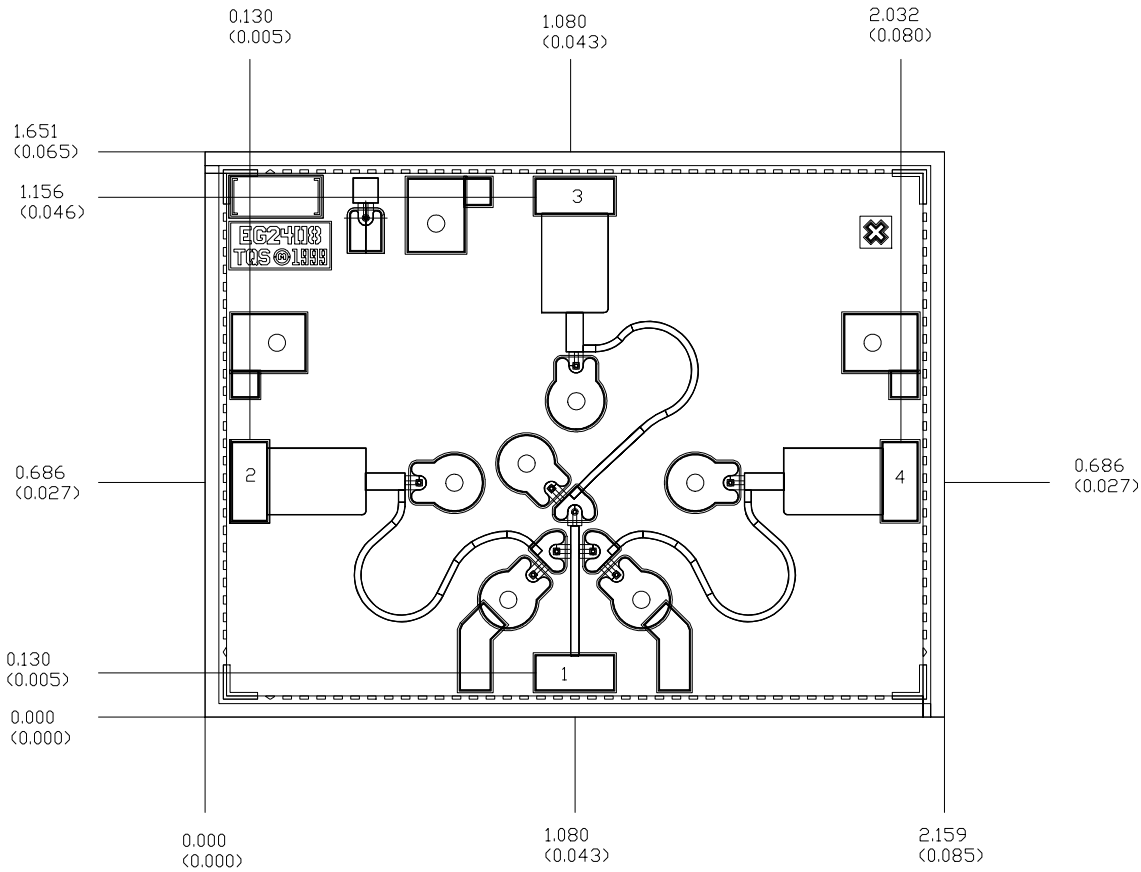
Typical Wafer Probe Data





Note: Devices designated as EEU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications subject to change without notice

Mechanical Drawing



Units: millimeters (inches)
Thickness: 0.100 (0.004)
Chip to bond pad dimensions are shown to center of bond pad
Chip size tolerance: +/- 0.051 (0.002)

Bond pad #1 (RF Input)	0.244 x 0.117 (0.010x 0.005)
Bond pad #2 (RF Output1)	0.117 x 0.244 (0.005 x 0.010)
Bond pad #3 (RF Output2)	0.244 x 0.117 (0.010 x 0.005)
Bond pad #4 (RF Output3)	0.177 x 0.244 (0.005 x 0.010)

Notes:

1. GND is the backside of the MMIC
2. Please refer to the TGS2304-SCC data sheet for the assembly of the TGS2303-SCC MMIC. The primary difference is the TGS2303 has only 3 output ports.

Note: Devices designated as EEU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications subject to change without notice

Assembly Process Notes

Reflow process assembly notes:

- Use AuSn (80/20) solder with limited exposure to temperatures at or above 300°C (30 seconds max).
- An alloy station or conveyor furnace with reducing atmosphere should be used.
- No fluxes should be utilized.
- Coefficient of thermal expansion matching is critical for long-term reliability.
- Devices must be stored in a dry nitrogen atmosphere.

Component placement and adhesive attachment assembly notes:

- Vacuum pencils and/or vacuum collets are the preferred method of pick up.
- Air bridges must be avoided during placement.
- The force impact is critical during auto placement.
- Organic attachment can be used in low-power applications.
- Curing should be done in a convection oven; proper exhaust is a safety concern.
- Microwave or radiant curing should not be used because of differential heating.
- Coefficient of thermal expansion matching is critical.

Interconnect process assembly notes:

- Thermosonic ball bonding is the preferred interconnect technique.
- Force, time, and ultrasonics are critical parameters.
- Aluminum wire should not be used.
- Maximum stage temperature is 200°C.

GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.

Note: Devices designated as EEU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications subject to change without notice