



# Harmony Solid State Relays

Slim interfaces, Modular DIN rail and  
Panel mount solid state relays



# Harmony

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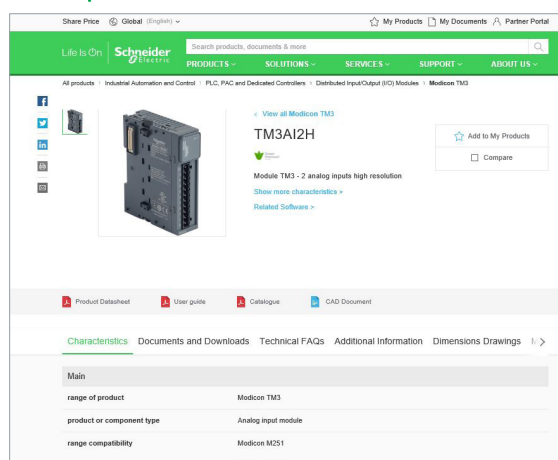
# Quick access to product information

## Get technical information about your product

References

**Modicon TM3**  
I/O expansion modules for Modicon controllers  
Analog I/O modules

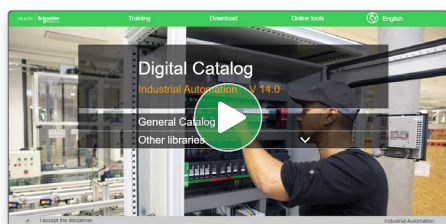
References	Modicon TM3 analog input modules	Number and type of channels	Input range	Output range	Resolution	Input terminal (terminal pitch)	Reference	Weight (kg)
TM3AI2H	2	16-bit VDC	0...+10 VDC	10 000 or 10 000 mVpt	12 bits	5082.2	TMS3AI2H	0.150
							TMS3AI2H0	0.100
TM3AI2H1	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H1	0.150
							TMS3AI2H10	0.100
TM3AI2H2	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H2	0.150
							TMS3AI2H20	0.100
TM3AI2H3	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H3	0.150
							TMS3AI2H30	0.100
TM3AI2H4	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H4	0.150
							TMS3AI2H40	0.100
TM3AI2H5	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H5	0.150
							TMS3AI2H50	0.100
TM3AI2H6	4	16-bit VDC	0...+10 VDC	10 000 mVpt	12 bits	5082.2	TMS3AI2H6	0.150
							TMS3AI2H60	0.100



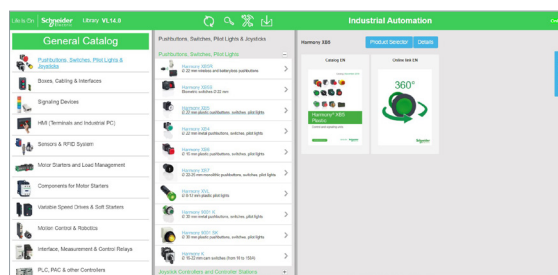
Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

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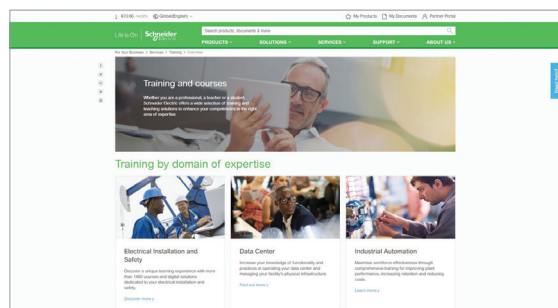


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### Harmony Relays - Solid State Relays

Choose long life and silent operation with Harmony SSRs

#### Maintenance free

fully electronic,  
unlimited life span

#### High switching frequency

allows precise and quick control

#### Silent and reliable switching

no moving parts,  
noiseless switching

#### Sustainability in harsh environment

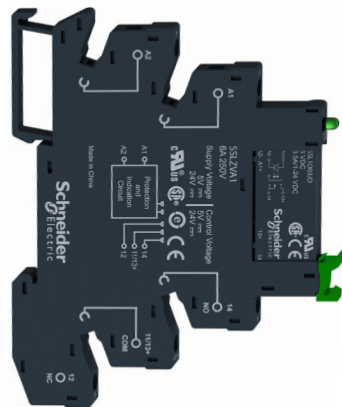
resistance to shock,  
vibration, and  
contamination

The Harmony SSR series offers slim interface (SSL), modular DIN rail (SSD, SSM) and panel mount (SSP) solid state relays that provide complete, compact, and innovative solutions for a wide variety of applications with interfacing control and load switching. They are the ideal solution for packaging, plastic molding, textile, and heating furnace applications.

