

Schematic Name = SchematicLHE-CPF-P2

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Engineer = Mellinger

| Item Number | Quantity | Part Reference                                | Value                       | Tolerance | Description                                     | Manufacturer                         | Manufacturer PN             | PART_NUMBER                 |
|-------------|----------|-----------------------------------------------|-----------------------------|-----------|-------------------------------------------------|--------------------------------------|-----------------------------|-----------------------------|
| 1           | 13       | C1 C3 C4 C5 C6 C8 C11 C20 C21 C22 C37 C41 C44 | 0.1uF                       | 10%       | CAP CER 0.1UF 25V X7R 0603                      | TDK Corporation                      | CGA3E2X7R1E104K080AA        | CGA3E2X7R1E104K080AA        |
| 2           | 2        | C2 C7                                         | 0.1uF                       | ±5%       | CAP CER 0.1UF 50V 5% X7R 0805                   | AVX Corporation                      | 08055C104JAT2A              | 08055C104JAT2A              |
| 3           | 3        | C9 C12 C36                                    | 1.0uF                       | ±10%      | CAP CER 1UF 50V 10% X7R 0805                    | Kemet                                | C0805C105K5RACTU            | C0805C105K5RACTU            |
| 4           | 4        | C10 C13 C23 C45                               | 10uF                        | ±20%      | CAP CER 10UF 16V 20% X7R 0805                   | Taiyo Yuden                          | EMK212BB7106MG-T            | EMK212BB7106MG-T            |
| 5           | 12       | C14 C15 C16 C17 C18 C19 C30 C31 C32 C33 C34   | 0.1uF                       | 10%       | CAP CER 0.1UF 50V X7R 0603                      | Murata Electronics North America     | GCJ188R71H104KA12D          | GCJ188R71H104KA12D          |
| 6           | 2        | C24 C26                                       | 0.10uF                      | 10%       | CAP .10UF 50V CERAMIC X7R 0805                  | Kemet                                | C0805C104K5RAC              | C0805C104K5RAC              |
| 7           | 1        | C25                                           | 47,000.0pF                  | 10%       |                                                 | Kemet                                | C0603C473K5RAC              | C0603C473K5RAC              |
| 8           | 2        | C28 C29                                       | 15pF                        | ±5%       | CAP CERAMIC 15PF 50V NP0 0805                   | Kemet                                | C0805C150J5GACTU            | C0805C150J5GACTU            |
| 9           | 2        | C38 C39                                       | 1uF                         | 10%       | CAP CER 1UF 25V X7R 0603                        | TDK Corporation                      | CGA3E1X7R1E105K080AC        | CGA3E1X7R1E105K080AC        |
| 10          | 1        | C40                                           | 10,000.0pF                  | 10%       | CAP CER 10000PF 100V X7R 0603                   | Kemet                                | C0603C103K1RACTU            | C0603C103K1RACTU            |
| 11          | 2        | C42 C43                                       | 100uF                       | 20%       | CAP ALUM POLY HYB 100UF 50V SMD                 | Panasonic Electronic Components      | EEH-ZA1H101P                | EEH-ZA1H101P                |
| 12          | 4        | D1 D9 D10 D11                                 | SM8S36AHE3/2D               |           | TVS DIODE 36VWM 58.1VC DO218AB                  | Vishay Semiconductor Diodes Division | SM8S36AHE3/2D               | SM8S36AHE3/2D               |
| 13          | 2        | D2 D7                                         | CUS08F30,H3F                |           | DIODE SCHOTTKY 30V 800MA USC                    | Toshiba Semiconductor and Storage    | CUS08F30,H3F                | CUS08F30,H3F                |
| 14          | 2        | D3 D5                                         | SMBJ33A                     |           | TVS DIODE 33V 53.3V DO214AA                     | Vishay Semiconductor Diodes Division | SMBJ33AHE3/52               | SMBJ33AHE3/52               |
