

STEVAL-ISA170V1 Evaluation board: mother board bill of material

| Des. | Part Number      | Description                                    | Case                | Supplier           |
|------|------------------|--|---------------------|--------------------|
| C1   | 470nF-X2         | X2 - FILM CAP - B32922C3474K                   | 9.0 x 18.0 p15mm    | EPCOS              |
| C2   | 2n2-Y1           | Y1 SAFETY CAP. CD12-E2GA222MYGSA               | p10mm               | EPCOS              |
| C3   | 2n2-Y1           | Y1 SAFETY CAP. CD12-E2GA222MYGSA               | p10mm               | EPCOS              |
| C4   | 470nF-X2         | X2 - FILM CAP - B32922C3474K                   | 9.0 x 18.0 p15mm    | EPCOS              |
| C5   | 470nF - 520V     | 520V - FILM CAP - B32673Z5474K                 | 7.0 x 26.5 p22.5mm  | EPCOS              |
| C7   | 100nF            | 100V CERCAP - GENERAL PURPOSE                  | PTH                 | AVX                |
| C8   | 10uF-50V         | ALUMINIUM ELCAP - YXF SERIES - 105°C           | DIA 5.0 x 11 p2mm   | RUBYCON            |
| C9   | 100uF - 450V     | ALUMINIUM ELCAP - UPZ SERIES - 105°C           | DIA 18 x 32 mm      | NICHICON           |
| C10  | 560pF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C11  | 2n2              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C12  | 1uF              | 25V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C13  | 470nF            | 25V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C14  | 33nF             | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C15  | 47uF-50V         | ALUMINIUM ELCAP - YXF SERIES - 105°C           | DIA 6.3 x 11 p2.5mm | RUBYCON            |
| C16  | 2n2              | 50V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C17  | 330pF            | 50V - 5% - COG - CERCAP                        | SMD 0805            | AVX                |
| C18  | 4.7uF            | 25V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C19  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C20  | 2n2-Y1           | Y1 SAFETY CAP. CD12-E2GA222MYGSA               | p10mm               | EPCOS              |
| C21  | 2n2-Y1           | Y1 SAFETY CAP. CD12-E2GA222MYGSA               | p10mm               | EPCOS              |
| C22  | 220pF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C23  | 10nF             | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C24  | 330uF-50V        | ALUMINIUM ELCAP - YXF SERIES - 105°C           | DIA10 x 20 p5mm     | RUBYCON            |
| C25  | 1n5              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C26  | 10uF-50V         | ALUMINIUM ELCAP - YXF SERIES - 105°C           | DIA 5.0 x 11 p2 mm  | RUBYCON            |
| C27  | 220pF-630V       | 630V CERCAP - GRM31A7U2J221JW31                | SMD 1206            | MURATA             |
| C28  | 22nF             | 1KV - FILM CAP - B32652A223K                   | 5.0 x 18.0 p15mm    | EPCOS              |
| C29  | 470uF-16V        | 16V ALUMINIUM CAP 16SEPC470M                   | DIA 10 X 13 p5mm    | SANYO              |
| C30  | 470uF-16V        | 16V ALUMINIUM CAP 16SEPC470M                   | DIA 10 x 13 p5mm    | SANYO              |
| C32  | 10nF             | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C33  | 1n5              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C34  | 8n2              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C36  | 330nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C37  | 470uF-16V        | 16V ALUMINIUM CAP 16SEPC470M                   | DIA 10 x 13 p5mm    | SANYO              |
| C38  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C39  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C40  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| C42  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C43  | 4n7              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C44  | 1nF              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C45  | 220nF            | 25V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C47  | 1n0              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C48  | 1n0              | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C49  | 470uF-16V        | 16V ALUMINIUM CAP 16SEPC470M                   | DIA 10 x 13 p5mm    | SANYO              |
| C50  | 470uF-16V        | 16V ALUMINIUM CAP 16SEPC470M                   | DIA 10 x 13 p5mm    | SANYO              |
| C51  | 100nF            | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C52  | 1n0              | 25V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C53  | 4.7uF - 25V      | 25V CERCAP X7R - GENERAL PURPOSE               | SMD 1206            | MURATA             |
| C54  | 4.7uF - 25V      | 25V CERCAP X7R - GENERAL PURPOSE               | SMD 1206            | MURATA             |
| C55  | 4.7uF - 25V      | 25V CERCAP X7R - GENERAL PURPOSE               | SMD 1206            | MURATA             |
| C56  | 4.7uF - 25V      | 25V CERCAP X7R - GENERAL PURPOSE               | SMD 1206            | MURATA             |
| C57  | 4.7uF - 25V      | 25V CERCAP X7R - GENERAL PURPOSE               | SMD 1206            | MURATA             |
| C58  | 15nF             | 50V CERCAP - GENERAL PURPOSE                   | SMD 0805            | AVX                |
| C59  | 2n7              | 50V CERCAP - GENERAL PURPOSE                   | SMD 1206            | AVX                |
| D1   | GBU8J            | SINGLE PHASE BRIDGE RECTIFIER                  | STYLE GBU           | VISHAY             |
| D2   | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D3   | 1N4005           | GENERAL PURPOSE RECTIFIER                      | DO-41 DO - 41       | VISHAY             |
| D4   | STTH5L06         | ULTRAFAST HIGH VOLTAGE RECTIFIER               | DO-201              | STMICROELECTRONICS |
| D5   | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D6   | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D7   | BAT46Z           | POWER SCHOTTKY DIODE                           | SOD-123             | STMICROELECTRONICS |
| D9   | STPS2H100A       | POWER SCHOTTKY DIODE                           | SMB                 | STMICROELECTRONICS |
| D12  | BZV55-C43        | ZENER DIODE                                    | MINIMELF SOD-80     | VISHAY             |
| D14  | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D18  | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D19  | LL4148           | HIGH SPEED SIGNAL DIODE                        | MINIMELF SOD-80     | VISHAY             |
| D20  | BZV55-B15        | ZENER DIODE                                    | MINIMELF SOD-80     | VISHAY             |
| D21  | BAT46Z           | HIGH SPEED SIGNAL DIODE                        | SOD-123             | VISHAY             |
| D23  | 1N4148WS         | HIGH SPEED SIGNAL DIODE                        | SOD-323             | VISHAY             |
| F1   | FUSE T4A         | FUSE 4A - TIME LAG - 3921400                   | 8.5x4 p.5.08mm      | LITTLEFUSE         |
| HS1  | HEAT-SINK        | HEAT SINK FOR D1, Q1, Q3, Q4                   | DWG                 |                    |
| J1   | MKDS 1,5/ 3-5,08 | PCB TERM. BLOCK, SCREW CONN., PITCH 5MM - 3 W. | DWG                 | PHOENIX CONTACT    |
| J2   | FASTON           | FASTON - CONNECTOR                             | DWG                 |                    |

