

## Balanced Phase Detectors

### FEATURES:

- ❖ High Sensitivity
- ❖ Good RF Isolation
- ❖ High-Reliability Beam-Lead Diodes

### APPLICATIONS:

- ❖ Phased-lock Loops
- ❖ Phase-encoded Systems
- ❖ Phase Bridges



### CBD Series

### DESCRIPTION:

Cernex's CBD series balanced phase detectors feature a pair of Schottky diodes that mix or beat two input signals at the same frequency to produce a DC output voltage proportional to the phase difference of the input signals. Matching the two Schottky diodes ensures low DC offset results as well as good port-to-port isolation.

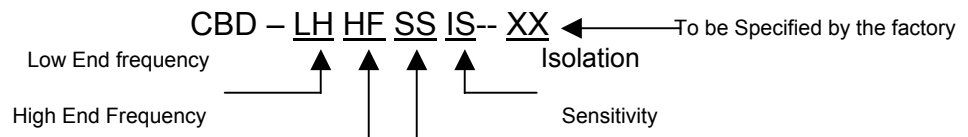
### SPECIFICATIONS:

Waveguide Band	K	Ka	Q	U	V	E	W
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Sensitivity <sup>1</sup> (mV/o), Typ.	4	4	4	3	3	2	2
Bandwidth (%), Typ.	----- 4 -----						
RF Isolation (dB), Typ.	----- 20 -----						
AM Suppression (dB), Typ	----- 20 -----						

1. The sensitivity given above was measured with 4dBm incident onto each input port with a 1MΩ load on the output port.

### HOW TO ORDER:

Specify Model Number



**Example:** To order WR-15 a balanced phase detector from 50 to 75 Ghz, a sensitivity of 3 mV, and an isolation of 20db, specify CBD-50750320-XX.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE