

Product data sheet

Specifications



Harmony, Solid state relay, 12 A, panel mount, DC switching, thermal pad, input 3.5...32 V DC, output 1...150 V DC

SSP1D412BDT

Main

Range of product	Harmony Solid State Relays
Product or component type	Solid state relay up to 20 A
Provided accessory	Thermal pad
Device short name	SSP1
Mounting support	Panel
Number of phases	1 phase
[In] rated current	12 A
Solid state output type	DC switching Mosfet output
Output switching mode	DC switching

Complementary

[Uc] control circuit voltage	3.5...32 V DC
Minimum switching voltage	3.5 V DC turn-on
Maximum switching voltage	1 V DC turn-off
Response time	0.1 ms (turn-on) 0.1 ms (turn-off)
Input current	10...15 mA
Output voltage	1...150 V DC
Load current	0.001...12 A
Surge current	31 A for 10 ms
Co-ordination type	Type 1 - 10 A miniature circuit breaker (MCB) - curve B Type 2 - 6 A miniature circuit breaker (MCB) - curve B
Maximum leakage current	0.3 mA off-state
Maximum voltage drop	<2.8 V on-state
Insulation resistance	1000 MOhm at 500 V DC
Maximum capacitance	50 pF for input/output
Dielectric strength	2.5 kV AC for input/output 2.5 kV AC for input or output to case
[Uimp] rated impulse withstand voltage	2.5 kV output to case
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 mm², (AWG 24...AWG 12) with cable end for input Screw terminals: 0.5...5.26 mm², (AWG 20...AWG 10) with cable end for output Screw terminals: 0.2...3.3 mm², (AWG 24...AWG 12) without cable end for input Screw terminals: 0.5...8.26 mm², (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	0.71 °C/W junction to case
Thermal pad impedance	0.48 °C-in²/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 UL EAC CSA
Standards	EN/IEC 62314 UL 508 EN/IEC 60950-1 CSA C22.2 No 14-13

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	94 g
Package 1 Height	3.8 cm
Package 1 width	4.8 cm
Package 1 Length	6.5 cm
Unit Type of Package 2	S01
Number of Units in Package 2	30
Package 2 Weight	3.045 kg
Package 2 Height	15 cm
Package 2 width	15 cm
Package 2 Length	40 cm

Offer Sustainability

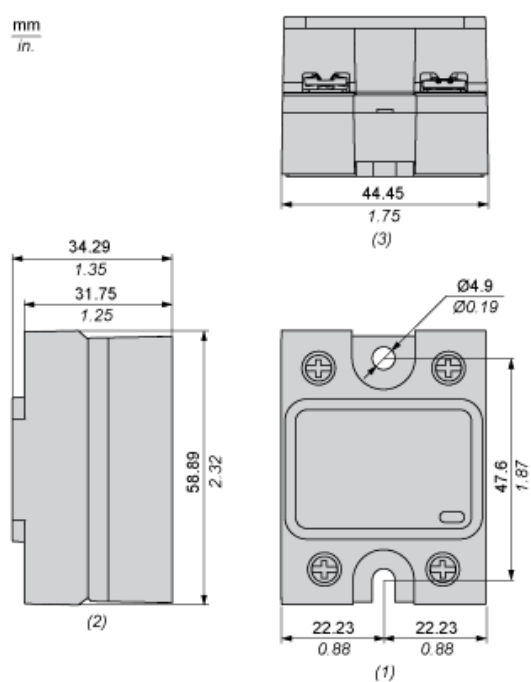
Sustainable offer status	Green Premium product
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REACH Regulation	REACH Declaration
REACH free of SVHC	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration
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 Drawings

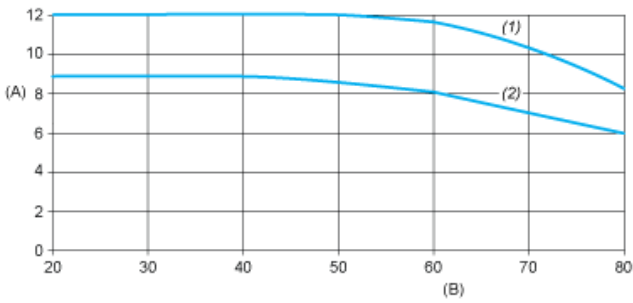
SSP1D412BDT

Dimensions

$$\frac{\text{mm}}{\text{in}}$$


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

Derating Curves



- A : Load Current (Arms)
- B : Ambient Temperature (°C)
- (1) For Heatsink SSRHP25
- (2) No Heatsink