| 15          | 2        | D4 D8                                         | SMBJ5.0A-13-F               |           | TVS 600W 5.0V UNIDIRECT SMB                     | Diodes Inc                           | SMBJ5.0A-13-F               | SMBJ5.0A-13-F               |
| 16          | 1        | D6                                            | SMBJ6.5A-13-F               |           | TVS DIODE 6.5VWM 11.2VC SMB                     | Diodes Incorporated                  | SMBJ6.5A-13-F               | SMBJ6.5A-13-F               |
| 17          | 3        | D12 D13 D14                                   | BA519-7-F                   |           | DIODE SWITCH 100V 250MW SOT23-3                 | Diodes Inc                           | BA519-7-F                   | BA519-7-F                   |
| 18          | 9        | D15 D16 D17 D18 D19 D20 D21 D22 D23           | LTST-C190GKT                |           | LED GREEN CLEAR 0603 SMD                        | Lite-On Inc                          | LTST-C190GKT                | LTST-C190GKT                |
| 19          | 1        | D24                                           | BAT43                       |           | DIODE SCHOTTKY 30V 200MA DO35                   | STMicroelectronics                   | BAT43                       | TMP-2459                    |
| 20          | 1        | F1                                            | 0154003.DR                  |           | FUSE FAST 125VAC, 125VDC 3A SMD                 | Littelfuse Inc                       | 0154003.DR                  | 0154003.DR                  |
| 21          | 1        | F2                                            | 015406.3DR                  |           | FUSEBLOCK W/6.3A FUSE SMD FAST                  | Littelfuse Inc                       | 015406.3DR                  | 015406.3DR                  |
| 22          | 1        | F3                                            | 0452012.MRL                 |           | FUSE BRD MNT 12A 72VAC 60VDC SMD                | Littelfuse Inc.                      | 0452012.MRL                 | 0452012.MRL                 |
| 23          | 2        | J1 J3                                         | M80-5100842                 |           | 2X4 POS MALE VERT 3M TAIL                       | Harwin Inc.                          | M80-5100842                 | M80-5100842                 |
| 24          | 1        | J2                                            | M80-5100442                 |           | 2X2 POS MALE VERT 3M TAIL                       | Harwin Inc.                          | M80-5100442                 | M80-5100442                 |
| 25          | 1        | J4                                            | M80-5000000M3-04-332-00-00C |           | CONN HEADER VERT 4POS 4MM                       | Harwin Inc.                          | M80-5000000M3-04-332-00-00C | M80-5000000M3-04-332-00-00C |
| 26          | 1        | J7                                            | M80-5000000M3-06-332-00-00C |           | CONN HEADER VERT 6POS 4MM                       | Harwin Inc.                          | M80-5000000M3-06-332-00-00C | M80-5000000M3-06-332-00-00C |
| 27          | 4        | JP1 JP4 JP5 JP6                               | HTSW-102-07-S-S             |           | .025" SQ. TERMINAL STRIPS                       | Samtec Inc.                          | HTSW-102-07-S-S             | HTSW-102-07-S-S             |
| 28          | 2        | JP2 JP3                                       | LS=0.100"                   |           | MISC 3 PIN JUMPER 0.100" PITCH 0.025" SQ        |                                      |                             | MISC_JMPR-TH-3PIN           |
| 29          | 2        | K1 K2                                         | S4EB-24V                    |           | RELAY GEN PURPOSE 4PST 4A 24V                   | Panasonic Electric Works             | S4EB-24V                    | S4EB-24V                    |
| 30          | 7        | L1 L2 L4 L5 L6 L7 L8                          | MMZ1608S601A                |           | FERRITE CHIP 600 OHM 500MA 0603                 | TDK Corporation                      | MMZ1608S601A                | MMZ1608S601A                |
| 31          | 3        | L3 L9 L10                                     | BNX024H01L                  |           | EMI/RFI Suppressors & Ferrites 100M Ohm 15A SMD | Murata                               | BNX024H01L                  | BNX024H01L                  |
