

## HD25085

## 200-800MHz Phase Detector with Loop Filter

### Features

- Frequency Range: 200 to 800MHz
- Input Power: -7 to +10dBm
- Integrated Loop Filter
- Directly Interface to FPS Series
- Directly Interface to VCO Series
- DC Power: 12V
- SMA Connector

### Description

HD25085 is a Phase/Frequency Detector with integrated Loop Filter. It operates with input frequency range from 200MHz to 800MHz, easy to use for Phase Locked Loop application.



### Electrical Specifications @ +25 °C, $Z_s = Z_L = 50$ Ohms

Parameter	Unit	Minimum	Typical	Maximum
Fin and Ref Input Frequency Range	MHz	200		800
Input Power Level	dBm	-7		+10
*Phase Noise @1KHz Offset With FPS-12-13 and VCO-2375 Fo=2400MHz, Ref=200MHz	dBc/Hz		-92	
*Phase Noise @1KHz Offset With FPS-4-13 and VCO-3300 Fo=3200MHz, Ref=800MHz	dBc/Hz		-92	
Loop Filter Bandwidth	KHz		10	
Tuning Voltage Output Range	V	0.1		4.9
Input/Output VSWR			1.20:1/1.20:1	
DC Power Supply	V	7	12	15
Supply Current	mA		90	

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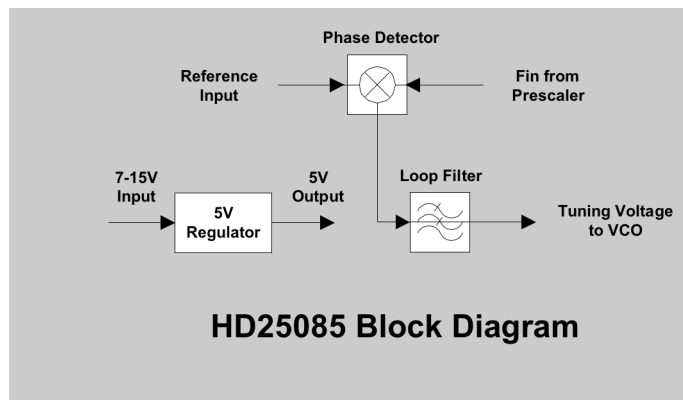
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\* Phase Noise depends on VCO, reference and loop.

**Block Diagram**



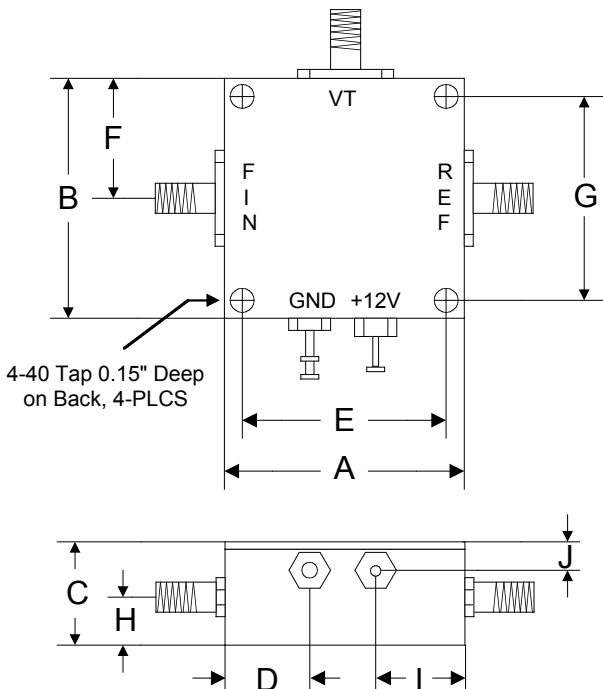
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### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF/REF Input Power	+15dBm
Supply Voltage	+16V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C

### Outline



Port Frequency Input (Fin) connects to RF output frequency after Prescaler output  
 Port Reference Input (Ref) connects to signal generator or other frequency source  
 Port Voltage Tuning (VT) connects to Voltage Controlled Oscillator tuning input

	A	B	C	D	E	F	G	H	I	J
<b>Inch</b>	1.250	1.250	0.563	0.450	1.000	0.625	1.000	0.250	0.500	0.187
<b>mm</b>	31.75	31.75	14.29	11.43	25.40	15.88	25.40	6.35	12.70	4.76