

| Item                                | Qty | Ref - Des  | Desc                            | Manufacturer's Part Number |
|-------------------------------------|-----|--|---------------------------------|----------------------------|
| <b>REQUIRED CIRCUIT COMPONENTS:</b> |     |  |                                 |                            |
| 1                                   | 8   | CIN1,CIN2,CIN3,CIN4,CIN5,<br>CIN6,CIN7,CIN8  | CAP, 1210 10uF 20% 35V X5R      | AVX 1210DD106MAT2A         |
| 2                                   | 14  | COUT1,COUT2,COUT6,COUT7,<br>COUT9,COUT12,COUT13,<br>COUT14,COUT19,COUT20,<br>COUT24,COUT25,C39,C40 | CAP, 1210 100uF 20% 6.3V X5R    | TDK C3225X5R0J107M         |
| 3                                   | 12  | COUT3,COUT4,COUT5,COUT8,<br>COUT10,COUT11,COUT15,<br>COUT16,COUT17,COUT18,<br>COUT22,COUT23        | CAP, 7343 330uF 20% 6.3V POSCAP | SANYO 6TPF330M9L           |
| 4                                   | 3   | C3,C25,C29   | CAP, 0603 1uF 20% 25V X5R       | AVX 06033D105KAT2A         |
| 5                                   | 2   | C1,C2  | CAP, 270uF 20% 16V OSCON        | PANASONIC 16SVPC270M       |
| 6                                   | 4   | C4,C30,C31,C46   | CAP, 0603 4.7uF 10% 10V X5R     | AVX 0603ZD475KAT2A         |
| 7                                   | 1   | C5   | CAP, 0603 10nF 10% 16V X7R      | AVX 0603YC103KAT2A         |
| 8                                   | 5   | C7,C8,C18,C32,C36,   | CAP, 0603 0.1uF 10% 25V X5R     | AVX 06033C104KAT2A         |
| 9                                   | 6   | C10,C12,C20,C24,C33,C35  | CAP, 0603 220nF 10% 25V X7R     | TDK C1608X7R1E224K         |
| 10                                  | 1   | C15  | CAP, 0603 220pF 5% 50V C0G      | AVX 06035A221JAT2A         |
| 11                                  | 1   | C16  | CAP, 0603 2.2nF 5% 50V C0G      | MURATA GRM1885C1H222JA01D  |
| 12                                  | 1   | C34  | CAP, 0603 100pF 10% 16V X7R     | AVX 0603YC101KAT2A         |
| 13                                  | 1   | D1,D2,D3,D4  | DIODE, SCHOTTKY 30V, 100mA      | CENTRAL SEMI CMDSH-3-TR    |
| 14                                  | 4   | L1,L2,L3,L4  | IND, 0.25uH                     | WURTH ELEKTRONIK 744301025 |
| 15                                  | 4   | Q1,Q5,Q10,Q15  | XSTR, POWER MOSFET              | INFINEON BSC050NE2LS       |
| 16                                  | 4   | Q3,Q7,Q13,Q17  | XSTR, POWER MOSFET              | INFINEON BSC010NE2LSI      |
| 17                                  | 1   | Q19  | XSTR, N-CHANNEL DMOS FET        | FAIRCHILD 2N7002A          |
| 18                                  | 2   | Q20,Q21  | XSTR, MOSFET, N-CHANNEL 30V     | VISHAY SUD50N04-8M8P-4GE3  |
| 19                                  | 1   | R1   | RES, 0603 20K OHMS 5% 1/10W     | VISHAY CRCW060320K0JNEA    |
| 20                                  | 1   | R2   | RES, 0603 3.01k OHMS 1% 1/10W   | VISHAY CRCW06033K01FKEA    |
| 21                                  | 1   | R3   | RES, 0603 1K OHMS 5% 1/10W      | VISHAY CRCW06031K00JNEA    |
| 22                                  | 3   | R4,R51,R85   | RES, 0603 2.2 OHMS 5% 1/10W     | VISHAY CRCW06032R20JNEA    |
| 23                                  | 2   | R6,R14   | RES, 0603 10 OHMS 1% 1/10W      | VISHAY CRCW060310R0FKEA    |
| 24                                  | 4   | R8,R28,R58,R66   | RES, 0603 715 OHMS 1% 1/10W     | VISHAY CRCW0603715RFKEA    |
