

PROJECT NAME:

STEVAL-ILL042V1

## BILL OF MATERIALS

| Item | Quantity | Reference                              | Part / Value       | Tolerance % | Voltage Current | WATT | TECNOLOGY information                    | Package      | Manufacturer     | Manufacturer Code    | RS/Distelec/Other Code                |
|------|----------|--|--------------------|-------------|-----------------|------|--|--------------|------------------|----------------------|---------------------------------------|
| 1    | 1        | BR1                                    | 2KBP10M 2A 1000V   |             | 1000V/2A        |      |  |              | Vishay           | 2KBP10M-E4/51        | RS code : 629-6099                    |
| 2    | 2        | C1B,C1A,C13                            | 100nF              | 10%         | 305V            |      | X2 Capacitor                             | Through Hole | Any              |                      | RS code: 334-596                      |
| 3    | 3        | C9,C10,C24                             | 330uF              | +/-20%      | 160V            |      | Low ESR Electrolytic Capacitor           | Through Hole | Any              |                      | Distrelec code: 802645                |
| 4    | 1        | C14                                    | 1nF                | +/-10%      | 25V             |      | Ceramic capacitor X7R                    | SMD 0805     |                  |                      |                                       |
| 5    | 1        | C15                                    | 47uF               | +/-20%      | 35V             |      | Electrolytic Capacitor                   | Through Hole | Any              |                      | RS code: 744-2079                     |
| 6    | 1        | C16                                    | 2.2nF              | +/-20%      | 250V            |      | Y1 Capacitor                             | Through Hole | Any              |                      | RS code: 214-5903                     |
| 7    | 1        | C17                                    | 2.2nF              | +/-10%      | 50V             |      | Ceramic capacitor X7R                    | SMD 0805     |                  |                      |                                       |
| 8    | 2        | C18,C25                                | 100nF              | +/-10%      | 50V             |      | Ceramic capacitor X7R                    | SMD 0805     |                  |                      |                                       |
| 9    | 2        | C19,C29                                | 1uF                | +/-10%      | 50V             |      | Ceramic capacitor X7R                    | SMD 0805     |                  |                      |                                       |
| 10   | 1        | C20                                    | 100nF              | +/-10%      | 630V            |      | Metallized Polypropylene Film Capacitors | Through Hole | Any              |                      | RS code: 190-8371                     |
| 11   | 1        | C21                                    | 1nF                | +/-20%      | 250V            |      | Y1 Capacitor                             | Through Hole | Any              |                      | RS code: 214-5896                     |
| 12   | 1        | C22                                    | 4.7uF              | +/-20%      | 160V            |      | Electrolytic Capacitor                   | Through Hole | Any              |                      | RS code: 365-4559                     |
| 13   | 1        | C23                                    | 150pF              | +/-10%      | 25V             |      | Ceramic capacitor X7R                    | SMD 0805     |                  |                      |                                       |
| 14   | 2        | C27,C28                                | 1uF 50V            | +/-20%      | 50V             |      | Metallized Polyester Capacitors          | Through Hole | Any              |                      | RS code: 118-038                      |
| 15   | 1        | D1                                     | STTH1L06A          |             |                 |      | Turbo 2 ultrafast high voltage rectifier | SMA          | ST               | STTH1L06A            |                                       |
| 16   | 4        | D3,D4,D7,D8                            | LL4148             |             |                 |      | Switching diode                          | SOD-80       | Any              |                      | Distrelec code: 601496                |
| 17   | 1        | D5                                     | STTH2L06           |             |                 |      | STTH2L06                                 | DO-41        | ST               | STTH2L06             |                                       |
| 18   | 1        | D6                                     | 1.5KE350A          |             |                 |      | TRANSIL                                  | DO-201       | ST               | 1.5KE350A            |                                       |
| 19   | 1        | D9                                     | 24V                |             | 24V             | 0.5W | Zener diode                              | SOD-80       | Any              |                      | Distrelec: 600874                     |
| 20   | 1        | F1                                     | FUSE               |             | 250V/3.15A      |      | Radial microfuse                         | Through Hole | Any              |                      | RS code: 611-0333                     |
| 21   | 1        | ISO1                                   | PC817              |             |                 |      | Opto coupler                             | Through Hole | Any              |                      | RS code: 666-6612                     |
| 22   | 1        | J1                                     | CON2               |             |                 |      | 2 way screw terminal block 5.08mm pitch  | THT 5.08 mm  | ANY              |                      | RS code: 193-0586                     |
