

NCP349GEVB

NCP349 Evaluation Board User's Manual

Description

The NCP349 is able to disconnect the systems from its output pin when wrong input operating conditions are detected. The system is positive overvoltage protected up to +28 V.

This device uses an internal NMOS and therefore, no external device is necessary, reducing the system cost and the PCB area of the application board. The NCP349 is able to instantaneously disconnect the output from the input, due to integrated Low RON Power NMOS (65 mΩ), if the input voltage exceeds the overvoltage threshold (OVLO) or falls below the undervoltage threshold (UVLO).

The NCP349 provides a negative going flag (FLAG) output, which alerts the system that a fault has occurred. In addition, the device has ESD-protected input (15 kV Air) when bypassed with a 1.0 μF or larger capacitor.



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EVAL BOARD USER'S MANUAL

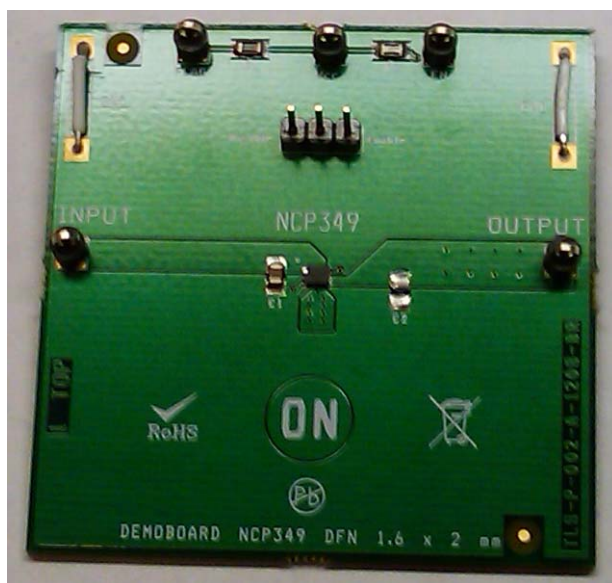


Figure 1. NCP349GEVB Board Picture

NCP349GEVB

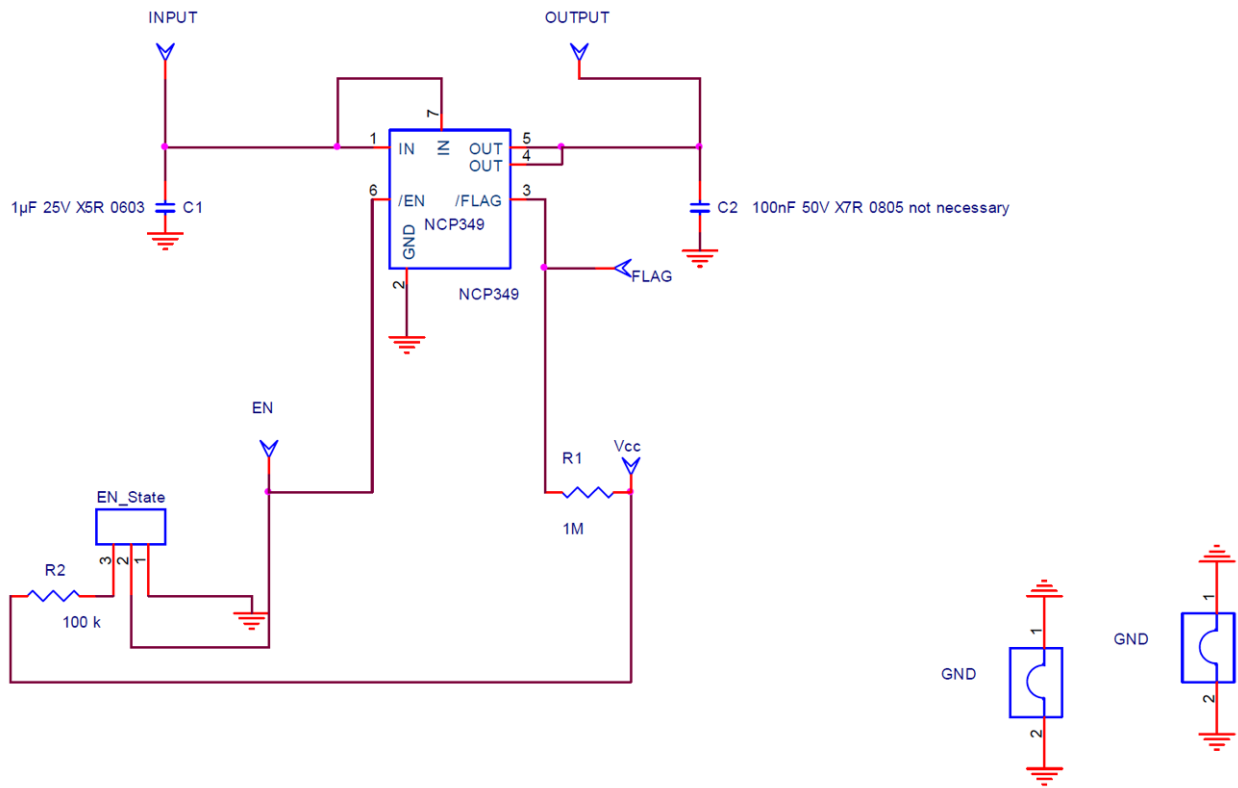


Figure 2. NCP349GEVB Board Schematic

NCP349GEVB

PCB

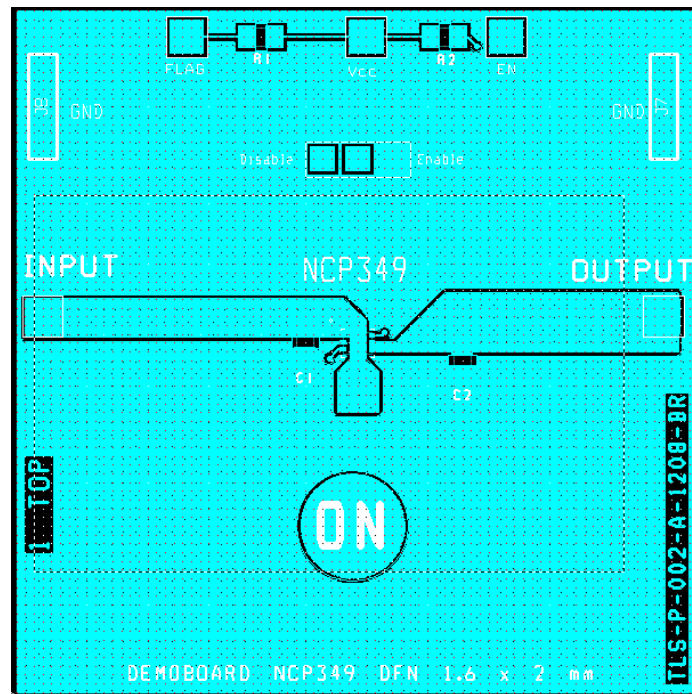


Figure 3. NCP349GEVB Board Layout (Top View)

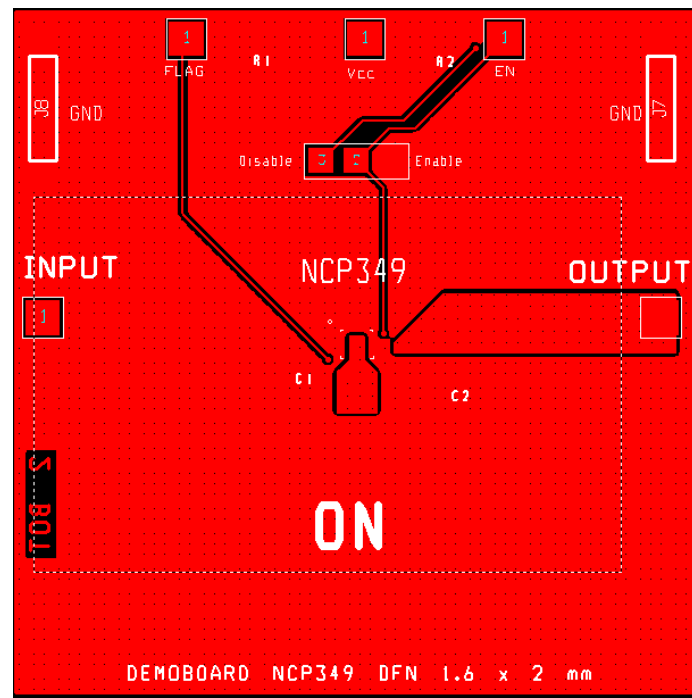


Figure 4. NCP349GEVB Board Layout (Bottom View)

NCP349GEVB

Table 1. BILL OF MATERIALS

