PGA849

Input and Output Range Design Calculator

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PGA849 Input and Output Range Design Calculator
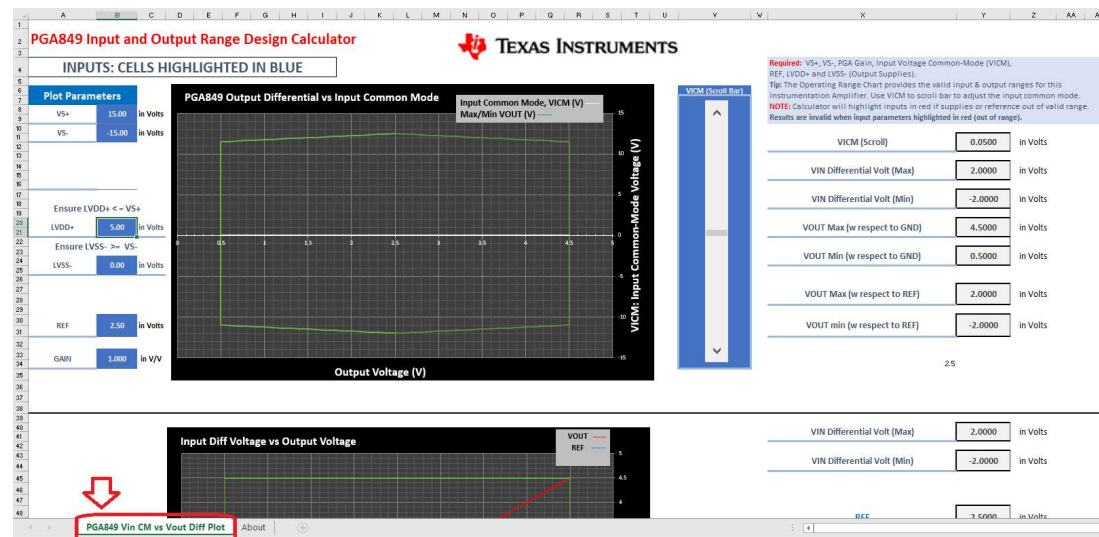## "PGA849 Vin CM vs Vout Diff Plot"

On sheet:

"PGA849_Vin CM vs Vout Diff Plot"

- *User fills the highlighted cells in blue*. <u>Required:</u> Input supplies VS+, VS-, Gain, REF voltage, Output supplies LVDD+ and LVSS-.
- The Operating Range Chart provides the valid input & output ranges for this Programmable Gain Amplifier. Use VICM to scroll bar to adjust the input common mode.
- The input common-mode voltage (VICM) represents the average voltage between the inputs.

$$V_{ICM} = \frac{(IN+)+(IN-)}{2}$$

- The absolute voltage at the PGA inputs requires at least 3V above VS- negative supply and at least 2.5V below the VS+ positive supply.

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2

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"PGA849 Vin CM vs Vout Diff Plot"

On sheet:

"PGA849_Vin CM vs Vout Diff Plot"
- The calculator highlights in red any invalid input parameters when out of range.
- **NOTE:** Calculator will highlight inputs in red if supplies, or reference voltage are outside of the valid range. Results are invalid if any of the input parameters are highlighted in red.

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Sheet: "PGA849 Vin CM vs Vout Diff Plot"

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Second (Bottom) Plot: "Input Diff Voltage vs Output Voltage"

V$_{OUT}$ Red

REF Blue

Y axis:
Output Voltage
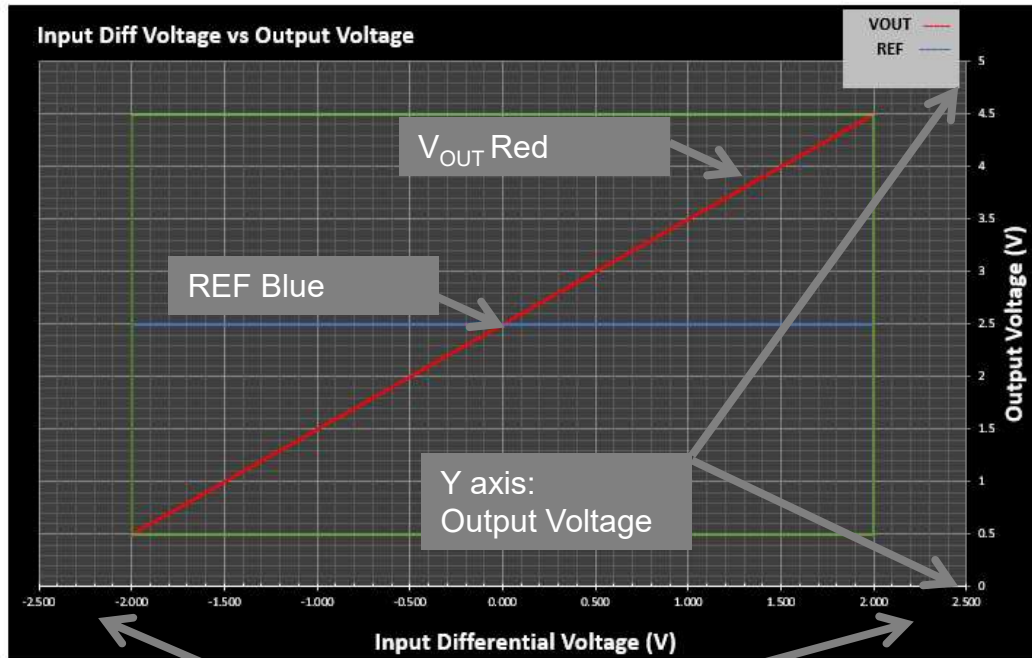
X axis:
Input differential voltage
(± V$_{Input\_Diff}$)

VIN Differential Volt (Max)	2.0000	in Volts
VIN Differential Volt (Min)	-2.0000	in Volts
REF	2.5000	in Volts
VOUT (Max)	4.5000	in Volts
VOUT (Min)	0.5000	in Volts

Check input / output
voltage range

TEXAS INSTRUMENTS

Important notice and disclaimer

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