| 25                                  | 2   | R9,R27   | RES, 0603 3.57k OHMS 1% 1/10W   | VISHAY CRCW06033K57FKEA    |
| 26                                  | 13  | R10,R13,R24,R50,R53,R54,<br>R56,R57,R59,R60,R61,R65,<br>R67  | RES, 0603 0 OHMS JUMPER         | VISHAY CRCW06030000Z0EA    |
| 27                                  | 1   | R12  | RES, 0603 13.3k OHMS 1% 1/10W   | VISHAY CRCW060313K3FKEA    |
| 28                                  | 1   | R17  | RES, 0603 20k OHMS 1% 1/10W     | VISHAY CRCW060320K0FKEA    |

|  |   |   |  |                                |
|--|---|---|--|--------------------------------|
| 29   | 1 | R21   | RES, 0603 4.02K OHMS 1% 1/10W                        | VISHAY CRCW06034K02FKEA        |
| 30   | 3 | R33,R42,R69   | RES, 0603 100K OHMS 1% 1/10W                         | VISHAY CRCW0603100KFKEA        |
| 31   | 1 | R45   | RES, 0603 5k OHMS 5% 1/10W                           | VISHAY CRCW06035K00JNEA        |
| 32   | 2 | R46,R47   | RES, 0603 10K OHMS 1% 1/10W                          | VISHAY CRCW060310K0FKEA        |
| 33   | 1 | R63   | RES, 0603 75k OHMS 5% 1/10W                          | VISHAY CRCW060375K0JNEA        |
| 34   | 1 | R102  | RES, 0603 237K OHMS 1% 1/10W                         | VISHAY CRCW0603237KFKEA        |
| 35   | 1 | SW1   | SWITCH, SUBMINATURE SLIDE                            | C&K JS202011CQN                |
| 36   | 1 | U1  | IC, DUAL, 2-PHASE, SYNCHRONOUS REGULATORS            | LINEAR TECH. LTC3875EUJ#PBF-ES |
| 37   | 1 | U2  | IC, POLYPHASE STEP-DOWN SYNCHRONOUS SLAVE CONTROLLER | LINEAR TECH.LTC3874IUFD#PBF    |
| <b>ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS:</b> |   |   |  |                                |
| 1  | 0 | COUT27,COUT28,COUT29,<br>COUT30,COUT31,COUT32,<br>COUT33,COUT34,COUT35,<br>COUT36,COUT37,COUT38,<br>COUT39,COUT40,COUT41,<br>COUT42,COUT43,COUT44,<br>COUT45,COUT46 | CAP, 1210 OPTION                                     | OPTION                         |
| 2  | 0 | C9,C11,C26,C27,C28  | CAP, 0603 OPTION                                     | OPTION                         |
| 3  | 4 | C43,C44,C47,COUT21,   | CAP, 0603 1uF 20% 25V X5R                            | AVX 06033D105KAT2A             |
| 4  | 1 | C37   | CAP, 0805 10uF 10% 16V X5R                           | MURATA GRM21BR61C106KE15L      |
| 5  | 1 | C38   | CAP, 0805 22uF 10% 10V X5R                           | TDK C2012X5R1A226K             |
| 6  | 1 | C42   | CAP, 0603 150pF 5% 50V NPO                           | AVX 06035A151JAT2A             |
| 7  | 2 | C41,C45   | CAP, 0603 0.1uF 10% 25V X5R                          | AVX 06033C104KAT2A             |
| 8  | 1 | C48   | CAP, 0603 22pF 2% 50V C0G                            | MURATA GRM1885C1H220GA01D      |
| 9  | 1 | D5  | DIODE, SCHOTTKY 30V, 100mA                           | CENTRAL SEMI CMDSH-3-TR        |
| 10   | 1 | L5  | IND, 3.3uH   | WURTH ELEKTRONIK 744043003     |
| 11   | 0 | Q2,Q4,Q6,Q8,Q11,Q14,Q16,<br>Q18   | XSTR, POWER MOSFET OPTION                            | OPTION                         |
| 12   | 2 | R88,R92   | RES, 0603 20K OHMS 5% 1/10W                          | VISHAY CRCW060320K0JNEA        |
| 13   | 2 | R68,R87   | RES, 0603 0 OHMS JUMPER                              | VISHAY CRCW06030000Z0EA        |
| 14   | 0 | RN1,RN2   | THERMISTOR, OPTION                                   | OPTION                         |
