**Hittite Acquires Arctic Silicon Devices!**

New High Speed ADC Product Line
Offers Lowest Power Consumption for Best SNR

Hittite Microwave is pleased to announce our acquisition of Arctic Silicon Devices (ASD) and their advanced mixed-signal integrated circuit (IC) technology. ASD has successfully designed & launched innovative, multifunction Analog-to-Digital Converter (ADC) products that provide ultra low power dissipation, ease of use, and cost efficiency while maintaining high performance that complements Hittite’s existing RF, microwave and mixed-signal IC product lines. The acquisition expands Hittite’s product offerings in communication, industrial, medical, test & measurement and military applications. See page 2 for details on the new Analog-to-Digital Converters now offered by Hittite as in-stock products. Please contact adc@hittite.com for all product inquiries and for information on Hittite-ASD products not shown.

**Hittite Launches New IF / Baseband Processing Product Line!**

New Baseband Products are Ideal for Driving ADCs in Zero IF Architectures

Hittite Microwave introduces the IF / Baseband Processing integrated circuit product line which includes two new baseband compatible products that combine excellent performance with flexibility and low cost. The HMC960LP4E dual digital variable gain amplifier and the HMC900LP5E dual programmable low pass filter with driver, meet the demand for a universal multi-standard, wideband/carrier, transceiver which is compact and capable of processing complex high density constellations.

The HMC900LP5E and HMC960LP4E provide basestation and microwave link design engineers with a simplified direct conversion receiver architecture. A direct conversion, or zero-IF, receiver, is a radio receiver that demodulates the incoming signal by mixing it with a local oscillator signal synchronized in frequency to the carrier of the

(Continued on page 11)

**Single-Ended RMS Detectors Span 75 dB Dynamic Range!**

150 MHz Envelope Detection Bandwidth is Ideal for 3G/4G/LTE

The HMC1020LP4E & HMC1021LP4E RMS power detectors are suitable for broadband, high dynamic range applications requiring repeatable measurement of average signal power; especially where detection of RF and intermediate-frequency (IF) wave shape and/or crest factor change is crucial. Both devices feature RMS detection cores that operate from DC to 3.9 GHz and achieve input sensing ranges to 76 dB and 73 dB, respectively (with measurement accuracy of ±1 dB), while using a simple single-ended input interface. The HMC1021LP4E, which integrates a fast envelope detector core with a detection bandwidth higher than 100 MHz, also serves applications that require instantaneous envelope measurements of RF carriers with wide modulation bandwidths. Additionally, the instantaneous envelope output can be used to create fast, excessive RF power protection, PA linearization, and efficiency enhancing envelope PA implementations.

(Continued on page 10)
Hittite Microwave offers over 925 products across 31 product lines. Our custom and standard products support a wide range of wireless/wired communications and radar applications for the following markets:

- **Automotive**: Telematics & Sensors
- **Broadband**: CATV, DBS, WiMAX, WLAN, Fixed Wireless & UWB
- **Cellular Infrastructure**: GSM, GPRS, CDMA, WCDMA, UMTS, TD-SCDMA & 4G/LTE
- **Fiber Optic**: OC-48 to 100G
- **Microwave & mmWave Communications**: Backhaul Radio Links, Multi-Point Radios & VSAT
- **Military**: C3I, ECM & EW
- **Test & Measurement**: Commercial / Industrial Sensors & Test Equipment
- **Space**: Payload Electronics

### New Products by Market Application

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**NEW HIGH POWER 10 MHz TO 20 GHz SYNTHESIZED SIGNAL GENERATOR**

The HMC-T2220 Synthesized Signal Generator to provides R&D and production test engineers with the highest level of performance and functionality while maintaining a reasonable cost of only $9,998.00.

The HMC-T2220 provides an output frequency range of 10 MHz to 20 GHz, with greater than +25 dBm output power, is adjustable with 0.1 dB resolution, and a minimum programmable output power of -35 dBm which equates to a dynamic range of 60 dB across the band.

