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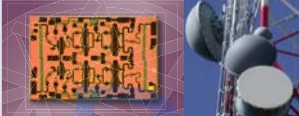
Booth #1010 & 1110

See Page 7 for more details

**31** New Products  
Released!

## Product Showcase

### 1 Watt Power Amplifier



#### HMC756

- Saturated Output Power: +33 dBm @ 28% PAE
- High Output IP3: +41 dBm
- High Gain: 23 dB

See Page 3

### 75Ω Power Amplifier

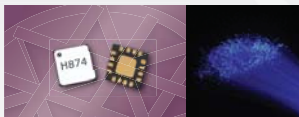


#### HMC754S8GE

- High Output IP2: +78 dBm
- High Gain: 14.5 dB
- Robust 1kV ESD

See Page 4

### Clocked Comparator - RSPECL



#### HMC874LC3C

- Input Bandwidth: 10 GHz
- Power Dissipation: 150mW
- RSCML also Available

See Page 7

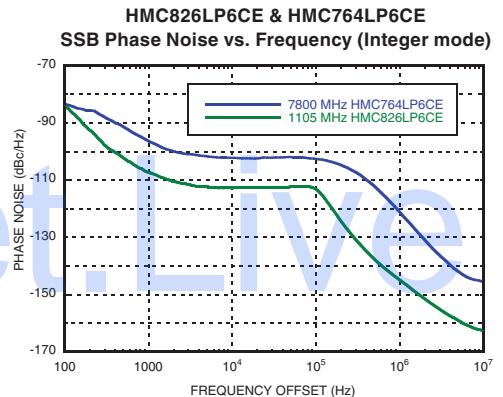
## HITTITE INTRODUCES TWO NEW PRODUCT LINES!

### PLL with Integrated VCO Product Line Enables Compact LO Solutions

Advanced Designer's Kit Allows Rapid Development of Low Phase Noise Synthesizer Solutions from 665 MHz to 13.4 GHz

Hittite Microwave has introduced twelve new industry leading PLL with Integrated VCO (PLL + VCO) products which are summarized on page 6. This new PLL with Integrated VCO product line consists of 8 Switched VCO Resonator based products covering 665 MHz to 3.7 GHz, and 4 Single VCO Resonator based products covering 7.3 to 13.4 GHz.

Each of these products are fully functioned and include an advanced fractional-N synthesizer and an ultra low noise VCO in a 6x6 mm QFN plastic package, while requiring a minimal number of external components. The PLL/synthesizer section also incorporates a Cycle Slip Prevention (CSP) mode, which essentially holds the PFD gain at maximum until the frequency difference is near zero, reducing the time to arrive at the new frequency by 50%. A high frequency reference path allows the use of references up to 220 MHz, while source buffers in the reference path support both square wave and 50 Ohm sinusoidal reference oscillators. Ultra low in-close phase noise and low spurious also permit architectures with wider loop bandwidths for faster frequency hopping and low



(Continued on page 6)

### Dielectric Resonator Oscillator (DRO) Product Line

High Stability, Ultra Low Phase Noise Commercial DRO Connectorized Module

Hittite has launched its first high performance Dielectric Resonator Oscillator (DRO), an exciting new product which is one of the lowest phase noise X-band DRO products in the industry today.

The HMC-C200 DRO features a customizable tuning frequency from 8.0 to 8.3 GHz, with -124 dBc/Hz SSB phase noise at 10 kHz offset, which makes the device ideal for a wide range of industrial, medical, military, test and measurement markets that require enhanced phase noise performance. The HMC-C200 features an internal voltage regulator which provides excellent frequency pushing performance of 5 kHz/V, while the output buffer delivers +14.5 dBm of output power and excellent frequency pulling performance into a 2.0:1 VSWR (5 kHz pp).

This cutting edge DRO also satisfies the stringent system performance requirements of SDH/SONET communications, digital radio, Cable TV link, and satellite communications end-markets with very high stability and only 2 ppm/°C of frequency drift. The Vtune port of the DRO accepts an analog tuning voltage from +5V to +12V, and provides a range of ±1 MHz from the center frequency. Each DRO is tuned to order with a ±1 MHz offset from the specified frequency.

Specified for operation from -40°C to +85°C, the HMC-C200 is housed in a miniature 36 x 36 mm connectorized, moisture sealed module, and operates from a +6 to +15V single supply. Contact sales@hittite.com to order today.



HMC-C200 Dielectric Resonator Oscillator (DRO) Module.

