



Bill of Materials for NCP1230 Evaluation Board

10/12/2005

| Designator       | Quantity | Description            | Value           | Tolerance | Footprint          | Manufacturer       | Manufacturer Part Number | Substitution Allowed | RoHS Compliant |
|------------------|----------|------------------------|-----------------|-----------|--------------------|--------------------|--------------------------|----------------------|----------------|
| U9               | 1        | Flyback Controller     | 18 V, 0.5 A     | NA        | SOIC 8             | ON Semiconductor   | NCP1230D65R2G            | No                   | Yes            |
| U2               | 1        | PFC controller         | 16 V, 0.6 A     | NA        | SOIC 8             | ON Semiconductor   | MC33260DG                | No                   | Yes            |
| U12              | 1        | Programmable reference | 2.5 V           | NA        | SOIC 8             | ON Semiconductor   | TL431ACDG                | No                   | Yes            |
| U4               | 1        | Optocoupler            | 70 V, 50 Ma     | NA        | UL1577             | Vishay             | SFH615A-3                | Yes                  | Yes            |
| C1, C19          | 2        | Ceramic chip capacitor | 0.1 uF, 50 V    | 10%       | 0603               | Vishay             | VJ0603Y104KXAA           | Yes                  | Yes            |
| C2, C3, C14, C15 | 4        | Electolytic Capacitor  | 2200 uF, 25 V   | 20%       | 16.0 mm x 25.0 mm  | Vishay             | EKB00JG422F00            | Yes                  | Yes            |
| C5               | 1        | Electorlytic Capacitor | 100 uF, 35 V    | 20%       | 6.3 mm x 11.0 mm   | Vishay             | EKB00BA310F00            | Yes                  | Yes            |
| C6               | 1        | Cap, Ceramic           | 0.01uF, 1000V   | 10%       | Disc               | Vishay             | 562RZ5UBA102E103M        | Yes                  | Yes            |
| C7, C8           | 2        | Cap, Aluminum Elec     | 47 uF, 25 V     | 20%       | 5.0 mm x 11.0 mm   | Vishay             | EKB00AA247F00            | Yes                  | Yes            |
| C10              | 1        | Capacitor, Y2 class    | 2.2 nF, 250 V   | 20%       | 5.3 mm x 10.3 mm   | Vishay             | F1710-222-1000           | Yes                  | Yes            |
| C11, C17         | 2        | Capacitor, X2 class    | 0.1 uF, 300 V   | 10%       | 8.3 mm x 17.8 mm   | Vishay             | F1772-410-3000           | Yes                  | Yes            |
| C12              | 1        | Ceramic chip capacitor | 0.068 uF, 50 V  | 10%       | 0603               | Vishay             | VJ0603Y683KXAA           | Yes                  | Yes            |
| C13              | 1        | Ceramic chip capacitor | 470 pF, 50 V    | 10%       | 0603               | Vishay             | VJ0603471KXAA            | Yes                  | Yes            |
| C18              | 1        | Ceramic chip capacitor | 680 pF, 50V     | 10%       | 0603               | Vishay             | VJ0603Y681KXAA           | Yes                  | Yes            |
| C20              | 1        | Cap, Ceramic, chip     | 0.047 uF, 16 V  | 10%       | 0805               | Vishay             | VJ0805Y473KXJA           | Yes                  | Yes            |
| C22              | 1        | Capaitor, X2 class     | 0.47 uF, 300 V  | 10%       | 13.0 mm x 31.3 mm  | Vishay             | F1772-447-3000           | Yes                  | Yes            |
| C23              | 1        | Cap, Aluminum          | 150uF, 450Vdc   | 20%       | 25mm x 40mm        | Panasonic          | ECOS2WP151CA             | Yes                  | Yes            |
| C24              | 1        | Ceramic chip capacitor | 100 pF, 50 V    | 10%       | 0805               | Vishay             | VJ0805100KXAA            | Yes                  | Yes            |
| C25              | 1        | Ceramic chip capacitor | 1.0 nF, 50 V    | 10%       | 0805               | Vishay             | VJ0805Y102KXAA           | Yes                  | Yes            |
| C27              | 1        | Capacitor, X2 class    | 0.22 uF, 300 V  | 10%       | 10.3 mm x 26.3 mm  | Vishay             | F1772-422-3000           | Yes                  | Yes            |
| D1               | 1        | Zener Diode, SM        | 13 V, 0.3 W     | NA        | SOT-23             | Vishay             | AZ23C13                  | Yes                  | Yes            |
| D2, D16          | 2        | Diode, signal          | 75V, 100ma      | NA        | SOT-23             | ON Semiconductor   | BAS19LT1G                | No                   | Yes            |
| D4               | 1        | Diode, ultra fast      | 600 V, 1 A      | NA        | DO41               | ON Semiconductor   | MUR160                   | No                   | Yes            |
| D8, D9, D10, D11 | 4        | Diode, rectifier       | 1000 V, 3 A     | NA        | DO201AD            | ON Semiconductor   | 1N5408G                  | No                   | Yes            |
| D12              | 1        | Diode, ultra-fast      | 600 V, 4 A      | NA        | DO201AD            | ON Semiconductor   | MUR460                   | No                   | Yes            |
| D13, D15         | 2        | Diode, rectifier       | 800 V, 1 A      | NA        | DO41               | ON Semiconductor   | 1N4006                   | No                   | Yes            |
| D17, D18         | 2        | Zener Diode, SM        | 18 V, 0.3 W     | NA        | SOT-23             | Vishay             | AZ23C18                  | Yes                  | Yes            |