| 15   | 0 | R5,R7,R11,R15,R16,R18,<br>R19,R34,R35,R37,R39,R40,<br>R41,R43,R44,R48,R49,R52,<br>R55,R62,R64,R70,R76,R101,<br>R104,R105  | RES, 0603 OPTION                                     | OPTION                         |
| 16   | 2 | R77,R94   | RES, 0603 10K OHMS 1% 1/10W                          | VISHAY CRCW060310K0FKEA        |
| 17   | 1 | R80   | RES, 0603 187k OHM 1% 1/10W                          | VISHAY CRCW0603187KFKEA        |
| 18   | 1 | R83   | RES, 0603 23.2K OHMS 1% 1/10W                        | VISHAY CRCW060323K2FKEA        |

|                 |    |  |  |                                  |
|-----------------|----|--|--|----------------------------------|
| 19              | 1  | R89  | RES, 0603 3.3 OHMS 1% 1/10W                    | VISHAY CRCW06033R30FNEA          |
| 20              | 1  | R90  | RES, 0603 154k OHMS 1% 1/10W                   | VISHAY CRCW0603154KFKEA          |
| 21              | 1  | R91  | RES, 0603 1M OHMS 5% 1/10W                     | VISHAY CRCW06031M00JNEA          |
| 22              | 1  | R93  | RES, 0603 681K OHMS 1% 1/10W                   | VISHAY CRCW0603681KFEA           |
| 23              | 2  | R95,R100                                     | RES, 0603 301 OHMS 1% 1/10W                    | VISHAY CRCW0603301RFKEA          |
| 24              | 1  | R96  | RES, 0603 82.5 OHMS 5% 1/10W                   | VISHAY CRCW060382R5FKEA          |
| 25              | 2  | R97,R98                                      | RES, 2512 0.01 OHMS 1% 1W                      | VISHAY WSL2512R0100FEA           |
| 26              | 1  | R99  | RES, VARIABLE 5K                               | BOURNS 3386P-1-502-LF            |
| 27              | 1  | UD1  | IC, Oscillator with Spread Spectrum Modulation | LINEAR TECH. LTC6908S6-1#PBF     |
| 28              | 1  | U3   | IC, 17V, 1A Synchronous Step-Down Regulator    | LINEAR TECH. LTC3621EDCB-2#PBF   |
| 29              | 1  | U4   | IC, VOLTAGE-CONTROLLED PULSE WIDTH MODULATOR   | LINEAR TECH. LTC6992IS6-1        |
| 30              | 1  | U5   | IC, SINGLE OP AMP                              | LINEAR TECH. LT1803IS5           |
| <b>HARDWARE</b> |    |  |  |                                  |
| 1               | 12 | E1,E2,E3,E4,E5,E6,E7,E11,<br>E13,E14,E15,E16 | TURRET   | MILL MAX 2501-2-00-80-00-00-07-0 |
| 2               | 1  | JP1  | HEADER, 4PIN                                   | SAMTEC TMM-104-02--L-S           |
| 3               | 2  | JP6,JP7                                      | HEADER, SINGLE ROW 3PIN                        | SAMTEC TMM-103-02-L-S            |
| 4               | 6  | J1,J2,J3,J4,J5,J6                            | STUD, TEST PIN                                 | PEM KFH-032-10                   |
| 5               | 2  | J7,J9  | CONN, BNC, 5 PINS                              | CONNEX 112404                    |
| 6               | 6  |  | LUG RING, #10                                  | KEYSTONE 8205                    |
| 7               | 4  | MH1,MH2,MH3,MH4                              | STANDOFF, SNAP ON                              | KEYSTONE 8834                    |
| 8               | 12 |  | NUT, BRASS 10-32                               | ANY #10-32                       |
| 9               | 6  |  | WASHER, #10 TIN PLATED BRASS                   | ANY #10 EXT BZ TN                |
| 10              | 3  | JP1,JP6,JP7                                  | SHUNT  | SAMTEC 2SN-BK-G                  |