Order On-line at: [www.hittite.com](http://www.hittite.com)

20 Alpha Road, Chelmsford, MA 01824 Phone: 978-250-3343 Fax: 978-250-3373

Hittite Microwave offers over 775 products across 22 product lines (page 7 lists our 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



**Fiber Optic**  
OC-48 to 100G



**Space**  
Payload Electronics



**Broadband**  
CATV, DBS, WiMAX, WLAN,  
Fixed Wireless & UWB



**Microwave & mmWave Communications**  
Backhaul Radio Links  
Multi-Pt Radios & VSAT



**Test & Measurement**  
Commercial / Industrial  
Sensors & Test Equipment



**Cellular Infrastructure**  
GSM, GPRS, CDMA, WCDMA,  
UMTS, TD-SCDMA & 4G/LTE



**Military**  
C<sup>3</sup>, ECM & EW

## New Products by Market Applications

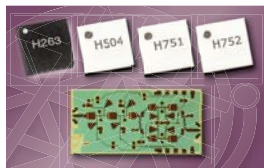
Part Number	Function	Frequency (GHz)	Page Number	Automotive	Broadband	Cellular Infrastructure	Fiber Optic	Microwave & mmWave	Military	Space	Test & Measurement
<b>Amplifiers</b>											
HMC758LP3E	Low Noise	0.7 - 2.2	4	•	•	•			•	•	•
HMC504LC4B	Low Noise	14 - 27	3					•	•	•	•
HMC751LC4	Low Noise	17 - 27	3				•	•	•	•	•
HMC263LP4E	Low Noise	24 - 36	3	•			•	•	•	•	•
HMC752LC4	Low Noise	24 - 48	3	•				•	•	•	•
HMC-ALH508	Low Noise	71 - 86	3	•				•	•	•	•
HMC451LP3E	Medium Power	5 - 18	3					•	•	•	•
HMC637LP5E	Wideband PA	DC - 6	3		•		•	•	•	•	•
HMC756	Power Amplifier, 1W	16 - 24	1, 3	•				•	•	•	•
HMC757	Power Amplifier, ½W	16 - 24	3	•				•	•	•	•
HMC754S8GE	HBT Gain Block, 75 Ohm	DC - 1	1, 4	•	•	•			•	•	•
HMC635LC4	Driver	18 - 40	3					•	•	•	•
HMC789ST89E	HBT Driver	0.7 - 2.8	4	•	•	•			•	•	•
<b>Data Converters - Comparators</b>											
HMC874LC3C	Clocked Comparator - RSPECL	20 Gbps	1, 7				•		•	•	•
<b>Dielectric Resonator Oscillator (DRO)</b>											
HMC-C200	Dielectric Resonator Oscillator	8 - 8.3	1				•	•	•	•	•
<b>Mixers</b>											
HMC785LP4E	High IP3, DBL-BAL, 0 LO	1.7 - 2.2	5	•	•	•			•	•	•
HMC786LP4E	High IP3, DBL-BAL, 0 LO	0.7 - 1.1	5	•	•	•			•	•	•
<b>Synthesizers with Integrated VCOs</b>											
HMC824LP6CE	PLL + VCO	0.780 - 0.870	1, 6	•	•	•			•	•	•
HMC826LP6CE	PLL + VCO	0.990 - 1.105	1, 6	•	•	•			•	•	•
HMC828LP6CE	PLL + VCO	1.285 - 1.415	1, 6	•	•	•			•	•	•
HMC822LP6CE	PLL + VCO - with Fo/2 & 2Fo	1.330 - 1.560	1, 6	•	•	•			•	•	•
HMC821LP6CE	PLL + VCO - with Fo/2 & 2Fo	1.720 - 2.080	1, 6	•	•	•			•	•	•
HMC831LP6CE	PLL + VCO	1.815 - 2.010	1, 6	•	•	•			•	•	•
HMC820LP6CE	PLL + VCO - with Fo/2 & 2Fo	2.190 - 2.550	1, 6	•	•	•			•	•	•
HMC836LP6CE	PLL + VCO	3.365 - 3.705	1, 6	•	•	•			•	•	•
HMC764LP6CE	PLL + VCO	7.3 - 8.2	1, 6					•	•	•	•
HMC765LP6CE	PLL + VCO	7.8 - 8.8	1, 6					•	•	•	•
HMC783LP6CE	PLL + VCO	11.5 - 12.5	1, 6					•	•	•	•
HMC807LP6CE	PLL + VCO	12.4 - 13.4	1, 6					•	•	•	•
<b>Switches</b>											
HMC784MS8GE	SPDT T/R, 10W	DC - 4	5	•	•	•			•	•	•
<b>Variable Gain Amplifiers</b>											
HMC742LP5E	6-Bit Digital, Serial & Parallel Control	0.07 - 4	5	•	•	•			•	•	•