The HMC-T2220 Synthesized Signal Generator allows for extremely cost effective Ku-band third order intermodulation distortion test stands in both engineering and production test departments.

Each unit includes all software drivers required to remotely control the instrument in single or swept modes for frequency and/or power and the HMC-T2220 is backward compatible with the previously released HMC-T2100 software. Contact Hittite today at te@hittite.com to request your on-site product demonstration.
NEW SMT & CHIP POWER AMPLIFIERS FOR MICROWAVE RADIO, VSAT, MILITARY & TEST

HMC949 & HMC950

2 & 4 Watt Power Amplifier Chips, 12 to 16 GHz

Features
- Saturated Output Power: up to +38 dBm @ 28% PAE
- High Output IP3: +44.5 dBm
- High Gain up to 31 dB
- DC Supply: +5V to +7V
- No External Matching Required

HMC965LP5E

2 Watt Power Amplifier, 12.5 to 15.5 GHz

Features
- Saturated Output Power: +34 dBm @ 20% PAE
- High Output IP3: +40 dBm
- High Gain: 27 dB
- DC Supply: +6V @ 1200 mA
- No External Matching Required

HMC863LP4E & 943LP5E

0.5 & 1.5 Watt Power Amplifiers, 22 to 31.5 GHz

Features
- Saturated Output Power: up to +34 dBm @ 24% PAE
- High Output IP3 up to +41 dBm
- High Gain up to 22 dB
- DC Supply: +5V to +6V
- No External Matching Required

Integrated Power Detectors
The HMC949 & HMC950 are high gain GaAs pHEMT MMIC 2 and 4 Watt Power Amplifiers with integrated temperature compensated power detectors and are rated from 12 to 16 GHz. The HMC949 and HMC950 exhibit excellent linearity and are optimized for high capacity digital radio. These power amplifiers operate from supply voltages between +5V and +7V and are ideal for 13.75 to 14.5 GHz Ku-Band VSAT transmitters as well as SATCOM and point-to-point radio applications. No external matching components are required.

Ideal for Ku-Band VSAT
The HMC965LP5E is a high gain GaAs pHEMT MMIC 2 Watt Power Amplifier with an integrated temperature compensated power detector which operates between 12.5 to 15.5 GHz. The HMC965LP5E provides 27 dB of gain, +34 dBm of saturated output power, and 20% PAE from a +6V supply. The amplifier exhibits excellent linearity, is optimized for high capacity digital radio and is also ideal for 13.75 to 14.5 GHz Ku-Band VSAT transmitters and SATCOM applications. The I/Os of the HMC965LP5E are internally matched to 50 Ohms.

Microwave Radio PAs
The HMC863LP4E and HMC943LP5E are 3 and 4 stage GaAs pHEMT MMIC Power Amplifiers which operate between 22 to 28 GHz and 24 to 31.5 GHz respectively. The HMC863LP4E & HMC943LP5E operate from a DC supply between +5V and +6V and require no external matching components. High output IP3 makes the HMC863LP4E & HMC943LP5E ideal for point-to-point and point-to-multi-point radio systems as well as VSAT applications. The RF I/Os are DC blocked and matched to 50 Ohms.
New Control Devices for Fiber Optic, Microwave Radio, Military & Test

HMC939 & HMC941

1 dB LSB 5-Bit Digital Attenuator Chips, 0.1 to 40 GHz

Features
- 0.5 and 1 dB LSB Steps
- Single Positive Control Line Per Bit
- Low Bit Error
- High Input IP3 up to +45 dBm
- Up to 31 dB Range

Excellent Bit Accuracy
The HMC939 and HMC941 are broadband 5-bit GaAs pHEMT digital attenuator MMIC chips covering 0.1 to 40 GHz and 0.1 to 30 GHz respectively, with insertion loss less than 5 dB typical. Attenuation accuracy is excellent at less than ±1 dB typical step error with an Input IP3 up to +45 dBm. Five control voltage inputs, toggled between +5V and 0V, are used to select each attenuation state. The HMC939 offers a 1 dB LSB while the HMC941 is a 0.5 dB LSB attenuator.

