

**Ultra High Frequency Transistor Arrays**

The HFA3046, HFA3096, HFA3127 and the HFA3128 are Ultra High Frequency Transistor Arrays that are fabricated from Harris Semiconductor's complementary bipolar UHF-1 process. Each array consists of five dielectrically isolated transistors on a common monolithic substrate. The NPN transistors exhibit a  $f_T$  of 8GHz while the PNP transistors provide a  $f_T$  of 5.5GHz. Both types exhibit low noise (3.5dB), making them ideal for high frequency amplifier and mixer applications.

The HFA3046 and HFA3127 are all NPN arrays while the HFA3128 has all PNP transistors. The HFA3096 is an NPN-PNP combination. Access is provided to each of the terminals for the individual transistors for maximum application flexibility. Monolithic construction of these transistor arrays provides close electrical and thermal matching of the five transistors.

For PSPICE models, please request AnswerFAX document number 663046. Harris also provides an Application Note illustrating the use of these devices as RF amplifiers (request AnswerFAX document 99315).

**Ordering Information**

| PART NUMBER | TEMP. RANGE (°C) | PACKAGE    | PKG. NO. |
|-------------|------------------|------------|----------|
| HFA3046B    | -55 to 125       | 14 Ld SOIC | M14.15   |
| HFA3096B    | -55 to 125       | 16 Ld SOIC | M16.15   |
| HFA3127B    | -55 to 125       | 16 Ld SOIC | M16.15   |
| HFA3128B    | -55 to 125       | 16 Ld SOIC | M16.15   |

**Features**

- NPN Transistor ( $f_T$ ) ..... 8GHz
- NPN Current Gain ( $h_{FE}$ ) ..... 130
- NPN Early Voltage ( $V_A$ ) ..... 50V
- PNP Transistor ( $f_T$ ) ..... 5.5GHz
- PNP Current Gain ( $h_{FE}$ ) ..... 60
- PNP Early Voltage ( $V_A$ ) ..... 20V
- Noise Figure (50Ω) at 1.0GHz ..... 3.5dB
- Collector-to-Collector Leakage ..... <1pA
- Complete Isolation Between Transistors
- Pin Compatible with Industry Standard 3XXX Series Arrays

**Applications**

- VHF/UHF Amplifiers
- VHF/UHF Mixers
- IF Converters
- Synchronous Detectors

**3**  
SIGNAL  
PROCESSING

**Pinouts**