### HITTITE EXPANDS FIBER OPTIC PRODUCT OFFERING

The 20 Gbps HMC874LC3C Clocked Comparator (RSPECL) is ideal for Fiber Optic and High Speed Applications. Please see the **Limiting Optical Receiver** block diagram on page 7 for product highlights.

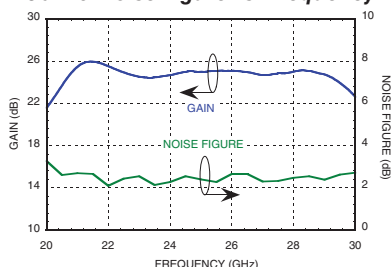
## LOW NOISE AMPLIFIERS FOR MICROWAVE RADIO & TEST EQUIPMENT



### Features

- Frequency: 14 to 86 GHz
- Noise Figure as Low as 2.2 dB
- High Gain to 25 dB
- Output IP3 to +26 dBm
- Chip & SMT Format

**HMC752LC4**  
Gain & Noise Figure vs. Frequency



### Five New LNAs Support Applications from 14 to 86 GHz

The HMC263LP4E, HMC504LC4B, HMC751LC4, HMC752LC4 and HMC-ALH508 are GaAs pHEMT/HEMT MMIC Low Noise Amplifiers which are rated from 14 to 86 GHz. These LNAs have been designed to provide noise figure as low as 2.2 dB with up to 25 dB of gain, and +26 dBm output IP3 from a single supply between +2.4V and +4V. These LNAs are also capable of supplying up to +17 dBm P1dB output power, which enables them to function as LO drivers for Hittite's wide range of balanced, I/Q or image reject mixers.

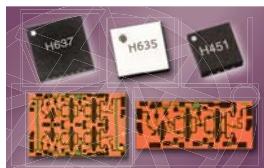
The HMC263LP4E, HMC504LC4B, HMC751LC4 and HMC752LC4 are ideal for applications in Millimeterwave Point-Point/Point-to-Multi-Point Radios, VSAT, Military & Space and Test Instrumentation. The HMC-ALH508 is ideal for Wireless LANs, Automotive Radar, Military & Space & E-Band communication system applications from 71 - 86 GHz.

The HMC263LP4E, HMC504LC4B, HMC751LC4 and HMC752LC4 are packaged in RoHS compliant 4x4mm plastic and ceramic SMT packages respectively and feature I/Os that are DC blocked and internally matched to 50 Ohms, which facilitates easy integration into Multi-Chip-Modules (MCMs). The HMC-ALH508 is offered in tested die format.

### New Hittite Low Noise Amplifiers - Typical Performance

	Part Number	Function	Freq. (GHz)	Gain (dB)	Output IP3 (dBm)	NF (dB)	P1dB (dBm)	Bias Supply	Package
<b>New!</b>	<b>HMC504LC4B</b>	Low Noise	14 - 27	19.5	-	2.2	17	+4V @ 90mA	LC4B
<b>New!</b>	<b>HMC751LC4</b>	Low Noise	17 - 27	25	25	2.2	13	+4V @ 73mA	LC4
<b>New!</b>	<b>HMC752LC4</b>	Low Noise	24 - 28	25	26	2.5	13	+3V @ 70mA	LC4
<b>New!</b>	<b>HMC263LP4E</b>	Low Noise	24 - 36	20	18	2.2	8	+3V @ 58mA	LP4
<b>New!</b>	<b>HMC-ALH508</b>	Low Noise	71 - 86	13	-	5	7	+2.4V @ 30mA	Chip

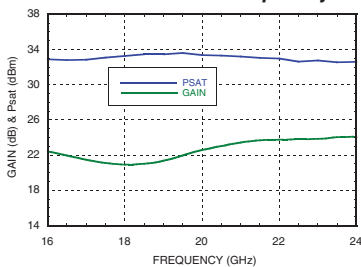
## WIDEBAND DRIVER & POWER AMPLIFIERS FOR FIBER OPTICS, MILITARY & TEST EQUIPMENT