| 32          | 6        | P1 P2 P3 P4 P5 P6                             | CB07W2M35S000               |           | Conn D-Sub 7W2 Vert Solder                      | Positronic                           | CB07W2M35S000               | CB07W2M35S000               |
| 33          | 12       | Q10 Q11 Q12 Q13 Q1 Q2 Q3 Q4 Q5 Q6 Q8 Q5       | SI4909DY-T1-GE3             |           | MOSFET 2P-CH 40V 8A 850                         | Vishay Siliconix                     | SI4909DY-T1-GE3             | SI4909DY-T1-GE3             |
| 34          | 1        | Q7                                            | PSMN1R7-60BS                |           | MOSFET N-CH 60V 120A D2PAK                      | Nexperia USA Inc.                    | PSMN1R7-60BS,118            | TMP-2477                    |
| 35          | 2        | R1 R7                                         | 47.0K                       | 5%        |                                                 | Vishay                               | CRCW060347K0JNEA            | CRCW060347K0JNEA            |
| 36          | 5        | R2 R31 R33 R34 R35                            | 10.0K                       | 1%        | RES SMD 10K OHM 1% 1/10W 0603                   | Vishay                               | CRCW060310K0FKEA            | CRCW060310K0FKEA            |
| 37          | 2        | R3 R16                                        | 698.0K                      | 1%        |                                                 | Vishay                               | CRCW0603698KFKEA            | CRCW0603698KFKEA            |
| 38          | 2        | R4 R17                                        | 68.1K                       | 1%        |                                                 | Vishay                               | CRCW060368K1FKEA            | CRCW060368K1FKEA            |
| 39          | 4        | R5 R6 R28 R29                                 | 15.0K                       | 5%        |                                                 | Vishay                               | CRCW060315K0JNEA            | CRCW060315K0JNEA            |
| 40          | 1        | R8                                            | 2.00K                       | 1%        |                                                 | Vishay                               | CRCW06032K00FKEA            | CRCW06032K00FKEA            |
| 41          | 4        | R9 R11 R12 R41                                | 4.70K                       | 5%        |                                                 | Vishay                               | CRCW06034K70JNEA            | CRCW06034K70JNEA            |
| 42          | 4        | R10 R13 R21 R40                               | 1                           | 1%        |                                                 | Vishay                               | CRCW06031R00FKEA            | CRCW06031R00FKEA            |
| 43          | 2        | R14 R30                                       | 2.2k                        | ±5%       | RES 2.2K OHM 1/2W 5% 1210 SMD                   | Panasonic Electronic Components      | ERJ-14YJ222U                | ERJ-14YJ222U                |
| 44          | 2        | R15 R18                                       | 100k                        | 5%        | RES ARRAY 8 RES 100K OHM 2512                   | Panasonic Electronic Components      | EXB-A10P104J                | EXB-A10P104J                |
| 45          | 1        | R22                                           | 0.005                       | 1%        | RES SMD 0.005 OHM 1% 1W 2512                    | Vishay Dale                          | WSL25125L000FEA             | WSL25125L000FEA             |
| 46          | 1        | R23                                           | 10                          | 1%        |                                                 | Vishay                               | CRCW060310R0FKEA            | CRCW060310R0FKEA            |
| 47          | 1        | R24                                           | 22.1K                       | 1%        |                                                 | Vishay                               | CRCW060322K1FKEA            | CRCW060322K1FKEA            |
| 48          | 1        | R25                                           | 1.00M                       | 5%        | RES SMD 1M OHM 5% 1/10W 0603                    | Vishay                               | CRCW06031M00JNEA            | CRCW06031M00JNEA            |
