



NCP1251GEVB: 25 W Power Supply Demonstration Evaluation Board

This evaluation board is a very simple, low cost, yet high performance off-line flyback power supply using ON Semiconductor's NCP1251B controller (TSOP6 package), NDD04N60 D-Pak Mosfet, and the NCP431 programmable zener (SOT23 package).

The flyback design operates in discontinuous conduction mode and uses the conventional optocoupler (U2) feedback scheme for the voltage loop and an auxiliary Vcc winding on the flyback transformer to power the NCP1251. The Design Note provides the complete circuit and transformer design details for 5 volt, 4 amp, and 12 volt, 1.8 amp output models. Other output voltages from 3.3 up to 28 Vdc are easy to implement by modifying the values (or ratings) of R11, R12, D9, C9 and T1's secondary turns. Over-current limiting is provided by sensing the peak current in the MOSFET Q1 via R8. Once the 800 mV threshold level on U1's pin 4 is exceeded the circuit will go into "hiccup" mode until the over-current condition is removed. An optional OVP circuit is implemented via Z1.



Evaluation/Development Tool Information

Product	Status	Compliance	Short Description	Parts Used	Action
NCP1251GEVB	Active	Pb-free	25 W Power Supply Demonstration Evaluation Board	NCP1251BSN100T1G	Contact Local Sales Office

Technical Documents

Type	Document Title	Document ID/Size	Rev
Eval Board: BOM	NCP1251GEVB Bill of Materials ROHS Compliant	NCP1251GEVB_BOM_ROHS.PDF - 61.0 KB	0
Eval Board: Gerber	NCP1251GEVB Gerber Layout Files (Zip Format)	NCP1251GEVB_GERBER.ZIP - 89.0 KB	0
Eval Board: Schematic	NCP1251GEVB Schematic	NCP1251GEVB_SCHEMATIC.PDF - 45.0 KB	0
Eval Board: Test Procedure	NCP1251GEVB Test Procedure	NCP1251GEVB_TEST_PROCEDURE.PDF - 88.0 KB	0
Video	Low Cost, High Performance Off-Line Flyback 25 W Power Supply - NCP1251GEVB	TND6122/D	

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