### Features

- Frequency: DC to 40 GHz
- Output IP3 to +40 dBm
- Output P1dB to +31 dBm
- High Gain to 23 dB
- Chip & SMT Format

**HMC756**  
Gain & Psat vs. Frequency



### 5 New High Linearity Amplifiers Support Applications from DC to 40 GHz

The HMC451LP3E, HMC637LP5E, HMC756 and HMC757 power amplifiers and HMC635LC4 driver amplifier cover the DC to 40 GHz frequency band for various microwave radio and military applications. These Drivers and PAs have been designed to provide noise figure as low as 5 dB with up to 23 dB of gain, and +41 dBm output IP3 from a single supply between +5V and +12V. These LNAs are also capable of delivering up to +33 dBm of Psat output power, which makes them ideal for driving the LO port of many of Hittite's wide range of balanced, I/Q or image reject mixers.

The HMC451LP3E, HMC635LC4 and HMC637LP5E are ideal for applications in Microwave Radios, VSAT, Fiber Optics, Military & Space and Test Equipment. The HMC756 and HMC757 are ideal for high linearity transmit chains in Point-to-Point/Point-to-Multi-Point Radios, Military & Space, VSAT, and test equipment applications from 16 to 24 GHz.

The HMC451LP3E, HMC635LC4 and HMC637LP5E are packaged in QFN RoHS compliant plastic and ceramic SMT packages and feature I/Os that are DC blocked and internally matched to 50 Ohms, which facilitates easy integration into Multi-Chip-Modules (MCMs). The HMC756 and HMC757 are offered in tested die format.

### New Hittite Power Amplifiers - Typical Performance

	Part Number	Function	Freq. (GHz)	Gain (dB)	Output IP3 (dBm)	NF (dB)	P1dB (dBm)	Bias Supply	Package
<b>New!</b>	<b>HMC451LP3E</b>	Medium Power	5 - 18	18	28	7	19.5	+5V @ 120mA	LP3
<b>New!</b>	<b>HMC635LC4</b>	Driver	18 - 40	18.5	27	7	22	+5V @ 280mA	LC4
<b>New!</b>	<b>HMC637LP5E</b>	Wideband PA	DC - 6	13	40	5	29	+12V @ 400mA	LP5
<b>New!</b>	<b>HMC757</b>	½ Watt PA	16 - 24	22	37	-	29	+7V @ 395mA	Chip
<b>New!</b>	<b>HMC756</b>	1 Watt PA	16 - 24	23	41	-	31	+7V @ 790mA	Chip



# NEW PRODUCTS FOR AUTOMOTIVE, BROADBAND, CELLULAR & MILITARY

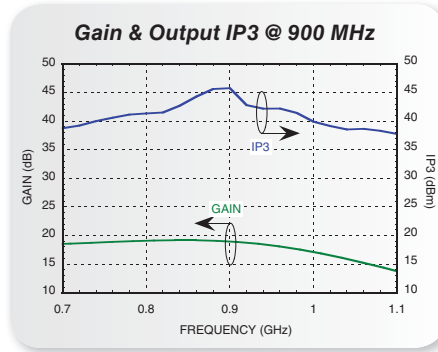
## HMC789ST89E

*InGaP HBT Active Bias MMIC Amplifier, 0.7 - 2.8 GHz*



### Features

- High Output IP3: +45 dBm
- High Output P1dB: +25 dBm
- High Gain: 18 dB
- Single Supply: +5V
- Industry Standard SOT89 Package



### High Gain, High Linearity

The HMC789ST89E is a high linearity GaAs InGaP HBT MMIC amplifier operating from 0.7 to 2.8 GHz and packaged in an industry standard SOT89 package. Utilizing a minimum number of external components and a single +5V supply, the amplifier output IP3 can be optimized to +45 dBm. The high output IP3 and high gain make the HMC789ST89E ideal for use in PA driver & pre-driver applications in Automotive, Broadband, Cellular/4G and Fixed Wireless.

