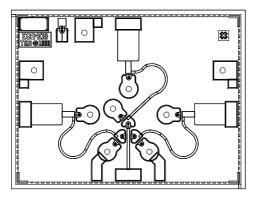


#### **Advance Product Information**

November 2, 2004

# **SP3T PIN Switch**



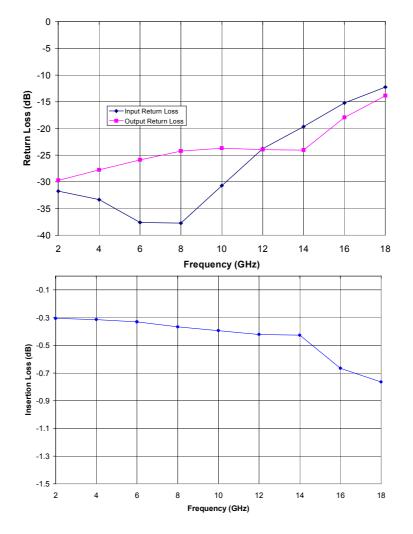
Chip Dimensions 2.16 x 1.65 x 0.1 mm

## Typical Wafer Probe Data

# TGS2303-EEU

#### **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



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

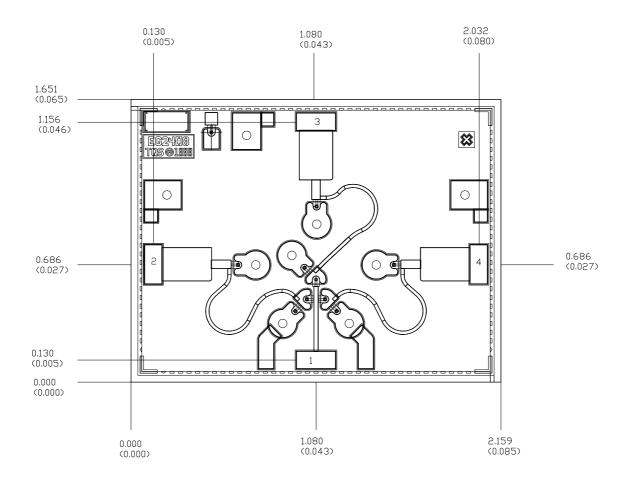


### **Advance Product Information**

November 2, 2004

TGS2303-EEU

## 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	#I (KF	Input)	U.244 × U.11/	(U.UIUX U.UUS)
Bond	pad	#2 (RF	Dutput1)	$0.117 \times 0.244$	$(0.005 \times 0.010)$
Bond	pad	#3 (RF	Output2)	$0.244 \times 0.117$	(0.010 × 0.005)
Bond	pad	#4 (RF	Output3)	$0.177 \times 0.244$	(0.005 × 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.

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# **Advance Product Information**

November 2, 2004

TGS2303-EEU

#### 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