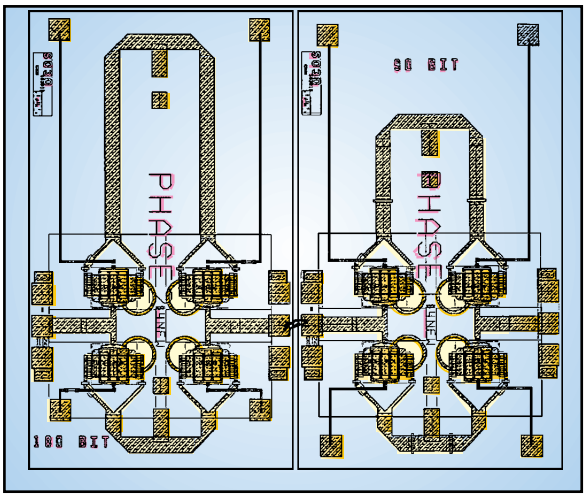
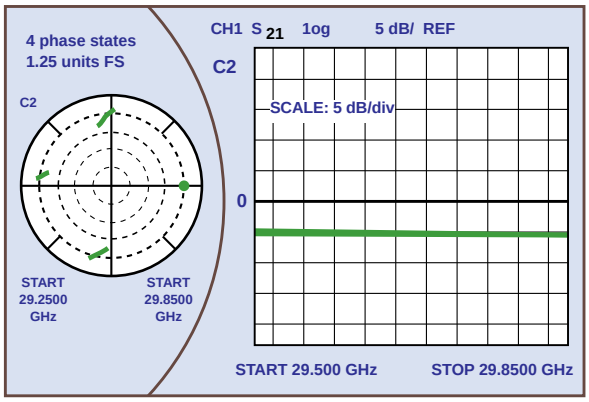
KA-BAND QPSK/BPSK PHASE MODULATOR

VS-QPSK-PM
(TLC PMLB02)

- **30 to 34 GHz**
- **Insertion Loss < 6 dB**
- **Direct Phase Modulation**
- **Fast Switching (nsec)**
- **Negligible Power Consumption**



Size: 2.6 x 2.17 x 0.1 mm



DESCRIPTION AND APPLICATIONS

The VS-QPSK-PM is a delay line phase shifter which can be operated as a digital phase modulator for up to 5% fractional bandwidth.

The flat insertion loss provided by the VS-QPSK-PM makes it an excellent candidate for use as a digital phase modulator in angle modulation communication systems.

PERFORMANCE SUMMARY

Parameter (@ 25°C)	Min	Typ	Max
Frequency (GHz)	29	—	32
Insertion Loss (dB)	2	4	6
Delta Insertion Loss (dB)	—	1	—
DC Power (mW)	—	0	—

OPERATING CONDITIONS

V_{gs} = 0 to 4.5 V V_{ds} = 0 V
Max Input Power Levels < 23 dBm

ASSEMBLY

Ti/Pt/Au metallization is used for the bond pads and backside which is compatible with eutectic die attach and thermocompression or thermosonic bonding. Either 3 mil Au ribbon or 1 mil Au wire may be used to connect the MMW and DC pads to the system.

Additional DC bypass capacitors (22 pf & 0.1 µf) are recommended.

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