| 49          | 1        | R26                                           | 33                          | 5%        |                                                 | Vishay                               | CRCW060333R0JNEA            | CRCW060333R0JNEA            |
| 50          | 1        | R27                                           | 53.6K                       | 1%        |                                                 | Vishay                               | CRCW060353K6FKEA            | CRCW060353K6FKEA            |
| 51          | 1        | R32                                           | 1.18K                       | 1%        |                                                 | Vishay                               | CRCW06031K18FKEA            | CRCW06031K18FKEA            |
| 52          | 1        | R36                                           | 48.7K                       | 1%        |                                                 | Vishay                               | CRCW060348K7FKEA            | CRCW060348K7FKEA            |
| 53          | 1        | R38                                           | 100                         | 5%        |                                                 | Vishay                               | CRCW0603100RNEA             | CRCW0603100RNEA             |
| 54          | 1        | R39                                           | 0.0                         | Jumper    | RES 0.0 OHM 1/10W 0603 SMD                      | Vishay/Dale                          | CRCW06030000Z0EA            | CRCW06030000Z0EA            |
| 55          | 6        | R42 R43 R44 R45 R46 R47                       | TBD                         |           | TO BE DETERMINED, HEIGHT 0.022"                 |                                      |                             | TBD_R0603                   |
| 56          | 3        | R48 R49 R50                                   | 5.10K                       | 5%        |                                                 | Vishay                               | CRCW06035K10JNEA            | CRCW06035K10JNEA            |
| 57          | 1        | R51                                           | 0                           | Jumper    | RES SMD 0 OHM JUMPER 1/2W 20 Amp 0805           | Keystone Electronics                 | 5106                        | 5106                        |
| 58          | 1        | R52                                           | RPinless                    |           |                                                 |                                      |                             |                             |

|    |    |                                               |                      |  |                                      |                                  |                          |
|----|----|-----------------------------------------------|----------------------|--|--------------------------------------|----------------------------------|--------------------------|
|    |    | SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 |                      |  |                                      |                                  |                          |
| 59 | 14 | SB12 SB13 SB14                                | 0603                 |  | MISC 2 PIN JUMPER SOLDER BRIDGE 0603 |                                  | MISC_SOLDERBRIDGE_SM0603 |
| 60 | 1  | TP1                                           | 5127                 |  | TEST POINT PC MULTI PURPOSE BLUE     | Keystone Electronics             | 5127                     |
| 61 | 1  | TP2                                           | 5129                 |  | TEST POINT PC MULTI PURPOSE PRPL     | Keystone Electronics             | 5129                     |
| 62 | 3  | TP3 TP14 TP19                                 | YELLOW               |  | TEST POINT PC COMPACT .063"D YEL     | Keystone Electronics             | 5009                     |
| 63 | 3  | TP4 TP15 TP20                                 | BLACK                |  | TEST POINT PC COMPACT .063"D BLK     | Keystone Electronics             | 5006                     |
| 64 | 4  | TP5 TP6 TP11 TP12                             | RED                  |  | TEST POINT PC COMPACT .063"D RED     | Keystone Electronics             | 5005                     |