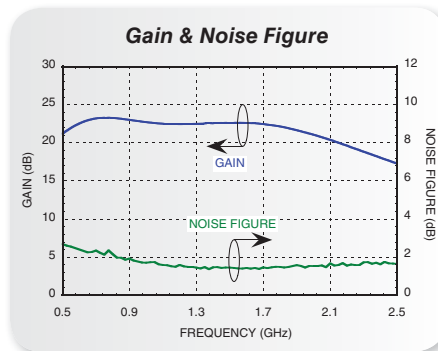
## HMC758LP3E

*GaAs pHEMT Low Noise Amplifier, 0.7 - 2.2 GHz*



### Features

- Noise Figure: 1.7 dB
- Gain: 22 dB
- Output IP3: +37 dBm
- Single Supply: +3V to +5V
- 50 Ohm Matched Input/Output
- 16 Lead 3x3 mm SMT Package



### Multi-Band Cellular Coverage

The HMC758LP3E is a GaAs pHEMT MMIC Low Noise Amplifier that is ideal for Cellular Infrastructure, WiMAX & LTE/4G basestation front-end receivers operating between 700 and 2200 MHz. The amplifier has been optimized to provide 1.7 dB noise figure, 22 dB gain and +37 dBm output IP3 from a single supply of +5V. The HMC758LP3E can be biased with +3V to +5V and features an externally adjustable supply current, which allows the designer to tailor the linearity performance of the LNA for each application.

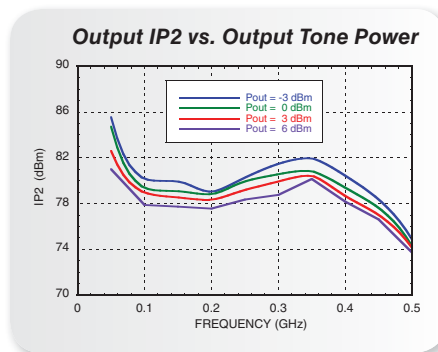
## HMC754S8GE

*GaAs HBT High Linearity Push-Pull Amplifier, 75 Ohm, DC - 1 GHz*



### Features

- Output IP2: +78 dBm
- High Gain: 14.5 dB
- High Output IP3: +38 dBm
- 75 Ohm Impedance
- Robust 1000V ESD, Class 1C
- SOIC-8G Package: 29.4 mm<sup>2</sup>



### Ideal for CATV

The HMC754S8GE is a GaAs/InGaP HBT Dual Channel Gain Block MMIC SMT amplifier covering DC to 1 GHz. This versatile product contains two gain blocks, packaged in a single 8 lead plastic SOIC-8, for use with both amplifiers combined in push-pull configuration using external baluns to cancel out second order non-linearities and improve IP2 performance. In this configuration, the HMC754S8GE offers high gain, very low distortion & simple external matching. This high linearity amplifier consumes only 160mA from a single positive supply.



# NEW PRODUCTS FOR AUTOMOTIVE, BROADBAND, CELLULAR & MILITARY

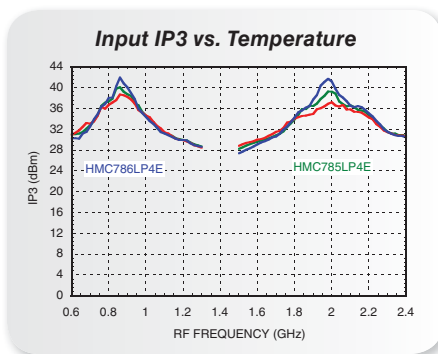
## HMC785 / 786LP4E

**BiCMOS Mixers w/Integrated LO Amplifier, 0.7 to 2.2 GHz**



### Features

- High Input IP3 to +40 dBm
- 8 dB Conversion Loss @ 0 dBm LO
- Optimized for Low Side LO Input
- Adjustable Supply Current
- 24 Lead 4x4mm QFN Package

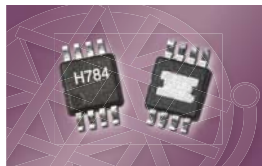


### +40 dBm Input IP3 @ 0 dBm LO

The HMC785LP4E and HMC786LP4E are high dynamic range passive MMIC mixers with integrated LO amplifiers covering 0.7 to 2.2 GHz. Excellent input IP3 performance up to +40 dBm for down conversion is provided for 3G & 4G GSM/CDMA applications at an LO drive of 0 dBm. With an input 1 dB compression of +26 dBm, the RF port will accept a wide range of input signal levels. Conversion loss is 8 dB typical. Up to 300 MHz IF frequency response will satisfy GSM/CDMA transmit or receive frequency plans.