### Choose a slim interfacing solution with SSL relays

#### Slim relay-socket solution

- > Complete range of control input and load output configurations for both AC and DC switching applications
- > Compact solution with 6 mm/0.236 in. width, allows customers to choose the combination of relays and associated sockets from the wide range available



#### Pre-assembled SSL relays\*

Control input voltage	Load output voltage
~ 4...12 V	~ 1...24 V ~ 1...48 V ~ 24...250 V
~ 16...30 V	~ 1...24 V ~ 1...48 V ~ 24...250 V

\* SSL relays + SSLZ sockets

SSL slim interface relay mounted on SSLZ socket

#### Enhanced performance in any situation

- > Socket with integrated reverse polarity protection circuit and control input/relay status LED indicator
- > IP 67 protection and fully encapsulated



LED indicator for relay status

#### Simplified installation and mounting

- > Locking/unlocking lever for replacing relay from the socket
- > Simple mounting on DIN rail
- > Choice of screw connector and spring terminal connection for sockets



Screw connector



Spring terminal

SSL (1-phase) + SSLZ (socket) → Slim plug-in interface solution

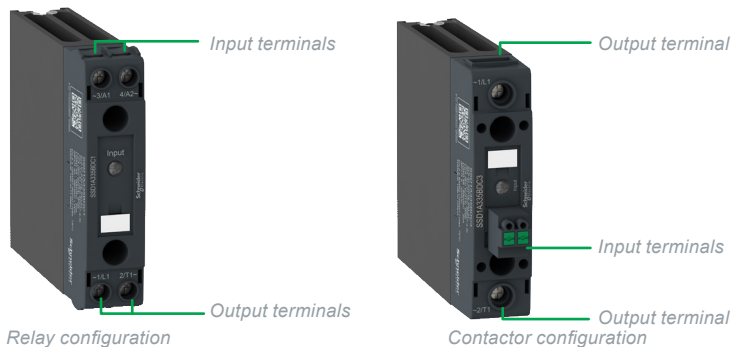
Choose reliability and flexibility with innovative DIN rail mount SSD relays

### Performance

- > High I<sup>2</sup>T (up to 8320 A<sup>2</sup>S) to facilitate the use of circuit breakers instead of fuses, allowing Type 1 coordination protection (as per IEC 60947-4-3)
- > High current rating (up to 35 A for 22.5 mm models, and up to 60 A for 45 mm models) at a compact size, optimizing the size of your enclosure
- > Surge protection from applications with built-in transient overvoltage protection

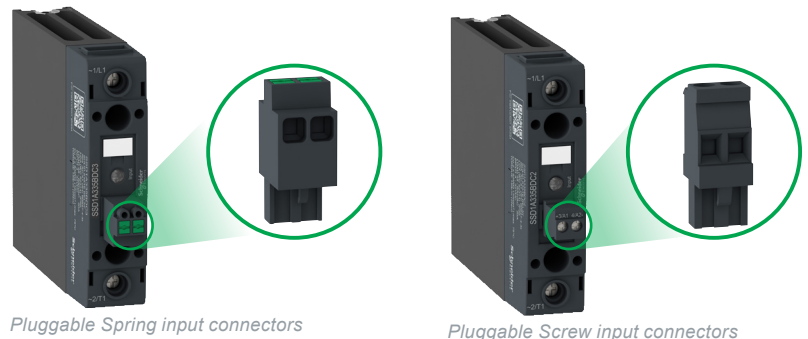
### Flexibility

- > Relay and Contactor configuration to suit your wiring preferences
- > Telescopic screw terminal options available to facilitate the use of lug terminals



### Simplified selection and installation

- > Integrated heat sink to eliminate the need for thermal calculation
- > Spring and screw input connectors option is available for simplified wiring



### Wide range of standards and certifications

- > Complies with IEC 61373 for railway and rolling stock application
- > Electromagnetic compatibility complying to IEC 60947-4-3 standard
- > Conforms to a wide range of internationally recognized standards and certification

22.5mm/0.886 in.



