

# 14GHz Divide-by-32 DV032

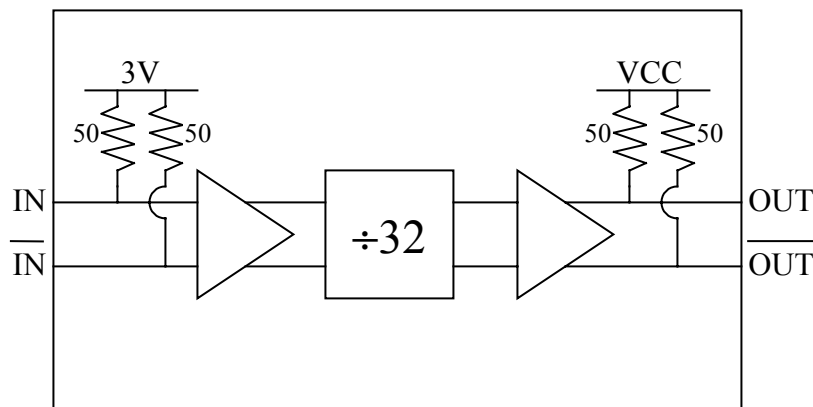
## PRODUCT DESCRIPTION

DV032 is a high-speed divide-by-32 static divider in 16-pin 3x3mm plastic QFN package. Due to its high input sensitivity, low output phase noise, and small size, DV032 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: 72mA
- 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 <sup>1</sup>	Sine wave input		0.2		GHz
Input power <sup>2</sup>	$f_{in}=0.2-10GHz$ , 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	$\Omega$
Current Consumption			72		mA

<sup>1</sup> Minimum input frequency is DC with square-wave input signal.

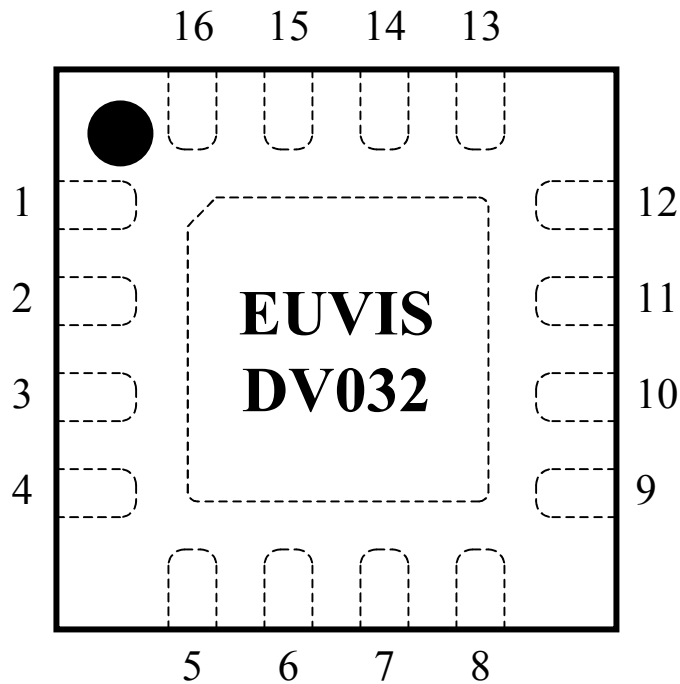
<sup>2</sup> AC coupling is recommended for input signals. Common mode voltage of 3V is required for DC-coupled input signals in order to match internal input bias of 3V.

**PIN DESCRIPTION**

<b>Pin No.</b>	<b>Name</b>	<b>Signal</b>
<b>1, 5, 7, 9, 12</b>	GND	Ground
<b>2</b>	IN	Input
<b>3</b>	IN_	Complimentary input
<b>4, 13, 14, 15, 16</b>	VCC	Positive power supply (+5V)
<b>6, 8</b>	N/C	No connection
<b>10</b>	OUT	Divided output
<b>11</b>	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](mailto:sales@euvis.com)

Tel: (805) 583-9888

Fax: (805) 583-9889

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