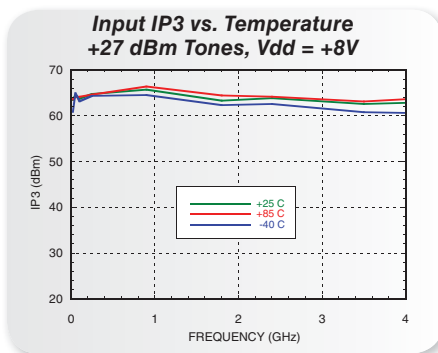
## HMC784MS8GE

**GaAs MMIC 10 Watt T/R Switch, DC - 4 GHz**



### Features

- Input P1dB: +40 dBm @ Vdd = +8V
- High Third Order Intercept: +62 dBm
- Positive Control: +3V to +8V
- Low Insertion Loss: 0.4 dB
- MSOP8G Package: 14.8 mm<sup>2</sup>



### High Power Switching

The HMC784MS8GE is a high power SPDT switch in an 8-lead MSOPG package for use in transmit-receive applications which require very low distortion at high input signal power levels. The device can control signals from DC to 4 GHz. The design provides exceptional intermodulation performance with greater than +60 dBm third order intercept at +5V bias. On-chip circuitry allows single positive supply operation from +3 Vdc to +8 Vdc.

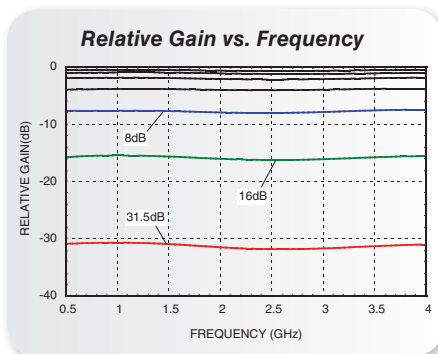
## HMC742LP5E

**6-Bit Digital Variable Gain Amplifier SMT, 0.07 - 4 GHz**



### Features

- 19.5 to 12 dB Gain Control in 0.5 dB Steps
- Power-up State Selection
- High Output IP3: +39 dBm
- TTL/CMOS Compatible Serial, Parallel, or latched Parallel Control
- 32 Lead 5x5mm QFN Package



### Covers all Cellular/4G Bands

The HMC742LP5E is a digitally controlled variable gain amplifier which operates from 70 MHz to 4 GHz, and can be programmed to provide from -19.5 dB attenuation, to 12 dB of gain, in 0.5 dB steps. The HMC742LP5E delivers noise figure of 4 dB in its maximum gain state, with output IP3 of up to +39 dBm in any state. The dual mode gain control interface accepts either a three-wire serial input or a 6 bit parallel word, and features a user selectable power up state and ±0.25 dB Accuracy.



# NEW APPLICATION SOLUTIONS! PLLs WITH INTEGRATED VCOs

## PLL w/ INTEGRATED VCO PRODUCT LINE ENABLES COMPACT LO SOLUTIONS ... (continued from page 1)

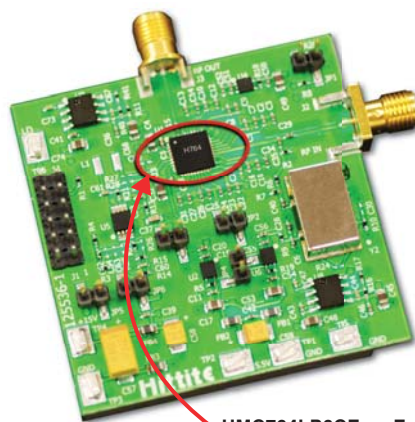
microphonics. Spurious outputs are low enough to eliminate the need for costly Direct Digital Synthesis (DDS) references in many applications.

The Switched Resonator VCO topology allows high performance VCOs all with sub-five volt tuning. No op-amp is required in the loop filter, saving both cost and board space, while improving performance. This product family of PLLs with Integrated VCOs has been rigorously tested for wide temperature operation, and can be locked at one temperature extreme and then operated over the full temperature range without the need for re-locking or recalibration; this capability is required in high reliability applications, but not offered by some competing solutions.

The new HMC764LP6CE PLL with integrated VCO is one of a family of products based on a Single Resonator topology, and offers industry leading SSB phase noise. These new products offer the same exceptional microwave VCO performance which Hittite is recognized for, with the added functionality of an advanced, integrated fractional synthesizer. The HMC764LP6CE exhibits consistent tuning sensitivity and high output power of up to +16 dBm across its bandwidth, making it ideal for driving the LO port of many of Hittite's high linearity, double balanced and I/Q mixer and receiver products. The SSB noise performance is significantly better than any microwave PLL with Integrated VCO available in the marketplace.

