



### HK-29B0 Series Continued Differential Positive ECL (DPECL)

### Operating Conditions and Output Characteristics

#### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	200.0MHz	-----	525.0MHz
Duty Cycle	-----	@ 50% points	45/55%	-----	55/45%
Logic 0 <sup>(2)</sup>	V <sub>OL</sub>	-----	V <sub>CC</sub> -1.95V	-----	V <sub>CC</sub> -1.60V
Logic 1 <sup>(2)</sup>	V <sub>OH</sub>	-----	V <sub>CC</sub> -1.02V	-----	V <sub>CC</sub> -0.74V
Rise & Fall Time	tr,tf	20-80%V <sub>O</sub> with 50 ohm load to V <sub>CC</sub> -2V	-----	350 psec	600 psec
Jitter, RMS <sup>(3)</sup>	-----	-----	-----	-----	5 psec
Enable Voltage <sup>(4)</sup>	----	with V <sub>EE</sub> =0V	0V	-----	1.0V
Disable Voltage	-----	with V <sub>EE</sub> =0V	3.835V	-----	V <sub>CC</sub>
Frequency Stability <sup>(1)</sup>	dF/F	Overall conditions including: voltage, calibration, temp., 10 yr aging, shock, vibration	-100ppm	-----	+100ppm

#### General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage	V <sub>CC</sub>	-----	4.75V	5.0V	5.25V
Supply Current	I <sub>CC</sub>	50 ohm termination To 2.00V below V <sub>CC</sub>	0.0 mA	-----	120 mA
Output current	I <sub>O</sub>	Low level Output Current	0.0 mA	-----	±50.0 mA
Operating temperature	T <sub>A</sub>	-----	0°C	-----	70°C
Storage temperature	T <sub>S</sub>	-----	-55°C	-----	125°C
Input: Logic High (ECL) - Disables V <sub>EE</sub> or Open - Enables					
Lead temperature	T <sub>L</sub>	Soldering, 10 sec.	-----	-----	300°C
Load		50 Ohm to V <sub>CC</sub> -2V or Thevenin Equivalent, Bias Required			
Start-up time	t <sub>s</sub>	-----	-----	2 ms	10 ms

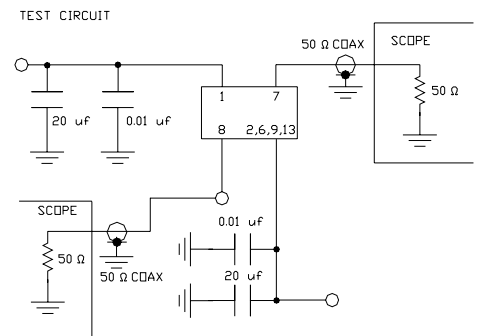
#### Environmental and Mechanical Characteristics

Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	0.060" double amplitude 10 Hz to 55 Hz, 35g's 55Hz to 2000 Hz
Soldering Condition	300°C for 10 seconds
Hermetic Seal	Leak rate less than 1 x 10 <sup>-8</sup> atm.cc/sec of helium

#### Footnotes:

- Standard frequency stability (±20,±25,±50ppm & others available)
- V<sub>OL</sub>, V<sub>OH</sub>, referenced to ground
- Jitter performance is frequency dependent. Please contact factory for full characterization. RMS jitter bandwidth of 12kHz to 20MHz.
- Open Enable pin also enables the output.

Creating a Part Number	
<b>HK - 29BX - FREQ</b>	
<b>Package Code</b>	<b>Tolerance/Performance</b>
HK Leaded 8 pin (14pin)	0 ±100ppm 0-70°C
	1 ±50ppm 0-70°C
	7 ±25ppm 0-70°C
	9 Customer Specific
	A ±20ppm 0-70°C
	B ±50ppm -40 to +85°C
	C ±100ppm -40 to +85°C



TEST CIRCUIT USES A SPLIT SUPPLY OF +2V AND -3V FOR EASE OF TESTING.