Quantity	Designation	Manufacturer	Digi key	Specifications
1	NCP349 LLGA3x3	ON Semiconductor		Over voltage protection
1	C1 (Cin)	Murata – GRM188R61E105KA12D	490–3897–1–ND	1 μ F 25V X5R CMS0805
2	INPUT and OUTPUT connectors	Kontec Comatel	5001K–ND	1 pin. 2.54 PCB Single ligne
3	Test points: FLAG, EN, V _{CC}	Kontec Comatel	5001K–ND	1 pin. 2.54 PCB Single ligne
1	EN_state. $\overline{EN}$ connection to GND pull down or to +5 V pull up	Kontec Comatel	5001K–ND	3 pins. 2.54 PCB Single ligne
2	R1, R2	susumu	Rr08p(value)dct–nd	100 k Ω . CMS0603 0.5%
2	GND jumper		WM8083–ND	Jumper Ground 1 mm pitch 10.16 mm

CONNECTING PROCESS

Turn On.

1. Connect a supply (5 V typical, Maximum rating, 7 V) on Vcc test point.
2. Let EN_STATE strap on right side if you want to Enable the device. (Pull down to GND).
3. Connect Vin on INPUT test point. Typical UVLO current consumption is 70 μ A. Typical current consumption UVLO < Vin < OVLO without load is 170 μ A.
4. Connect the system on OUTPUT test point.
5. Increase Vin level above UVLO to see Vin on Vout pin.
6. Connect strap on left side to disable the part (disconnect Vout from Vin)

Turn Off.

1. Disconnect system connected on Vout connector.
2. Disconnect Vin or adapter connected on Vin connector.
3. Disconnect Vcc supply.

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