| 23   | 1        | J3                                     | CON3               |             |                 |      | 3 way screw terminal block 5.08mm pitch  | 7.62mm       | Phoenix Contact  | GMKDS 3/3-7.62       | RS code: 189-5972                     |
| 24   | 1        | L3                                     | 2x20mH, 1.5A       |             | 230V/1.5A       |      | Common mode choke                        | THT          | Würth Elektronik | 744823220            | RS code: 489-0302                     |
| 25   | 1        | L4                                     | 15uH               |             | 2.8A            |      | Inductor                                 | SMD          | TDK              | SLF12555T-150M2R8-PF | Digikey code:<br>SLF12555T150M2R8P-ND |
| 26   | 1        | Q1                                     | STP7N95K3          |             |                 |      | Power MOSFET                             | TO-220       | ST               | STP7N95K3            |                                       |
| 27   | 1        | R4                                     | 10 Ohm             | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 28   | 1        | R35                                    | 10 Ohm             | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 29   | 1        | R5                                     | 68 kOhm            | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 30   | 2        | R19,R32                                | 68 kOhm            | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 31   | 3        | R14,R16,R33                            | 3.3 kOhm           | 5%          |                 | 1W   | Resistor                                 | Through Hole | TE Connectivity  | ROX1SJ3K3            | RS code:214-1210                      |
| 32   | 1        | R15                                    | 100 Ohm            | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 33   | 1        | R17                                    | 1.5 kOhm           | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 34   | 1        | R18                                    | 15 kOhm            | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 35   | 1        | R20                                    | 47kOhm             | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 36   | 1        | R21                                    | 0 Ohm              | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 37   | 1        | R22                                    | 82 kOhm            | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 38   | 1        | R23                                    | 30 kOhm            | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 39   | 1        | R24                                    | 2.2kOhm            | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 40   | 2        | R25,R44                                | 1.1Ohm             | +/-1%       |                 | 0.6W | Resistor MBB                             | Through Hole | Vishay           | 231291511108         | RS code: 506-4346                     |
| 41   | 2        | R26,R30                                | 1 MOhm             | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 42   | 1        | R29                                    | 1 MOhm             | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 43   | 1        | R27                                    | 8.2 kOhm           | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 44   | 3        | R28,R31,R34                            | 100 kOhm           | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 45   | 1        | R36                                    | 680k               | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 46   | 1        | R37                                    | 20 kOhm            | +/-1%       |                 | 1/4W | Resistor                                 | SMD 1206     |                  |                      |                                       |
| 47   | 2        | R38,R41                                | 10K                | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 48   | 1        | R39                                    | 18 Ohm             | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 49   | 2        | R40,R43                                | 1.2 Ohm            | +/-1%       |                 | 1/4W | MMA0204 Melf Resistor                    | Melf 0204    | Vishay           | MMA02040C1208FB300   | RS code: 678-7208                     |
| 50   | 1        | R42                                    | 2 kOhm             | +/-1%       |                 | 1/8W | Resistor                                 | SMD 0805     |                  |                      |                                       |
| 51   | 1        | T1                                     | 0.9 mH             |             |                 |      | Flyback transformer                      | THT          | Magnetica        | 1055.0068            |                                       |
| 52   | 1        | U3                                     | L6562AT            |             |                 |      | Transition-mode PFC controller           | SO-8         | ST               | L6562ATD             |                                       |
| 53   | 1        | U5                                     | TSM101             |             |                 |      | Voltage and current controller           | SO-8         | ST               | TSM101/AID           |                                       |
| 54   | 4        | SPACER                                 | SPACER L=10 x 3 mm |             |                 |      | NYLON                                    |              |                  | R.S.-325-687         | R.S.-325-687                          |
| 55   | 4        | ISO metric ivory nylon 6.6 full NUT,M3 | NYLON-NUT          |             |                 |      | NYLON                                    |              |                  | R.S.525-701          | R.S.525-701                           |

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