SSD1: 20, 30 and 35 A single-phase SSR

45mm/1.772 in.



SSD1: 45 and 60 A single-phase SSR

SSD relays	
Control input voltage	Load output voltage
⎓ 4...32 V	⎓ 1...150 V ~ 48...600 V
~ 90...280 V	~ 48...600 V

**Choose modularity with DIN rail mount SSM relays**

**Ready to use “Plug and play”**

- > Modular design of IP 20 housing and built-in heat sink for optimized operating conditions
- > Easy mounting on standard 35 mm/1.378 in. DIN rail with a secure mounting latch

**Compact design**

- > Requires less panel space due to slim width and thus reduces the size of your enclosures
- > Optimized modular design available in various sizes (12, 18, and 90 mm width) with load output current of 6, 12, and 25 A

12 mm/0.472 in.



SSM1: 6 A  
single-phase SSR

18 mm/0.709 in.



SSM2: 6 A dual channel,  
single-phase SSR

SSM1 relays	
Control input voltage	Load output voltage
⎓ 4...32 V	⎓ 1...60 V ⎓ 1...100 V
⎓ 4...32 V	~ 24...280 V ~ 48...600 V
~ 18...36 V ~ 90...140 V ~ 200...265 V	~ 24...280 V ~ 48...600 V

SSM2 relays	
Control input voltage	Load output voltage
⎓ 4...32 V	~ 24...280 V

90 mm/3.543 in.



SSM3: 25 A  
three-phase SSR

SSM3 relays	
Control input voltage	Load output voltage
⎓ 4...32 V	~ 48...600 V
~ 90...140 V	~ 48...600 V
~ 180...280 V	~ 48...600 V

**Enhanced modular solution**

- > Wide choice of relays with single-phase and three-phase options and current ratings from 6 A to 25 A
- > Zero voltage switching for resistive loads and random switching for inductive loads
- > UL and cUL approved including the general purpose and motor controller rating standards

### Choose a complete panel mount solution with SSP relays

#### Complete solution

- > Single-phase and three-phase panel mount solid state relays with a range of heat sinks and accessories to meet application needs from 10 A to 125 A
- > Easy product selection with simplified product nomenclature and direct heat sink selection available in product data sheets
- > Wide choice of heat sinks with thermal resistance ratings of 0.2 °C/W to 2.5 °C/W



SSP1: Single-phase panel mount SSR

SSP1.relays	
Control input voltage	Load output voltage
⎓ 3.5...32 V	⎓ 1...150 V
⎓ 3...32 V	~ 24...300 V
⎓ 4...32 V	~ 48...660 V
~ 90...280 V	~ 24...300 V
	~ 48...660 V



SSP1.S: Single-phase panel mount SSR with smart diagnostic features

SSP1.S.relays	
Control input voltage	Load output voltage
⎓ 3...32 V	~ 24...300 V
⎓ 4...32 V	~ 48...660 V



SSP3: Three-phase panel mount SSR

SSP3.relays	
Control input voltage	Load output voltage
⎓ 4-32 V	~ 42-660 V
~ 18-36 V	~ 42-660 V
~ 90-280 V	

#### Simple, safe, and robust screw terminals

- > Simple and easy wiring; accepts wires with different kinds of terminations
- > Safe and fool-proof design with IP 20 protection and integrated enclosure
- > Robust self-aligned screw terminals with proven effectiveness in helping to prevent screw jams

#### Innovative SSP1.S with smart diagnostics and test button

- > Smart diagnostic features with built-in visual indicator and alarm output enables quick response to unexpected results and correct monitoring of SSR operation
- > A test button for easy debugging, testing, and commissioning