Developing a high performance programmable local oscillator can still require considerable design time and potentially several design iterations. For these reasons, Hittite has developed the PLL with Integrated VCO Designer's Kit which enables immediate measurement of the LO design.

The evaluation PCB shown below is part of an easy to use, evaluation kit which will minimize design time, and facilitate rapid prototyping. The Designer's Kit includes an on-board reference oscillator and voltage regulators, and supports universal loop filter configurations. Included software allows the user to program the PLL and access its advanced features. Hittite's PLL Design Software Suite, which allow users to tailor the evaluation PCB loop filter to their specific application is also included.



HMC764LP6CE on Evaluation PCB

Hittite's new line of PLL with Integrated VCO products uniquely combine the attributes of low phase noise, wide frequency coverage, advanced features and ultra small size, making them ideal for numerous small form factor applications.

### Hittite's New PLLs with Integrated VCOs - Switched Resonator Topology

Part Number	Frequency Band (GHz)	Fo/2 & 2Fo Output Frequency (GHz)	Phase Noise (dBc/Hz) (@ 10 kHz Offset, *Integer Mode, Fcomp = 50 MHz, BW = 100 kHz)	Phase Noise (dBc/Hz) (@ 1 MHz Offset, Open Loop VCO)	Pout (dBm)	RMS Jitter Fractional Mode (fs)	Integrated PN Fractional Mode (deg RMS)
<b>New!</b> HMC824LP6CE	0.780 - 0.870	-	-120	-147	+12	190	0.05
<b>New!</b> HMC826LP6CE	0.990 - 1.105	-	-118	-145	+10	190	0.07
<b>New!</b> HMC828LP6CE	1.285 - 1.415	-	-116	-145	+10	190	0.10
<b>New!</b> HMC822LP6CE	1.330 - 1.560	0.665 - 0.780 & 2.66 - 3.12	-115	-142	+10	190	0.10
<b>New!</b> HMC821LP6CE	1.720 - 2.080	0.860 - 1.040 & 3.44 - 4.16	-113	-140	+10	190	0.12
<b>New!</b> HMC831LP6CE	1.815 - 2.010	-	-112	-141	+9	190	0.13
<b>New!</b> HMC820LP6CE	2.190 - 2.550	1.095 - 1.275 & 4.38 - 5.10	-110	-139	+10	190	0.17
<b>New!</b> HMC836LP6CE	3.365 - 3.705	-	-107	-135	0	190	0.25

\* Figure of Merit (FOM) of Synthesizer is -221/-226 dBc/Hz (Frac/Integer)

### Hittite's New PLLs with Integrated VCOs - Single Resonator Topology

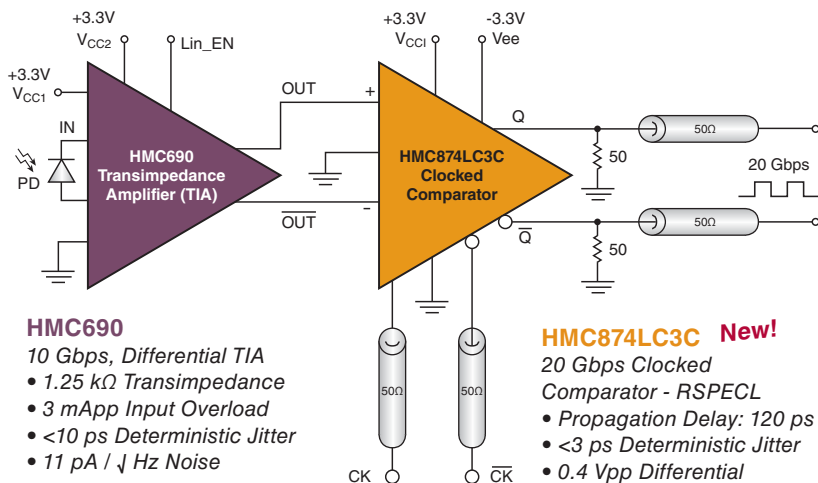
Part Number	Frequency Band (GHz)	Phase Noise (dBc/Hz) (@ 10 kHz Offset, *Integer Mode, Fcomp = 50 MHz, BW = 100 kHz)	Phase Noise (dBc/Hz) (@ 1 MHz Offset, Open Loop VCO)	Pout (dBm)	Bias Supply
<b>New!</b> HMC764LP6CE	7.3 - 8.2	-102	-140	15	+3.3V / +5V
<b>New!</b> HMC765LP6CE	7.8 - 8.8	-102	-139	13	+3.3V / +5V
<b>New!</b> HMC783LP6CE	11.5 - 12.5	-100	-134	11	+3.3V / +5V
<b>New!</b> HMC807LP6CE	12.4 - 13.4	-98	-134	8	+3.3V / +5V