HMC641LP4E

SP4T Non-Reflective Switch, DC to 20 GHz

Features
- High Isolation: 42 dB @ 10 GHz
- Low Insertion Loss: 2.3 dB @ 10 GHz
- Integrated 2:4 TTL Decoder
- 24 Lead 4x4mm SMT Package

Low Loss, High Isolation
The HMC641LP4E is a broadband non-reflective GaAs pHEMT SP4T switch in a compact 4x4 mm plastic package. Covering DC to 20 GHz, this switch offers high isolation, low insertion loss and on-chip termination of isolated ports. This switch also includes an on chip binary decoder circuit which reduces the number of required logic control lines from four to two. The HMC641LP4E is controlled with 0/−5V logic, exhibits fast switching speed and consumes much less DC current than PIN diode based solutions.

HMC944LC4

SP4T Reflective Switch, 23 to 30 GHz

Features
- Broadband Performance: 23 - 30 GHz
- High Isolation: 35 dB
- Low Insertion Loss: 2.8 dB
- Fast Switching: 15 ns Rise/Fall Times

Ka-Band Multi-Throw Switch
The HMC944LC4 is a broadband reflective GaAs MESFET SP4T switch covering 23 to 30 GHz. This switch offers high isolation, and low insertion loss. The HMC944LC4 is controlled with 0/−3V logic, exhibits fast switching speed and consumes much less DC current than PIN diode based solutions. The HMC944LC4 is housed in a leadless 4x4 mm SMT package and is ideal for microwave radio as well as SATCOM and sensor applications.
New Attenuators & Variable Gain Amplifiers for Broadband & Cellular Infrastructure

HMC973LP3E
Voltage Variable Attenuator, 0.5 to 6.0 GHz

**Features**
- Excellent Linearity: +35 dBm Input IP3
- Wide Attenuation Range: 26 dB
- Single Positive Voltage Control: 0 to +5V
- Absorptive Topology

*High Linearity at All Settings*
The HMC973LP3E is an absorptive Voltage Variable Attenuator (VVA) operating from 0.5 to 6 GHz which controls RF signal levels over a 26 dB amplitude range. It features a shunt-type attenuator controlled by a single analog voltage. The HMC973LP3E exhibits excellent linearity of +35 dBm input IP3 throughout its control range. The HMC973LP3E exhibits optimum linearity performance when the RF input signal is applied to RFIn. The HMC973LP3E is housed in a RoHS compliant 3x3 mm QFN leadless package.

HMC972LP5E
Analog Variable Gain Amplifier, 0.5 to 6.0 GHz

**Features**
- Wide Gain Control Range: -35 to +15 dB
- High Output IP3: +28 dBm
- Analog Control: 0 to +5V
- Can be Configured with 1 or 2 Attenuators

*High Linearity, Wide Gain Range*
The HMC972LP5E is an analog controlled variable gain amplifier composed of two identical voltage variable attenuators in combination with an InGaP HBT gain block MMIC amplifier. The HMC972LP5E operates from 0.5 to 6 GHz, and can to provide anywhere from 15 dB of gain to 35 dB of attenuation. The HMC972LP5E delivers noise figure of 7.5 dB in its maximum gain state with output IP3 of up to +28 dBm. The HMC972LP5E is housed in a RoHS compliant 5x5 mm QFN leadless package, and requires no external matching components.