#### Simplified installation and mounting

- > Readily available factory-fit thermal pad
- > Heat sink offers panel and DIN rail mounting options

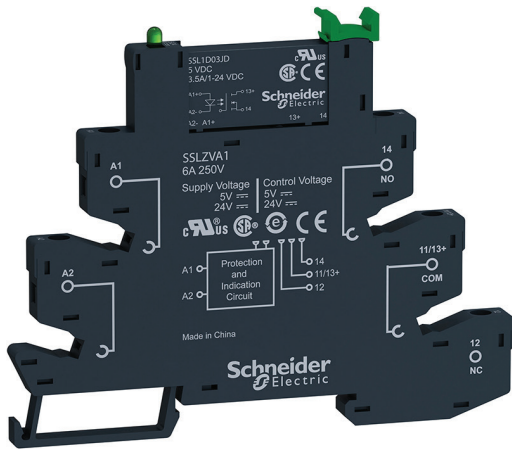
**SSP1 (1-phase)/SSP3 (3-phase) + SSRH (Heat sinks) → Complete solution**



Type of product	Slim interface SSR		Modular DIN rail SSR
	Customer assembly (Relay and socket)	Pre-assembled (Relay with socket)	
<b>Number of phases</b>	1		1
<b>Type of mounting</b>	Plug-in PCB pins with DIN rail mounted socket		DIN rail mounted
<b>Control input voltage</b>	-		90...280 V
	3...12 V 15...30 V 16...30 V	4...12 V 16...30 V	4...32 V 90...280 V
<b>Output load voltage</b>	24...280 V		48...600 V
	1...24 V 1...48 V	1...24 V 1...48 V	1...150 V
<b>Output load current</b>	2 A		20,35 A for 22.5 mm/0.886 in. 40, 60 A for 45 mm/1.772 in.
	0.1, 3.5 A		20,30 A for 22.5 mm/0.886 in.
<b>Type of switching</b>	Zero voltage		Yes
	Random		Yes
	DC		Yes
<b>Cooling</b>	-		Built-in heat sink
<b>Degree of protection</b>	IP 67 (encapsulation) IP 20 (socket)		IP 20
<b>LED indication</b>	Yes (on socket)		Yes
<b>Solid state relay type</b>	<b>SSL (1) (2)</b>		<b>SSD1</b>
<b>Pages</b>	8		13

(1) SSL slim relays and SSLZ sockets.  
(2) Pre-assembled SSL slim relays (relay + socket).

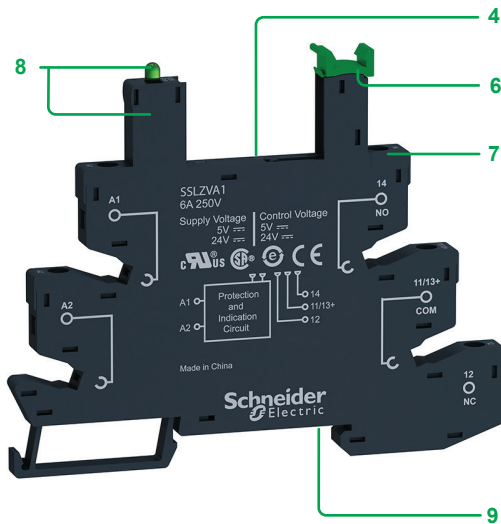
Modular DIN rail SSR (continued)			Panel mount SSR	
1	1 (dual SSR)	3	1	3
DIN rail mounted	DIN rail mounted	DIN rail mounted	Panel mounted	Wall mounted
18...36 V 90...140 V 200...265 V	-	90...140 V 90...280 V	90...280 V	18...36 V 90...280 V
4...32 V	4...32 V	4...32 V	3...32 V 4...32 V	4...32 V
24...280 V 48...600 V	24...280 V	48...600 V	24...300 V 48...660 V	42...660 V
1...60 V 1...100 V	-	-	1...150 V	-
6 A for 12 mm/0.472 in. 12 A for 18 mm/0.709 in.	6 A	25 A	10, 25, 50, 75, 90, 125 A	25, 50 A
6 A for 12 mm/0.472 in. 12 A for 18 mm/0.709 in.	-	-	12, 25, 40 A	-
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	-	Yes
Yes	-	-	Yes	-
Built-in heat sink	Built-in heat sink	Built-in heat sink	Option with thermal pad	With thermal pad
IP 20	IP 20	IP 20	IP 20	IP 20
Yes	Yes	Yes	Yes	Yes
<b>SSM1</b>	<b>SSM2</b>	<b>SSM3</b>	<b>SSP1</b>	<b>SSP3</b>
16 and 17	17	17	19	20