| J3   | FASTON       | FASTON - CONNECTOR                                  | DWG      |                    |
|------|--------------|---|----------|--------------------|
| JPX1 | Jumper       |   |          |                    |
| L1   | 2019.0002    | INPUT EMI FILTER                                    | DWG      | MAGNETICA          |
| L2   | 1975.0004    | PFC INDUCTOR - 0.31mH - PQ26/25                     | DWG      | MAGNETICA          |
| Q1   | STF24N60M2   | N-CHANNEL POWER MOSFET                              | TO-220FP | STMICROELECTRONICS |
| Q2   | BC857        | PNP SMALL SIGNAL BJT                                | SOT-23   | VISHAY             |
| Q3   | STF9N60M2    | N-CHANNEL POWER MOSFET                              | TO-220FP | STMICROELECTRONICS |
| Q4   | STF9N60M2    | N-CHANNEL POWER MOSFET                              | TO-220FP | STMICROELECTRONICS |
| Q8   | BC847C       | NPN SMALL SIGNAL BJT                                | SOT-23   | VISHAY             |
| Q9   | BC847C       | NPN SMALL SIGNAL BJT                                | SOT-23   | VISHAY             |
| R1   | 6M8          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R2   | 5M6          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R3   | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R5   | 75R          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R6   | NTC 2R5-S237 | NTC RESISTOR P/N B57237S0259M000                    | DWG      | EPCOS              |
| R7   | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R8   | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R9   | 160k         | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R10  | 56k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R11  | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R12  | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R13  | 9k1          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R14  | 100k         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R15  | 56k          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R17  | 2M2          | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R18  | 120k         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R19  | 56k          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R20  | 33R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R21  | 22R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R22  | 0R22         | RSMF1TB - METAL FILM RES - 1W - 2% - 250ppm/°C      | PTH      | AKANEOHM           |
| R23  | 0R22         | RSMF1TB - METAL FILM RES - 1W - 2% - 250ppm/°C      | PTH      | AKANEOHM           |
| R24  | 1M0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R25  | 56R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R26  | 1M0          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R27  | 470R         | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R28  | 33k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R29  | 1K0          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R30  | 10R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R31  | 18k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R32  | 560R         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R34  | 15k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R35  | 180k         | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R36  | 2M7          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R37  | 220k         | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R38  | 56R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R40  | 4R7          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R41  | 100R         | SFR25 AXIAL STAND. FILM RES - 0.4W - 5% - 250ppm/°C | PTH      | VISHAY             |
| R42  | 3k3          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R43  | 1k0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R44  | 6k2          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R45  | 3R3          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R46  | 100k         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R48  | 27k          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R49  | 91k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 1206 | VISHAY             |
| R50  | 12k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R51  | 91k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R52  | 1k5          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R53  | 2k2          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R54  | 0R0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R55  | 2k7          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R57  | R002         | SMD - ERJM1WTF2M0U                                  | 2512     | PANASONIC          |
| R58  | 100k         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R59  | 100k         | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R60  | 10k          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R61  | 30k          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R63  | 0R0          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R64  | 10M          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R68  | 5k6          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R69  | 5k6          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R70  | 22k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R71  | 1k0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R72  | 68k          | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C            | SMD 0805 | VISHAY             |
| R73  | 22R          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R75  | 0R0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R76  | 33k          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R77  | 1k0          | SMD STD FILM RES - 1/8W - 5% - 250ppm/°C            | SMD 0805 | VISHAY             |
| R78  | 33R          | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |
| R79  | 270R         | SMD STD FILM RES - 1/4W - 5% - 250ppm/°C            | SMD 1206 | VISHAY             |