HMC926LP5E
0.5 dB LSB 6-Bit Digital Variable Gain Amplifier, 0.7 to 2.7 GHz

**Features**
- Gain Control Range: 6.5 to 38
- High Output IP3: +45 dBm
- Noise Figure: 4.4 dB
- Convenient Serial Control Interface ±0.25 dB Typical Step Error

*High Gain Digital VGA*
The HMC926LP5E is a digitally controlled variable gain amplifier which operates from 700 to 2700 MHz. The HMC926LP5E can be programmed to provide between +6.5 to +38 dB of gain, in 0.5 dB steps at 900 MHz. Gain control range is from +1 dB to +32.5 dB at 1900 MHz and from -4 dB to +27.5 dB at 2600 MHz. The HMC926LP5E delivers noise figure of 4.4 dB in its maximum gain state with output IP3 of up to +45 dBm. The HMC926LP5E features a serial gain control interface and a user selectable power up state.
**HMC837 / 840LP6CE**

**Fractional-N PLL with Integrated Tri-Band RF VCOs**

*Features*
- HMC837LP6CE RF Bandwidths: 1025 to 4600 MHz
- HMC840LP6CE RF Bandwidths: 1310 to 5660 MHz
- RMS Jitter as Low as 120 fs
- High Output Power: +12 dBm

*Low Spurious, 1 to 5.6 GHz*

The HMC837LP6CE & HMC840LP6CE are fully functioned Fractional-N Phase-Locked-Loops (PLLs) with Integrated Voltage Controlled Oscillators (VCOs). The PLL consists of a low noise VCO with tri-band output, an auto-calibration subsystem for low voltage VCO tuning, a very low noise digital Phase Detector (PD), a precision controlled charge pump, a low noise reference path divider and a fractional divider. Ultra low in-close phase noise and low spurious also allows wider loop bandwidths for faster frequency hopping and low microphonics.

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**HMC704LP4E**

**8 GHz 16-Bit Fractional-N PLL**

*Features*
- Industry Leading Phase Noise & Spurious -112 dBc/Hz @ 8 GHz Fractional, 50 kHz Offset
- Figure of Merit
  -230 dBc/Hz Frac. Mode
  -233 dBc/Hz Int. Mode 100 MHz PFD
- High PFD rate: 100 MHz

*Industry-Leading Phase Noise*

The HMC704LP4E offers industry leading phase noise and the lowest spurious content in an integrated synthesizer. Fabricated in an advanced SiGe BiCMOS process, this Fractional-N PLL consists of a very low noise digital phase detector, VCO divider, reference divider and a precision controlled charge pump. Ultra low in-close phase noise and low spurious allows wide loop bandwidths. Exact frequency mode with 24-bit fractional modulator provides the ability to generate fractional frequencies with zero frequency error, an important feature for Digital Pre-Distortion (DPD) systems.

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**HMC770LP4BE**

**GaAs pHEMT 50 / 75 Ohm Differential Amplifier, 0.04 to 1 GHz**

*Features*
- High Output IP3: +40 dBm
- Single Positive Supply: +5V
- Low Noise Figure: 2.5 dB
- Power-Down Mode
- Differential RF I/O’s

*Multi-Octave Differential Amplifier*

The HMC770LP4BE is a GaAs pHEMT Differential Gain Block MMIC Amplifier covering 40 MHz to 1 GHz and packaged in a 4x4 mm plastic QFN SMT package. This versatile amplifier can be used as a cascadable IF or RF gain stage in both 50 Ohm and 75 Ohm applications. The HMC770LP4BE delivers 16 dB gain, and +40 dBm output IP3, with only 2.5 dB noise figure. Differential I/Os make this amplifier ideal for transimpedance and SAW filter applications and in transceivers where the IF path must be handled differentially for improved noise performance.
**HMC914LP4E**

12.5 Gbps Limiting Amplifier, with Loss of Signal Feature

**Features**
- Differential Small Signal Gain: 32 dB
- Programmable Loss-of-Signal Detection (LOS)
- Automatic Output Disable Mode
- Adjustable Differential Output Voltage Swing up to 750 mVp-p

**Ideal for OC-192 Modules**

The HMC914LP4E limiting amplifier supports data transmission rates up to 12.5 Gbps, can operate over a wide range of input voltage levels and provides constant-level differential output swing. The HMC914LP4E features an adjustable loss of signal (LOS) indicator output and an output level control pin, which allows for loss compensation or for output signal level optimization. Differential output signal swing can be adjusted up to 750 mVp-p. The HMC914LP4E provides an analog RSSI output voltage which is proportional to input signal amplitude.