Pre-assembled solid state relay



SSL relay



Socket equipped with LED and protection circuit

### Presentation of the range

SSL solid state relays offer the advantages of several input and output configurations for both AC and DC switching applications. Their compact size and modular design reduces space and allows easy mounting on the socket.

The plug-in type relays can be mounted directly on a PCB or with a socket on a standard 35 mm/1.378 in. DIN rail. The sockets are available in screw connector and spring terminal types.

SSL relays offer:

- A choice of relays and sockets to suit a range of operating voltages
- Zero voltage switching for resistive load and random switching for inductive load applications
- Simple maintenance as the relays can be held in place/released by locking/unlocking the lever without disconnecting the socket wiring
- Socket with reverse polarity protection circuit and LED indicator for easy identification of control status

These relays are available in both pre-assembled (single reference) and customer assembled offers.

### Relay description

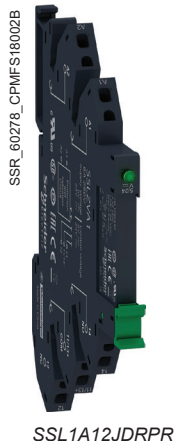
#### SSL slim solid state relays

- 1 Relay with 1 N/O contact and any one of the following ratings:
  - 24 V  $\overline{\text{---}}$ , 3.5 A
  - 48 V  $\overline{\text{---}}$ , 100 mA
  - 280 V  $\sim$ , 2 A
- 2 4 flat, reinforced pins (PCB type)
- 3 5 mm/0.197 in. relay width for up to 3.5 A of load current

### Socket description

#### Sockets for SSL slim solid state relays

- 4 5 female contacts for the relay pins
- 5 6.2 mm/0.244 in. socket width
- 6 Lever for locking or releasing the relay from its socket with clip-in marker legend
- 7 Wire connection by screw connectors or spring terminals
- 8 Built-in reverse polarity protection circuit and LED indicator
- 9 Locating slot for mounting on DIN rail



### Pre-assembled solid state slim relays

#### Relays mounted on screw sockets (sold in lots of 30)

1 NO contact

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
DC Switching	≡ 4 to 12	≡ 1 to 24	3.5	<a href="#">SSL1D03JDPV</a> (SSL1D03JD + SSLZVA1)	0.033/0.073
Zero voltage switching	≡ 4 to 12	~ 24 to 250	2	<a href="#">SSL1A12JDPV</a> (SSL1A12JD+SSLZVA1)	0.033/0.073
DC Switching	≡ 16 to 30	≡ 1 to 24	3.5	<a href="#">SSL1D03BDPV</a> (SSL1D03BD+SSLZVA1)	0.033/0.073
	≡ 16 to 30	≡ 1 to 48	0.1	<a href="#">SSL1D101BDPV</a> (SSL1D101BD+SSLZVA1)	0.033/0.073
Zero voltage switching	≡ 16 to 30	~ 24 to 250	2	<a href="#">SSL1A12BDPV</a> (SSL1A12BD+SSLZVA1)	0.033/0.073
Random switching	≡ 16 to 30	~ 24 to 250	2	<a href="#">SSL1A12BDRPV</a> (SSL1A12BDR+SSLZVA1)	0.033/0.073