|     |   |  |                 |                    |
|-----|---|--|-----------------|--------------------|
| R80 | 15k   | SMD STD FILM RES - 1/4W - 1% - 100ppm/°C | SMD 0805        | VISHAY             |
| R81 | 2k2   | SMD STD FILM RES - 1/8W - 1% - 100ppm/°C | SMD 0805        | VISHAY             |
| T1  | 1860.0069   | RESONANT POWER TRANSFORMER               | DWG - ETD34     | MAGNETICA          |
| U1  | L6563H  | HVS TM PFC CONTROLLER                    | SO-16           | STMICROELECTRONICS |
| U2  | L6699D  | IMPROVED HV RESONANT CONTROLLER          | SO-16           | STMICROELECTRONICS |
| U3  | SFH617A-2   | OPTOCOUPLER                              | DIP-4 - 10.16MM | INFINEON           |
| U4  | SFH617A-2   | OPTOCOUPLER                              | DIP-4 - 10.16MM | INFINEON           |
| U5  | TSM1014AIST                                       | LOW CONSUMPTION CV/CC CONTROLLER         | MINI S0-8       | STMICROELECTRONICS |
|     | <b>Suggested<br/>Repalcement:<br/>TSM1014AIDT</b> |  | S0-8            |                    |
| U6  | TSC101CILT  | HIGH SIDE CURRENT SENSE AMPLIFIER        | SOT23-5         | STMICROELECTRONICS |

Daughter board bill of material

| Des.  | Part Number  | Description                              | Supplier           | Case       |
|-------|--------------|--|--------------------|------------|
| Q501  | STL140N4LLF5 | N-CHANNEL POWER MOSFET                   | STMICROELECTRONICS | POWER FLAT |
| Q502  | STL140N4LLF5 | N-CHANNEL POWER MOSFET                   | STMICROELECTRONICS | POWER FLAT |
| R501  | 0R           | SMD STD FILM RES - 1/8W - 1% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| R503  | 0R           | SMD STD FILM RES - 1/8W - 5% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| R504  | 100R         | SMD STD FILM RES - 1/8W - 5% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| R505  | 100R         | SMD STD FILM RES - 1/8W - 5% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| R506  | 0R           | SMD STD FILM RES - 1/8W - 5% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| R507  | 0R           | SMD STD FILM RES - 1/8W - 5% - 200ppm/°C | BC COMPONENTS      | SMD 0805   |
| U501  | SRK2001      | SRK2001 SR CONTROLLER                    | STMICROELECTRONICS | SSOP10     |
| JP501 | HEADER 13    | 13 pin connector, 2.54mm-male-90degree   | MOLEX              |            |