**HMC799LP3E**

10 kOhm Transimpedance Amplifier, DC to 700 MHz

**Features**
- 10 kOhm Transimpedance
- Very Low Noise: 150nA Input RMS Noise
- 700 MHz Analog Bandwidth
- Wide Dynamic Range: +65 dB
- Low Power Consumption: +5V @ 70mA

**Ideal for Laser Sensors**

The HMC799LP3E is a DC to 700 MHz transimpedance amplifier designed for opto-electronic laser sensor applications, FDDI receivers and receiver systems employing optical to electrical conversion. This amplifier provides a single-ended output voltage that is proportional to an applied current at its input port. This current is typically provided by a photodiode. Operating from a single +5V supply, HMC799LP3E features very low input referred noise, and very large electrical input dynamic range exceeding 65 dB. Ten kOhm or 80 dB Ohms transimpedance gain provides very good sensitivity at higher data rates.

**HMC674 / 675 / 676LP3E**

10 GHz RS-PECL/CML/ECL Low Cost Comparators

**Features**
- Propagation Delay: < 90 ps
- Minimum Pulse Width: 60 ps
- Resistor Programmable Hysteresis
- Differential Latch Control
- Overdrive & Slew Rate Dispersion: 10 ps
- Active Gain to 48 dB

**Latched or Tracking Modes**

The HMC674LP3E, HMC675LP3E and HMC676LP3E are ultra fast comparators which feature reduced swing PECL/CML/ECL output drivers and latch inputs. These comparators sup-port 10 Gbps operation providing 85 ps propagation delay and 0.2 ps rms random jitter (RJ), making them ideal for a wide range of applications from ATE to broadband communications. These devices also feature differential latch control, programmable hysteresis, and may be configured to operate in either latch mode, or as tracking comparators.
HMC-C059

**Wideband Low Noise Amplifier Module, 1 to 12 GHz**

**Features**
- Noise Figure: 1.8 dB @ 8 GHz
- High Gain: 16 dB @ 8 GHz
- P1dB Output Power: +16 dBm @ 8 GHz
- Regulated Supply & Bias Sequencing

**High Gain, Low Noise**

The HMC-C059 is a GaAs MMIC pHEMT Low Noise Distributed Amplifier in a miniature, hermetic module with replaceable SMA connectors which operates between 1 and 12 GHz. The amplifier provides 16 dB of gain, 1.8 dB noise figure, and up to +17 dBm of output power at 1 dB gain compression. The wideband amplifier I/Os are internally matched to 50 Ohms and DC blocked. Integrated voltage regulators allow for flexible biasing of both the negative and positive supply pins, while internal bias sequencing circuitry assures robust operation.

HMC-C079

**Ultra Low Phase Noise Amplifier Module, 3 to 8 GHz**

**Features**
- Ultra Low Phase Noise: -162 dBc/Hz @ 1 kHz
- Noise Figure: 6 dB
- Gain: 11 dB
- Output Power: +21 dB
- 50 Ohm Matched Input/Output

**Wideband, High Linearity**

The HMC-C079 is a GaAs HBT Ultra Low Noise Amplifier in a miniature, hermetic module designed to operate between 3 and 8 GHz. This high dynamic range amplifier module provides 11 dB of gain, 6 dB noise figure and up to +21 dBm of output power with a single supply of +7V. The ultra low phase noise contribution of -162 dBc/Hz at 1 kHz offset, enables superior modulation accuracy within transceiver architectures. The wideband distributed amplifier I/O’s are internally matched to 50 Ohms and DC blocked for robust performance.