#### Relays mounted on spring sockets (sold in lots of 30)

DC Switching	≡ 4 to 12	≡ 1 to 24	3.5	<a href="#">SSL1D03JDPR</a> (SSL1D03JD+SSLZRA1)	0.033/0.073
DC Switching	≡ 16 to 30	≡ 1 to 24	3.5	<a href="#">SSL1D03BDPR</a> (SSL1D03BD+SSLZRA1)	0.033/0.073
Zero voltage switching	≡ 16 to 30	~ 24 to 250	2	<a href="#">SSL1A12BDPR</a> (SSL1A12BD+SSLZRA1)	0.033/0.073
Random switching	≡ 16 to 30	~ 24 to 250	2	<a href="#">SSL1A12BDRPR</a> (SSL1A12BDR+SSLZRA1)	0.033/0.073

PF123409A



SSL1A12JD

PF123420B



SSLZVA1 + SSL1D03JD

### Relays and sockets for customer assembly

#### SSL single-phase solid state relays (sold in lots of 12)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
DC switching	--- 3 to 12	--- 1 to 24	3.5	<a href="#">SSL1D03JD</a>	0.004/0.009
		--- 1 to 48	0.1	<a href="#">SSL1D101JD</a>	0.004/0.009
	--- 15 to 30	--- 1 to 24	3.5	<a href="#">SSL1D03BD</a>	0.004/0.009
		--- 1 to 48	0.1	<a href="#">SSL1D101BD</a>	0.004/0.009
Zero voltage switching	--- 3 to 12	~ 24 to 280	2	<a href="#">SSL1A12JD</a>	0.004/0.009
	--- 15 to 30	~ 24 to 280	2	<a href="#">SSL1A12BD</a>	0.004/0.009
Random switching	--- 3 to 12	~ 24 to 280	2	<a href="#">SSL1A12JDR</a>	0.004/0.009
	--- 15 to 30	~ 24 to 280	2	<a href="#">SSL1A12BDR</a>	0.004/0.009

#### Sockets equipped with LED and protection circuit (sold in lots of 10)

Control voltage (Nominal)	For use with relays	Socket type		Unit reference	Weight
		Screw connector	Spring terminals		
V		Unit reference	Weight		Weight
			kg/lb		kg/lb
--- 5	SSL1D03JD SSL1D101JD SSL1A12JD SSL1A12JDR	SSLZVA1	0.029/0.063	<a href="#">SSLZRA1</a>	0.029/0.063
--- 24	SSL1D03BD SSL1D101BD SSL1A12BD SSL1A12BDR	SSLZVA1	0.029/0.063	<a href="#">SSLZRA1</a>	0.029/0.063



RSLZ2



RSLZ3

### Accessories for sockets

Description	Compatibility	Reference	Weight kg/lb
<b>Clip-in legends</b> (2 sheets of 64 legends)	SSL sockets	<a href="#">RSLZ5</a>	0.001/0.002
<b>Bus jumper</b> (10 x 20-pole jumper)	SSL sockets	<a href="#">RSLZ2</a>	0.003/0.007
<b>Partition plate</b> (10 partition plates)	SSL sockets	<a href="#">RSLZ3</a>	0.001/0.002

### Presentation of the range

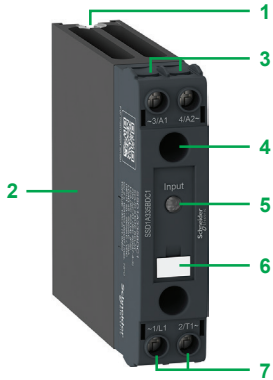
**SSD1** solid state relays are single-phase DIN rail mounted relays with high-power density of up to 60 A and built-in heat sink. They are available in two configurations, namely the relay and contactor types.

The **SSD1** family offers a unique range of terminal connections (input connectors: spring or screw plug-in, output terminals: telescopic, clamp cage or standard screw) providing options as per the wiring preference.

