

Product data sheet

Specifications



single phase relay, Harmony Solid State Relays, 50A, panel mount, zero voltage switching, thermal pad, input 4 to 32V DC, output 48 to 660V AC

SSP1A450BDT

Main

Range Of Product	Harmony Solid State Relays
Provided Accessory	Thermal pad
Product Or Component Type	Solid state relay up to 50 A
Device Short Name	SSP1
Mounting Support	Panel
Number Of Phases	1 phase
[In] Rated Current	50 A
Solid State Output Type	SCR output Zero voltage switching
Output Switching Mode	Zero voltage switching

Complementary

Minimum Switching Voltage	4 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	7...12 mA
Load Current	0.15...50 A
Transient Overvoltage	1200 V
Surge Current	625 A 16.6 ms
Maximum I ² T For Fusing	1770 A ² .s 10 ms 50 Hz 1629 A ² .s 8.33 ms 60 Hz
Co-Ordination Type	Type 1 - 40 A miniature circuit breaker (MCB) B Type 2 - 32 A miniature circuit breaker (MCB) 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 5 hp 480 V AC
Insulation Resistance	1000 MOhm 500 V DC
Maximum Capacitance	8 pF input/output

Dielectric Strength	4 kV AC input/output 4 kV AC 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 input 2...2.2 N.m output
Connections - Terminals	Screw terminals 0.2...3.3 mm ² , AWG 24...AWG 12) with cable end input Screw terminals 0.5...5.26 mm ² , AWG 20...AWG 10) with cable end output Screw terminals 0.2...3.3 mm ² , AWG 24...AWG 12) without cable end input Screw terminals 0.5...8.26 mm ² , AWG 20...AWG 8) without cable end output Forked type tag connectors 9.2 x 4 mm input Ring lugs 9.2 x 4 mm input Forked type tag connectors 11.7 x 4.5 mm output Ring lugs 11.7 x 4.5 mm 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 input
Ip Degree Of Protection	IP20
Safety Reliability Data	B10d = 1731395 MTTFd = 1875.9 years
Net Weight	3.15 oz (89.2 g)
Device Presentation	Complete product

Environment

Ambient Air Temperature For Operation	-40...176 °F (-40...80 °C)
Ambient Air Temperature For Storage	-40...257 °F (-40...125 °C)
Pollution Degree	2
Overvoltage Category	III
Product Certifications	UL CE EAC CSA
Marking	EAC UL CE CSA
Standards	CSA C22.2 No 14-13 UL 508 IEC 60950-1 IEC 62314

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	1.50 in (3.800 cm)
Package 1 Width	1.89 in (4.800 cm)
Package 1 Length	2.56 in (6.500 cm)
Package 1 Weight	3.42 oz (97.000 g)
Unit Type Of Package 2	S01
Number Of Units In Package 2	30
Package 2 Height	5.91 in (15.000 cm)

Package 2 Width	5.91 in (15.000 cm)
Package 2 Length	15.75 in (40.000 cm)
Package 2 Weight	7.17 lb(US) (3.250 kg)

Sustainability

Green Premium™ label is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

Well-being performance

Mercury Free

Rohs Exemption Information Yes

Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu Rohs Directive Pro-active compliance (Product out of EU RoHS legal scope)

China Rohs Regulation [China RoHS declaration](#)

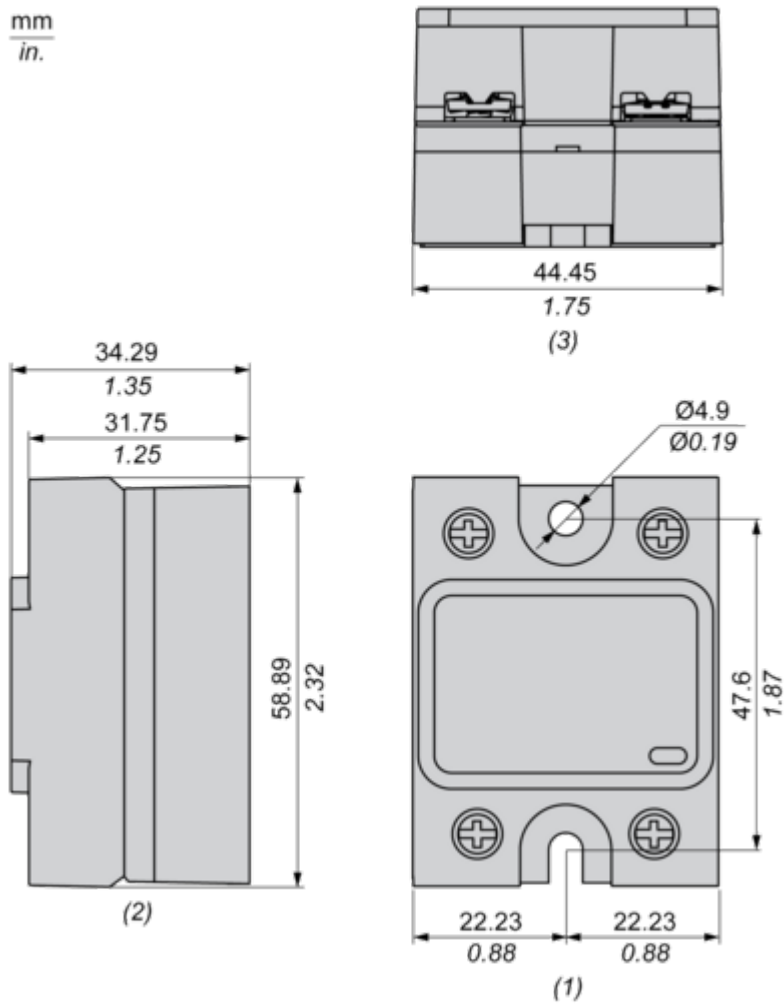
Environmental Disclosure [Product Environmental Profile](#)

Circularity Profile [End of Life Information](#)

Dimensions Drawings

Dimensions

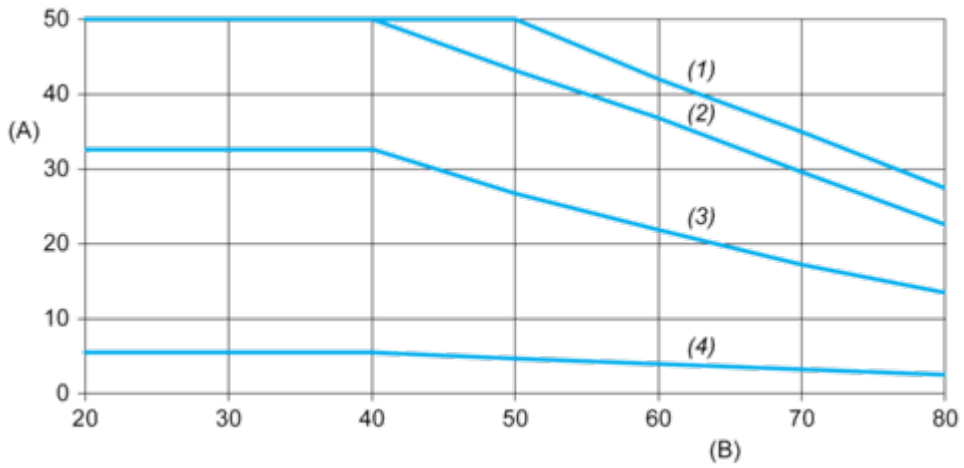
mm
in.



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

Performance Curves

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