HMC-C083

**MicroSynth® Integrated Synthesizer Module, 2 to 6 GHz**

**Features**
- Extremely Compact, Broadband Synthesizer
- 24-Bit Step Size, 0.6 Hz Resolution
- Auto & Triggered Sweeper Functions
- Integrated Low Noise Voltage Regulators

**Compact Low Noise Sweeper**

The HMC-C083 MicroSynth® is a fully integrated broadband synthesizer in a hermetic module package. The output frequency range is 2 to 6 GHz with an average output power of +17 dBm. In Fractional-N mode, the HMC-C083 can realize step sizes as low as 0.6 Hz. The HMC-C083 also features fully integrated low noise regulators and an output buffer amplifier which results in superior pushing and pulling performance. This module has been designed to withstand harsh environments and can be up-screened to higher military standards upon request.
NEW PRODUCTS FOR HIGH PERFORMANCE
CELLULAR, MICROWAVE RADIO & MILITARY

SINGLE-ENDED RMS DETECTORS SPAN 75 dB DYNAMIC RANGE! ... (continued from page 1)

These RMS power detectors can tackle average power measurements on signals with complex modulation, including those with peak-to-average power ratios (crest factors) as high as 15 dB. The HMC1020LP4E and HMC1021LP4E maintains high accuracy independent of the modulation of the RF carrier. Both RMS detectors achieve less than 0.1 dB detection deviations with respect to CW response under all modulation schemes, including LTE, HSDPA, CDMA, W-CDMA, TD-SCDMA and WiMAX/WiBro.

Designed for ease of use compared with traditional differential RMS power detectors, the HMC1020LP4E and HMC1021LP4E provide a simple single-ended interface, which eliminates the cost of a balun. The simpler circuitry possible with a single-ended interface also contributes to increased measurement repeatability.

The table below summarizes key performance parameters of the HMC1020LP4E & HMC1021LP4E RMS detectors. Previously released HMC909LP4E and HMC1010LP4E are shown for comparison.

Both the HMC1020LP4E and the HMC1021LP4E operate from a +5V single supply, are housed in 4x4 mm plastic leadless surface mount packages and provide excellent temperature stability from -40°C to +85°C.

OFF-THE-SHELF

FOUR PASSIVE ATTENUATORS, DC TO 25 GHz

The HMC652 / 653 / 654 / 655LP2E are wideband fixed value 50 Ohm matched attenuators which offer relative attenuation levels of 2, 3, 4 and 6 dB respectively. These passive attenuator pads exhibit extremely flat attenuation and excellent return losses and are priced at only $1.33 each in 10,000 piece quantities.

The HMC652LP2E, HMC653LP2E, HMC654LP2E and HMC655LP2E are also available in chip form as the HMC652, HMC653, HMC654 and HMC655 which are rated to 50 GHz. These wideband passive attenuator pads complement Hittite’s broad line of fixed value attenuators and offer relative attenuation values between 0 and 20 dB.

NEW 28 Gbps BROADBAND DIGITAL TIME DELAY

The HMC856LC5 is a 5-Bit, 28 Gbps Digital Time Delay that is ideal for broadband test and measurement, SONET OC-192 based systems, clock & data recovery, frequency synthesis and timing compensation/clock skew applications. This monotonic time delay is DC coupled, features 100 ps of delay range with 3 ps resolution and is stable over both power supply and temperature variation. The HMC856LC5 accepts either single-ended or differential input data, while the differential output swing is programmable from 500 to 1350 mVp-p to facilitate loss compensation or signal level optimization. Propagation delay is 255 ps, while rise/fall times are 20 ps. The HMC856LC5 exhibits less than 0.2 ps rms of additive random jitter. The HMC856LC5 is housed in a ceramic 5x5 mm SMT package and consumes only 185 mA from a single -3.3V supply.
modulated signal. Direct conversion receivers translate the channel of interest directly from RF to baseband in a single stage. Zero IF downconversion must provide quadrature outputs to avoid an overlap in baseband of the desired signal and the image frequency signal.

