

Product data sheet

Specifications



Solid state relay, Harmony, 50A, panel mount, zero voltage switching, thermal pad, input 3...32V DC, output 24...300V AC

SSP1A150BDT

Main

| | |
|---------------------------|--------------------------------------|
| Range of product | Harmony Solid State Relays |
| Product or component type | Solid state relay up to 50 A |
| Provided accessory | Thermal pad |
| Device short name | SSP1 |
| Mounting support | Panel |
| Number of phases | 1 phase |
| [In] rated current | 50 A |
| Solid state output type | Zero voltage switching SCR output |
| Output switching mode | Zero voltage switching |

Complementary

| | |
|-------------------------------------|--|
| [Uc] control circuit voltage | 3...32 V DC |
| Minimum switching voltage | 3 V DC turn-on |
| Maximum switching voltage | 1 V DC turn-off |
| Response time | 0.5 cycle (turn-on) 0.5 cycle (turn-off) |
| Input current | 10 mA at 12 V DC |
| Output voltage | 24...300 V AC |
| Load current | 0.15...50 A |
| Transient overvoltage | 600 V |
| Surge current | 625 A for 16.6 ms |
| Maximum I ² t for fusing | 1621 A ² .s for 8.33 ms at 60 Hz 1770 A ² .s for 10 ms at 50 Hz |
| Co-ordination type | Type 1 - 40 A miniature circuit breaker (MCB) - curve B Type 2 - 32 A miniature circuit breaker (MCB) - curve B |
| Maximum leakage current | 1 mA off-state |
| Maximum voltage drop | <1.15 V on-state |
| DV/Dt | 500 V/μs off-state at maximum voltage |
| Power factor | 0.5 (with maximum load) |
| Motor controller rating | 0.75 hp 120 V AC 2 hp 240 V AC |

| | |
|---|---|
| Insulation resistance | 1000 MOhm at 500 V DC |
| Maximum capacitance | 10 pF for input/output |
| Dielectric strength | 4 kV AC for input/output 4 kV AC for input or output to case |
| [Uimp] rated impulse withstand voltage | 6 kV output to case 6 kV input to output |
| Tightening torque | 1.5...1.7 N.m for input 2...2.2 N.m for output |
| Connections - terminals | Screw terminals: 0.2...3.3 mm ² , (AWG 24...AWG 12) with cable end for input Screw terminals: 0.5...5.26 mm ² , (AWG 20...AWG 10) with cable end for output Screw terminals: 0.2...3.3 mm ² , (AWG 24...AWG 12) without cable end for input Screw terminals: 0.5...8.26 mm ² , (AWG 20...AWG 8) without cable end for output Forked type tag connectors: 9.2 x 4 mm for input Ring lugs: 9.2 x 4 mm for input Forked type tag connectors: 11.7 x 4.5 mm for output Ring lugs: 11.7 x 4.5 mm for output |
| Thermal resistance | 0.45 °C/W junction to case |
| Thermal pad impedance | 0.48 °C-in ² /W at 25 psi |
| LED indicator | LED, green for input |
| IP degree of protection | IP20 |
| Safety reliability data | MTTFd = 1875.9 years B10d = 1731395 |
| Net weight | 89.2 g |
| Device presentation | Complete product |

Environment

| | |
|--|--|
| Ambient air temperature for operation | -40...80 °C |
| Ambient air temperature for storage | -40...125 °C |
| Pollution degree | 2 |
| Overvoltage category | III |
| Product certifications | CE UL EAC CSA |
| Marking | CE EAC CSA UL |
| Standards | EN/IEC 62314 CSA C22.2 No 14-13 EN/IEC 60950-1 UL 508 |

Packing Units

| | |
|-------------------------------------|-----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 3.800 cm |
| Package 1 Width | 4.800 cm |
| Package 1 Length | 6.500 cm |
| Package 1 Weight | 97.000 g |
| Unit Type of Package 2 | S01 |
| Number of Units in Package 2 | 30 |
| Package 2 Height | 15.000 cm |

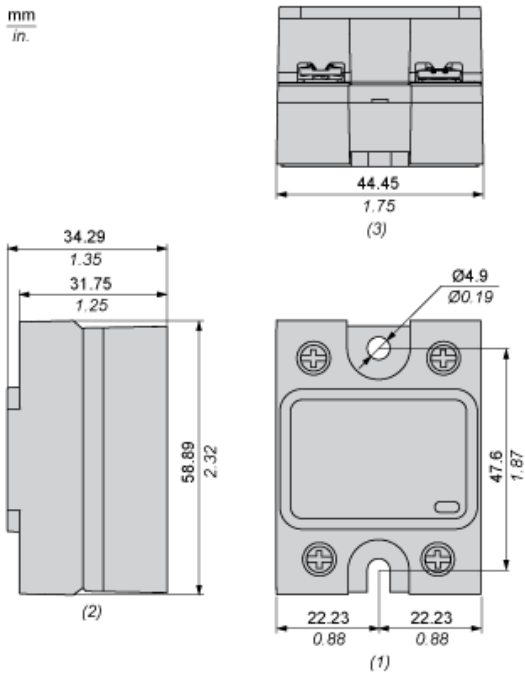
| | |
|------------------|-----------|
| Package 2 Width | 15.000 cm |
| Package 2 Length | 40.000 cm |
| Package 2 Weight | 3.243 kg |

Offer Sustainability

| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS declaration |
| RoHS exemption information | Yes |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |

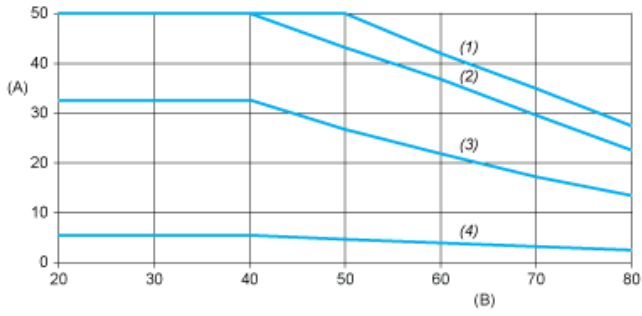
Dimensions

mm
in.



- (1) Front view
- (2) Side view
- (3) Bottom view

Derating Curves



- A :** Load Current (Arms)
- B :** Ambient Temperature (°C)
- (1)** For Heatsink SSRHP07
- (2)** For Heatsink SSRHD10
- (3)** For Heatsink SSRHP17
- (4)** No Heatsink

Recommended replacement(s)