

14GHz Divide-by-8 DV008

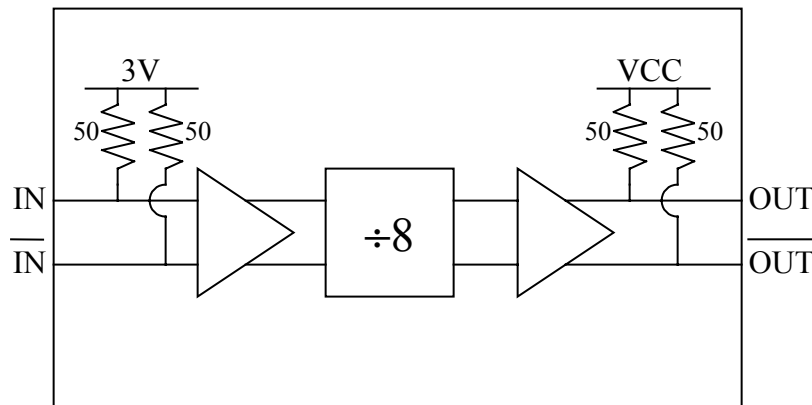
PRODUCT DESCRIPTION

DV008 is a high-speed divide-by-8 static divider in 16-pin 3x3mm plastic QFN package. Due to its high input sensitivity, low output phase noise, and small size, DV008 is well suited for wide-range of applications from communications, instrumentation, radios/radar, to medical etc. It has differential input and output and accepts input frequency from 0.2GHz (sine wave, DC for square wave) to 14GHz. A single power supply of +5V is required.

KEY FEATURES

- 0.2-14GHz Bandwidth
- Low phase noise: -140 dBc/Hz
- High input sensitivity: -25 dBm
- Output amplitude: 800 mVp-p (differential)
- Differential input and output
- 50Ω input/output impedance
- Single power supply: +5V
- Current consumption: 75mA
- 16-pin 3x3mm plastic QFN package

BLOCK DIAGRAM



ELECTRICAL SPECIFICATIONS

Room temperature, $Z_0=50\Omega$, $V_{cc}=+5V$

| Parameter | Conditions | Min | Typical | Max | Units |
|----------------------------------|-----------------------------------|-----|---------|-----|----------|
| Ambient Temperature | | -40 | 25 | 85 | °C |
| Max input frequency | Sine wave input | | 14 | | GHz |
| Min input frequency ¹ | Sine wave input | | 0.2 | | GHz |
| Input power ² | $f_{in}=0.2-10GHz$, single ended | -25 | | 10 | dBm |
| Output amplitude 1 | $f_{in}=10GHz$, single ended | | 400 | | mVp-p |
| Output amplitude 2 | $f_{in}=10GHz$, differential | | 800 | | mVp-p |
| Feedthrough | Input frequency at output | | -25 | | dB |
| Reverse isolation | < 10GHz | | 30 | | dB |
| Phase noise | SSB 100kHz offset | | -140 | | dBc/Hz |
| Output rise/fall time | 20% to 80% | | 50 | | ps |
| Input/output return loss | < 10GHz | | 12 | | dB |
| Output Impedance | DC, output pin to V_{cc} | 45 | 50 | 55 | Ω |
| Current Consumption | | | 75 | | mA |

¹ Minimum input frequency is DC with square-wave input signal.

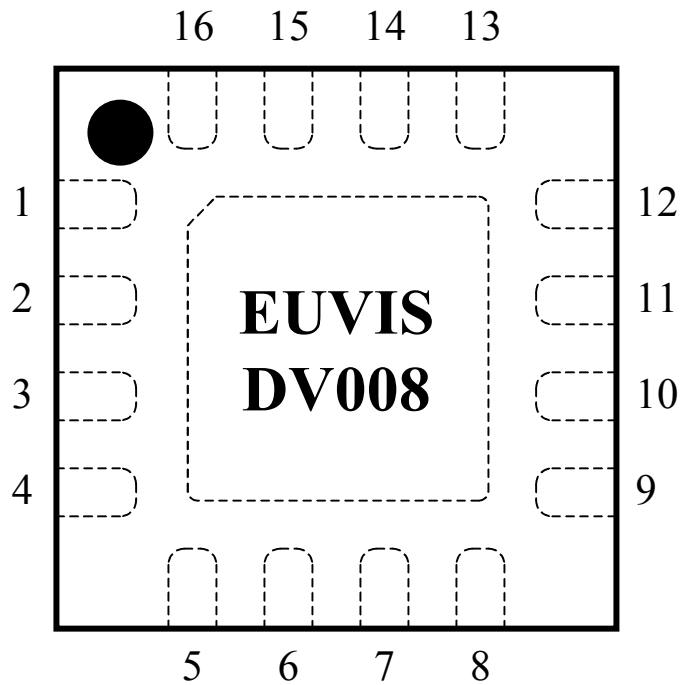
² AC coupling is recommended for input signals. Common mode voltage of 3V is required for DC-coupled input signals in order to match internal input bias of 3V.

PIN DESCRIPTION

| Pin No. | Name | Signal |
|--------------------------|-------------|------------------------------|
| 1, 5, 7, 9, 12 | GND | Ground |
| 2 | IN | Input |
| 3 | IN_ | Complimentary input |
| 4, 13, 14, 15, 16 | VCC | Positive power supply (+5V) |
| 6, 8 | N/C | No connection |
| 10 | OUT | Divided output |
| 11 | OUT_ | Divided complimentary output |

PIN ASSIGNMENT

- Package type: 16-pin 3mm x 3mm plastic QFN
- Thickness: 1mm



Top View

ORDERING INFORMATION

Email: sales@euvis.com

Tel: (805) 583-9888

Fax: (805) 583-9889

The information contained in this document is based on preliminary product test results. Characteristic data and other specifications are subject to change without notice. Customers are advised to confirm information in this advanced datasheet prior to using this information or placing the order.

Euvis Inc. does not assume any liability arising from the application or use of any product or circuit described herein, neither does it convey any license under its patents or any other rights.