The HMC960LP4E is a dual channel digitally programmable, differential variable gain amplifier. It supports discrete gain levels from 0 to 40 dB, in 0.5 dB steps which are smooth and precise.

The dual differential HMC900LP5E filter features 0 or 10 dB input gain settings and supports arbitrary bandwidths from 3.5 to 50 MHz. Once calibrated, the accuracy is ±2.5% of the desired bandwidth. The 6th order Butterworth transfer function delivers superior stop band rejection while maintaining both a flat passband and minimal group delay variation.

The HMC960LP4E can be combined with the HMC900LP5E to build an ideal baseband line-up that drives a pair of Hittite I/Q channel Analog-to-Digital Converters (ADCs). Hittite’s newly acquired HMCAD1520 12-bit ADC with it’s dual channel, 320 MSPS sampling rate is an ideal match with the HMC900LP5E in direct conversion receiver applications. The HMCAD1520 can also be software configured to a 4-channel, 14-bit 80 MSPS configuration for direct conversion diversity receiver or MIMO applications. In addition both products have an externally controlled common mode output voltage feature that greatly simplifies the ADC interface. They also offer high linearity, very low noise, excellent quadrature balance, superior RF isolation between channels and high precision. These features enable the receiver designer to overcome the challenge of rejecting out of channel interferers while maintaining a perfect noise versus linearity trade-off.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Frequency (MHz)</th>
<th>Function</th>
<th>OIP3 (dBm)</th>
<th>OIP2 (dBm)</th>
<th>Sideband Supp. (dB)</th>
<th>Magnitude / Phase Response (dB / deg)</th>
<th>Supply Bias</th>
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<tr>
<td>HMC960LP4E</td>
<td>DC - 100</td>
<td>Dual Channel VGA</td>
<td>30</td>
<td>65</td>
<td>55</td>
<td>±0.1 / ±1</td>
<td>+5V @ 70mA</td>
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**New Products for Zero IF Applications**

**HITTITE LAUNCHES NEW IF / BASEBAND PROCESSING PRODUCT LINE ... (continued from page 1)**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Programmable Bandwidth (MHz)</th>
<th>Function</th>
<th>3 dB Bandwidth Accuracy (%)</th>
<th>Gain (dB)</th>
<th>Noise Figure (dB)</th>
<th>OIP3 (dBm)</th>
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</thead>
<tbody>
<tr>
<td>HMC900LP5E</td>
<td>3.5 - 50</td>
<td>Dual Baseband Low Pass</td>
<td>±2.5</td>
<td>0 / 10</td>
<td>12</td>
<td>30</td>
</tr>
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</table>

**What We Do**

Hittite Microwave Corporation is an innovative designer and manufacturer of high performance integrated circuits, or ICs, modules, subsystems and instrumentation for technically demanding digital, RF, microwave and millimeterwave applications covering DC to 110 GHz. The Company’s standard and custom products apply analog, digital and mixed-signal semiconductor technologies, which are used in a wide variety of wireless / wired communication and sensor applications.

We design and supply custom ICs, Modules, Subsystems and Instrumentation, combining multiple functions for specific requirements. We select the most appropriate semiconductor and package technologies, uniquely balancing digital and analog integration techniques.

Hittite Microwave is ISO 9001:2000 and AS9100B certified. Every component is backed by every Hittite employee and subcontractor’s commitment to total quality, thus providing our customers with products that meet or exceed all requirements, are delivered on-time and function reliably throughout their useful life.
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