

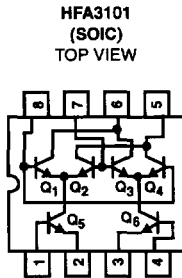
**Gilbert Cell UHF Transistor Array**

The HFA3101 is an all NPN transistor array configured as a Multiplier Cell. Based on Harris bonded wafer UHF-1 SOI process, this array achieves very high  $f_T$  (10GHz) while maintaining excellent  $h_{FE}$  and  $V_{BE}$  matching characteristics that have been maximized through careful attention to circuit design and layout, making this product ideal for communication circuits. For use in mixer applications, the cell provides high gain and good cancellation of 2nd order distortion terms.

**Ordering Information**

PART NUMBER (BRAND)	TEMP. RANGE (°C)	PACKAGE	PKG. NO.
HFA3101B (H3101B)	-40 to 85	8 Ld SOIC	M8.15
HFA3101B96 (H3101B)	-40 to 85	8 Ld SOIC Tape and Reel	M8.15

**Pinout**



NOTE: Q<sub>5</sub> and Q<sub>6</sub> - 2 Paralleled 3 $\mu$ m x 50 $\mu$ m Transistors  
Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub>, Q<sub>4</sub> - Single 3 $\mu$ m x 50 $\mu$ m Transistors

**Features**

- High Gain Bandwidth Product ( $f_T$ ) . . . . . 10GHz
- High Power Gain Bandwidth Product . . . . . 5GHz
- Current Gain ( $h_{FE}$ ) . . . . . 70
- Low Noise Figure (Transistor) . . . . . 3.5dB
- Excellent  $h_{FE}$  and  $V_{BE}$  Matching
- Low Collector Leakage Current . . . . . <0.01nA
- Pin-to-Pin Compatible to UPA101

**Applications**

- Balanced Mixers
- Multipliers
- Demodulators/Modulators
- Automatic Gain Control Circuits
- Phase Detectors
- Fiber Optic Signal Processing
- Wireless Communication Systems
- Wide Band Amplification Stages
- Radio and Satellite Communications
- High Performance Instrumentation