| 65 | 4  | TP7 TP10 TP13 TP18                            | BROWN                |  | TEST POINT PC COMPACT T/H BROWN      | Keystone Electronics             | 5120                     |
| 66 | 2  | TP8 TP9                                       | 5010                 |  | TEST POINT PC MULTI PURPOSE RED      | Keystone Electronics             | 5010                     |
| 67 | 1  | TP16                                          | ORANGE               |  | TEST POINT PC COMPACT .063"D ORN     | Keystone Electronics             | 5008                     |
| 68 | 2  | TS1 TS2                                       | 824011               |  | TVS DIODE 5VWM 8.5VC SOT23           | Würth Electronics Inc            | 824011                   |
| 69 | 2  | U1 U6                                         | MC14536BDWG          |  | IC OSC PROG TIMER 2MHZ 16SOIC        | ON Semiconductor                 | MC14536BDWG              |
| 70 | 1  | U2                                            | MC74HC161ADG         |  | IC COUNTER 4BIT PRESET 16SOIC        | ON Semiconductor                 | MC74HC161ADG             |
| 71 | 1  | U3                                            | SN74HC138QDRG4Q1     |  | IC DECODER/DEMUX 3-8LINE 16SOIC      | Texas Instruments                | SN74HC138QDRG4Q1         |
| 72 | 2  | U4 U30                                        | LTC2934ITS8-2#TRMPBF |  | IC SUPERVISOR ADJ LP TSOT23-8        | Linear Technology                | LTC2934ITS8-2#TRMPBF     |
| 73 | 9  | U5 U11 U12 U26 U27 U28 U46 U47 U48            | SN74LVC1G00DBVR      |  | IC NAND GATE 2-IN SOT-23-5           | Texas Instruments                | SN74LVC1G00DBVR          |
| 74 | 2  | U7 U13                                        | TPS7A1650DGNR        |  | IC REG LDO 5V 0.1A 8MSOP             | Texas Instruments                | TPS7A1650DGNR            |
| 75 | 1  | U8                                            | MC74HC174ADG         |  | IC FF D-TYPE SNGL 6BIT 16SOIC        | ON Semiconductor                 | MC74HC174ADG             |
| 76 | 1  | U9                                            | 74LVC1G27GV,125      |  | IC GATE NOR 1CH 3-INP 6TSOP          | Nexperia USA Inc.                | 74LVC1G27GV,125          |
| 77 | 1  | U10                                           | SN74LVC1G74DCUR      |  | IC SGL POS EDG TRIG D F-F U58        | Texas Instruments                | SN74LVC1G74DCUR          |
| 78 | 6  | U14 U16 U18 U34 U36 U38                       | ADG802BRTZ-500RL7    |  | IC SWITCH SPST SOT23-6               | Analog Devices Inc.              | ADG802BRTZ-500RL7        |
| 79 | 6  | U15 U17 U19 U35 U37 U39                       | ADG1611BRUZ          |  | IC SWITCH QUAD SPST 16TSSOP          | Analog Devices Inc.              | ADG1611BRUZ              |
| 80 | 12 | U20 U21 U22 U23 U24 U25 U40 U41 U42 U43 U44   | LTC4412HV            |  | IC OR CTRLR SRC SELECT TSOT23-6      | Linear Technology/Analog Devices | LTC4412HV                |
| 81 | 2  | U29 U31                                       | TCA6408APWR          |  | IC I/O EXPANDER I2C 8B 16TSSOP       | Texas Instruments                | TCA6408APWR              |
| 82 | 1  | U32                                           | LTC2946CMS#PBF       |  | IC ENERGY MONITOR I2C 16MSOP         | Linear Technology                | LTC2946CMS#PBF           |
| 83 | 1  | U33                                           | LTC4380IMS-3#PBF     |  | IC LOW CUR SURGE STOPPER 10MSOP      | Linear Technology                | LTC4380IMS-3#PBF         |
| 84 | 1  | U49                                           | LT3010EMS8E#PBF      |  | IC REG LDO ADJ 50MA 8MSOP            | Linear Technology                | LT3010EMS8E#PBF          |
| 85 | 1  | U50                                           | LT1782CS5            |  | IC OPAMP GP 225KHZ RRO TSOT23-5      | Linear Technology                | LT1782CS5#TRMPBF         |
| 86 | 1  | U52                                           | TPS76933DBVR         |  | IC REG LDO 3.3V 0.1A SOT23-5         | Texas Instruments                | TPS76933DBVR             |
| 87 | 1  | U53                                           | PCA9512              |  | IC ACCELERATOR I2C HOTSWAP 8SO       | NXP USA Inc.                     | PCA9512AD,118            |
| 88 | 1  | Y1                                            | 4MHz                 |  | CRYSTAL 4.000MHZ 20PF SMD            | ECS Inc                          | ECS-40-20-5P-TR          |