| D19              | 1        | Diode, schottky        | 100 V, 20 A     | NA        | TO220AB            | ON Semiconductor   | MBR20100CTG              | No                   | Yes            |
| F1               | 1        | Brick Fuse             | 250 Vac, 2 A    | NA        | 10mm x 2.5mm       | Bussman            | 1025TD2                  | Yes                  | Yes            |
| J2, J4           | 2        | PCB Connector          | 10 A, 300 V     | NA        | 5.08 mm            | Weidmuller         | 171602                   | Yes                  | Yes            |
| L1               | 1        | Inductor               | 2.2 uH, 7.5 A   | 10%       | 13 mm x 9 mm       | Coilcraft          | DO3316P-222ML            | Yes                  | Yes            |
| L2, L3           | 2        | Inductor               | 100 uH, 2.5 A   | 10%       | 1315               | TDK                | TSL1315-101K2R5          | Yes                  | Yes            |
| L4               | 1        | PFC Indcutor           | 400 uH, 5 A     | 20%       | NA                 | Cooper Electronics | CTX22-16816              | Yes                  | Yes            |
| L5               | 1        | Common Mode Inductor   | 508 uH, 3 A     | 30%       | NA                 | Coilcraft          | E3506-AL                 | Yes                  | Yes            |
| Q1               | 1        | MOSFET 0.8 Q           | 800 V, 11 A     | NA        | TO220-31           | Infineon           | SPP11N80C3               | Yes                  | Yes            |
| Q2               | 1        | MOSFET 0.8 Q           | 650 V, 7.3 A    | NA        | TO220-31           | Infineon           | SPP07N60C3               | Yes                  | Yes            |
| Q3               | 1        | Bipolar transistor     | 60 V, 0.6 A     | NA        | SOT-23             | ON Semiconductor   | MMBT2907ALT1G            | No                   | Yes            |
| R1, R3           | 2        | Resistor               | 0.4 Q, 1 W      | 1%        | 2512               | Vishay             | WSL2512R4000FEA          | Yes                  | Yes            |
| R2, R18, R29     | 3        | Resistor               | 100k, 3W        | 5%        | 14.10 mm x 4.57 mm | Vishay             | CPF3100k00JNE14          | Yes                  | Yes            |
| R4               | 1        | Resistor               | 49.9 kQ, 1/8 W  | 1%        | 0805               | Vishay             | CRCW08054992FNEA         | Yes                  | Yes            |
| R5, R6, R16      | 3        | Resistor               | 1.3 Q, 1 W      | 1%        | 2512               | Vishay             | CRCW25121R30FNEA         | Yes                  | Yes            |
| R7               | 1        | Resistor               | 4.7 kQ, 1/8 W   | 5%        | 0805               | Vishay             | CRCW08054700RJNEA        | Yes                  | Yes            |
| R10              | 1        | Resistor               | 7.42 kQ, 1/8 W  | 1%        | 0805               | Vishay             | CRCW08057421FNEA         | Yes                  | Yes            |
| R13              | 1        | Resistor               | 20 Q, 1/4 W     | 5%        | 1206               | Vishay             | CRCW120620R0JNEA         | Yes                  | Yes            |
| R17              | 1        | Resistor               | 8.06 kQ, 1/8 W  | 1%        | 0805               | Vishay             | CRCW08058K06FKEA         | Yes                  | Yes            |
| R19, R20         | 2        | Resistor               | 1 MQ, 1/8 W     | 1%        | 6.10 mm x 2.29 mm  | Vishay             | CMF551004FKEK            | Yes                  | Yes            |
| R21, R22         | 2        | Resistor               | 1 kQ, 1/4 W     | 1%        | 1206               | Vishay             | CRCW12061K00FKEA         | Yes                  | Yes            |
| R24              | 1        | Jumper, 22 AWG         | NA              | NA        | NA                 | Any                | NA                       | Yes                  | Yes            |
| R25              | 1        | Resistor               | 200 Q, 1/4 W    | 5%        | 1206               | Vishay             | CRCW1206200RJNEA         | Yes                  | Yes            |
| R26              | 1        | Resistor               | 10 kQ, 1/4 W    | 5%        | 1206               | Vishay             | CRCW120610K0JNEA         | Yes                  | Yes            |
| R27              | 1        | Resistor               | 4.7 Q, 1/4 W    | 5%        | 1206               | Vishay             | CRCW12064R7JNEA          | Yes                  | Yes            |
| R28              | 1        | Resistor               | 200 Q, 1/4 W    | 5%        | 1206               | Vishay             | CRCW1206200RJNEA         | Yes                  | Yes            |
| T1               | 1        | Flyback Transformer    | 220 uH, 3.3 Apk | NA        | NA                 | Cooper Electronics | CTX22-16134              | Yes                  | Yes            |
| H1               | 1        | Shoulder Washer        | NA              | NA        | #4 x 0.031"        | Keystone           | 3049                     | Yes                  | Yes            |
| H2               | 1        | Insulator              | NA              | NA        | 0.86 " x 0.52 "    | Keystone           | 4672                     | Yes                  | Yes            |
| H3, H4, H5       | 3        | Heatsink               | NA              | NA        | TO-220             | Aavid              | 590302B03600             | Yes                  | Yes            |