\* Figure of Merit (FOM) of Synthesizer is -221/-226 dBc/Hz (Frac/Integer)



# HITTITE EXPANDS FIBER OPTIC PRODUCT OFFERING!

## LIMITING OPTICAL RECEIVER



### HMC690

- 10 Gbps, Differential TIA
- 1.25 k $\Omega$  Transimpedance
- 3 mApp Input Overload
- <10 ps Deterministic Jitter
- 11 pA /  $\sqrt{\text{Hz}}$  Noise

### HMC874LC3C New!

- 20 Gbps Clocked Comparator - RSPECL
- Propagation Delay: 120 ps
- <3 ps Deterministic Jitter
- 0.4 Vpp Differential Output Voltage Swing
- 150 mW Power Dissipation

### HMC874LC3C - 20 Gbps Clocked Comparator - RSPECL

The HMC874LC3C is a 20 Gbps comparator featuring reduced swing PECL (RSPECL) output drivers and clock inputs. 25 Gbps operation can be achieved with reduced output voltage swing. The comparator provides 120 ps clock to data output delay and 60 ps minimum pulse width with 0.2 ps RMS random jitter (RJ). Overdrive and slew rate dispersion are typically 10 ps, which is ideal for a wide range of applications from ATE to broadband communications. The RSPECL output stages are designed to directly drive 400 mV into 50 Ohms terminated to +1.3V while maintaining compatibility with other PECL logic families. The HMC874LC3C features high speed latches w/programmable hysteresis, and is configured to operate as a clocked comparator.

## NEWS FROM HITTITE!

### HITTITE ADDS 2 NEW REPRESENTATIVES!

Hittite Microwave is pleased to announce two new manufacturers representatives for our customers in Japan. With headquarters in Tokyo, Japan, Daito Electron Co., Ltd offers full support to Hittite customers and may be contacted at:

**Daito Electron Co., Ltd**  
 Phone: +81-6-6399-6496  
 E-mail: [hittite@daitron.co.jp](mailto:hittite@daitron.co.jp)  
 Web: [www.daitron.co.jp](http://www.daitron.co.jp)

With headquarters in Tokyo, Japan, Rikei Corporation offers full Fiber Optic and High Speed Logic product support to Hittite customers and may be contacted at:

**Rikei Corporation**  
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 Web: [www.rikei.co.jp](http://www.rikei.co.jp)

### HITTITE TO ATTEND 2 TRADESHOWS

#### European Microwave Week & Microwave Exhibition

Hittite Microwave will be exhibiting at the 2009 European Microwave Week to be held in Rome, Italy September 29 - October 1, 2009, booth #1010 & 1110.

Hittite Microwave will also be exhibiting at the 2009 Microwave Exhibition to be held in Yokohama, Japan November 25 - 27, 2009, booth #A504.

Hittite will feature over 20 new products and will conduct live demonstrations of the HMC-T2100 Synthesized Signal Generator throughout both exhibitions.



For information about these products and more please visit us at [www.hittite.com](http://www.hittite.com).

### What We Do

Hittite Microwave Corporation is an innovative designer and manufacturer of analog and mixed-signal ICs, Modules, Subsystems and Instrumentation for digital, RF, microwave and millimeterwave applications covering DC to 110 GHz. Our Digital/RFIC/MMIC products are developed using state-of-the-art GaAs, GaN, InGaP/GaAs, InP, SOI, SiGe, CMOS and BiCMOS semiconductor processes utilizing MESFET, HEMT, pHEMT, mHEMT, HBT and PIN devices. We offer over 775 products across 22 product lines:

Amplifiers	Passives
Attenuators	Phase Shifters
Data Converters	PLLs
DROs	PLLs with Integrated VCOs
Freq. Dividers & Detectors	Power Detectors
Freq. Multipliers	Sensors
High Speed Digital Logic	Signal Generators
Limiting Amplifiers	Switches
Interface	Transimpedance Amplifiers
Mixers	VGAs
Mods. & Demodulators	VCOs & PLOs

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

Every component is backed by Hittite Microwave's commitment to total quality. HMC is ISO 9001:2000, AS9100 B and ISO/TS 16949:2002 certified. Every Hittite employee and subcontractor is responsible for maintaining the highest level of 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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