Chip and SMT Amplifiers are Designed for ATE and Military Applications

Hittite Microwave Corporation announces the release of two new chip and SMT GaAs pHEMT MMIC power amplifiers which are ideal for military EW, space, and test & measurement equipment applications from DC to 22 GHz.

The HMC797 is a 1W GaAs pHEMT MMIC power amplifier chip which is rated from DC to 22 GHz, and delivers 14.5 dB gain, +31 dBm saturated output power, and +40 dBm output IP3. The HMC797 also exhibits a positive gain slope from DC to 22 GHz making it ideal for subsystems applications.

The chip consumes 400 mA from a +10 V supply and occupies only 4.48 mm². The HMC907 is a GaAs pHEMT MMIC power amplifier chip which is self-biased and is rated from 0.2 to 22 GHz. It delivers 14 dB of gain, +20.5 dBm saturated output power, and +38 dBm output IP3. Gain flatness for the HMC907 is excellent at +/-0.6 dB from DC to 12 GHz.

The HMC907 consumes 350 mA from a +10 V supply and occupies only 3.87 mm2. Both chips feature RF I/Os that are matched to 50 Ohms which facilitates integration into Multi-Chip Modules (MCMs).

For applications where an SMT compatible solution is preferred, the HMC797LP5E and HMC907LP5E offer similar performance to the HMC797 and HMC907, respectively. The HMC797LP5E provides 13.5 dB of gain, +39 dBm output IP3, and +28 dBm of output power at 1 dB gain compression, while the HMC907LP5E provides 12 dB of gain, +36 dBm output IP3 and +26 dBm of output power at 1 dB gain compression.

The HMC797LP5E and HMC907LP5E are housed in RoHS compliant 5x5 mm leadless QFN SMT packages.

The HMC797 and HMC907 die products and the HMC797LP5E and HMC907LP5E SMT packaged products are specified for operation over the -55 to +85 ºC temperature range.