

Hybrid IC Isolation Amplifiers 20 Series

ISOLATION AMPLIFIER

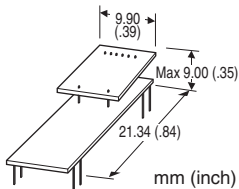
(high-precision, space and cost saving, DIP type)

Functions & Features

- Isolator module for PWB mounting
- High-linearity ($\pm 0.012\%$)
- High speed response of 20 μsec .
- Isolating between input and output
- Isolation up to 2000 V AC
- Power supply ± 15 V DC

Typical Applications

- Galvanically isolating the I/O circuits of microprocessor from the field side to reduce external noise
- Enabling electronic manufacturers to save efforts and cost for the development of isolation circuits for small-lot products



MODEL: 20VS9-122D[1]-UB

ORDERING INFORMATION

- Code number: 20VS9-122D[1]-UB
- Specify a code from below for [1].
(e.g. 20VS9-122DJ-UB)

TYPE

122D

INPUT / OUTPUT VOLTAGE RANGE:

INPUT RANGE -10 - +10 V DC

OUTPUT RANGE -10 - +10 V DC

[1] LINEARITY

J: $\pm 0.05\%$

K: $\pm 0.025\%$

L: $\pm 0.012\%$

POWER INPUT

DC Power

UB: ± 15 V DC

GENERAL SPECIFICATIONS

Construction: Hybrid IC

Housing material: Flame-resistant resin (black)

Isolation: Input to output

INPUT SPECIFICATIONS

■ DC Voltage

Input : -10 - +10 V DC

Input resistance: ≥ 200 k Ω (≥ 10 k Ω in power failure)

Overload input voltage: ± 15 V DC continuous

Input offset voltage: ± 30 mV

Input bias current: 45 nA TYP. (@25°C)

OUTPUT SPECIFICATIONS

■ DC Voltage: -10 - +10 V DC

Load resistance: ≥ 2 k Ω

Output impedance: $\leq 1\Omega$

INSTALLATION

Power input

• **DC:** Rating $\pm 5\%$; approx. 7.5 mA with no load

Operating temperature: -25 to +85°C (-13 to +185°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Soldering to the printed wiring board

Weight: 5 g (0.18 oz)

PERFORMANCE in percentage of span

Linearity:

$\pm 0.05\%$ (20VS9-122DJ)

$\pm 0.025\%$ (20VS9-122DK)

$\pm 0.012\%$ (20VS9-122DL)

Temp. coefficient:

± 50 ppm/°C (-25°C - +85°C; -13 - +185°F)

Frequency characteristics: Approx. 18 Hz, -3 dB

Response time: ≤ 20 msec. (0 - 90 %)

Conversion gain: $\times 1 \pm 1\%$

Line voltage effect: $\pm 0.02\%$ over voltage range

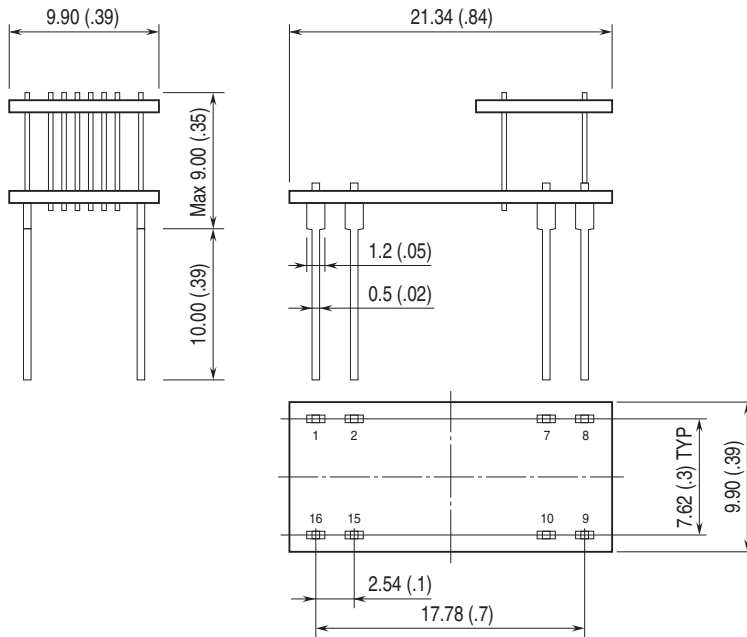
Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @ 1 minute

(input to output)

CMRR: ≥ 100 dB (500 V AC 50/60 Hz)

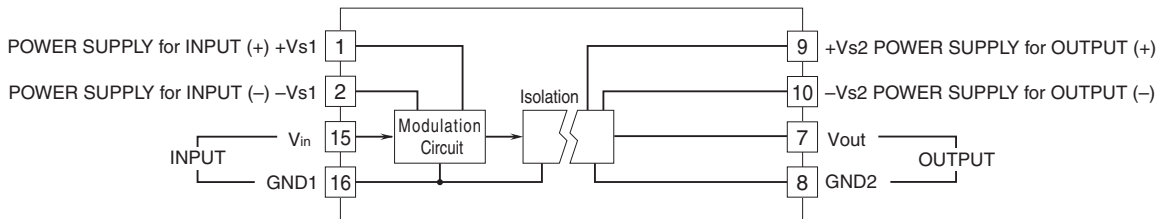
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



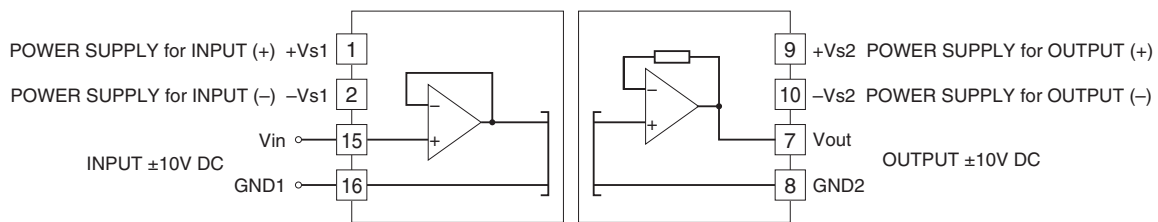
PIN ASSIGNMENT

1	Power supply for input (+) +Vs1
2	Power supply for input (-) -Vs1
15	Input (+) Vin
16	GND1
7	Output (+) Vout
8	GND2
9	Power supply for output (+) +Vs2
10	Power supply for output (-) -Vs2

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



APPLICATION EXAMPLE



Specifications are subject to change without notice.