### Relay description

#### SSD1 relay, 22.5 mm/0.886 in. – Relay configuration

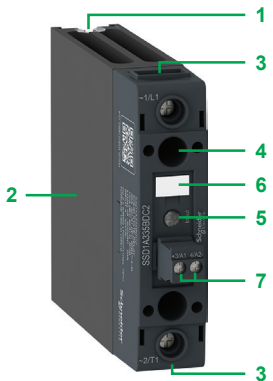
- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Control input connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Load output connection terminals



SSD1 single-phase solid state DIN rail relay, 22.5 mm

#### SSD1 relay, 22.5 mm/0.886 in. – Contactor configuration with pluggable (screw or spring) input connector

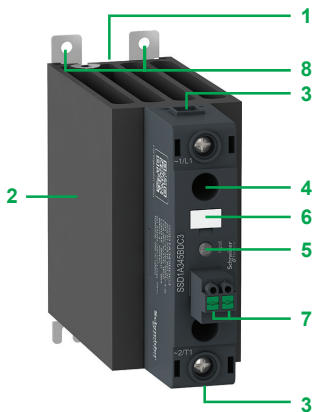
- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Load output connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Pluggable input connector (spring or screw options available)



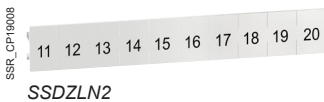
SSD1 single-phase solid state DIN rail contactor with pluggable screw input, 22.5 mm

#### SSD1 relay, 45 mm/1.771 in. – Contactor configuration with pluggable (screw or spring) input connector

- 1 Locating slot for mounting on DIN rail
- 2 Built-in heat sink for heat dissipation
- 3 Load output connection terminals
- 4 Fixing hole for attaching relay to heat sink
- 5 LED input status indicator
- 6 Clip-in legend for easy identification
- 7 Pluggable input connector (spring or screw options available)
- 8 Lugs for panel mounting



SSD1 single-phase solid state DIN rail contactor with pluggable spring input, 45 mm



### SSD1 single-phase solid state relays (22.5 and 45 mm)

Switching	Voltage range		Load current range	Configuration	Reference	Weight		
	Control input	Load output						
	V	V	A			kg/lb		
DC switching	--- 4...32	--- 1...150	20	Relay	<a href="#">SSD1D520BDC1</a>	0.298/0.657		
			30	Relay	<a href="#">SSD1D530BDC1</a>	0.298/0.657		
Zero voltage switching	--- 4...32	~ 48...600	20	Relay	<a href="#">SSD1A320BDC1</a>	0.298/0.657		
			20	Contactor, Screw input connector	<a href="#">SSD1A320BDC2</a>	0.301/0.664		
			20	Contactor, Spring input connector	<a href="#">SSD1A320BDC3</a>	0.301/0.664		
			35	Relay	<a href="#">SSD1A335BDC1</a>	0.298/0.657		
			35	Contactor, Screw input connector	<a href="#">SSD1A335BDC2</a>	0.301/0.664		
			35	Contactor, Spring input connector	<a href="#">SSD1A335BDC3</a>	0.301/0.664		
		~ 90...280	~ 48...600	45	Contactor, Screw input connector	<a href="#">SSD1A345BDC2</a>	0.507/1.117	
				45	Contactor, Spring input connector	<a href="#">SSD1A345BDC3</a>	0.507/1.117	
				60	Contactor, Screw input connector	<a href="#">SSD1A360BDC2</a>	0.507/1.117	
				60	Contactor, Spring input connector	<a href="#">SSD1A360BDC3</a>	0.507/1.117	
				20	Relay	<a href="#">SSD1A320M7C1</a>	0.298/0.657	
				20	Contactor, Screw input connector	<a href="#">SSD1A320M7C2</a>	0.301/0.664	
		Random switching	--- 4...32	~ 48...600	20	Contactor, Spring input connector	<a href="#">SSD1A320M7C3</a>	0.301/0.664
					35	Relay	<a href="#">SSD1A335M7C1</a>	0.298/0.657
					35	Contactor, Screw input connector	<a href="#">SSD1A335M7C2</a>	0.301/0.664
					35	Contactor, Spring input connector	<a href="#">SSD1A335M7C3</a>	0.301/0.664
					45	Contactor, Screw input connector	<a href="#">SSD1A345M7C2</a>	0.507/1.117
					45	Contactor, Spring input connector	<a href="#">SSD1A345M7C3</a>	0.507/1.117
~ 90...280	~ 48...600	20	60	Contactor, Screw input connector	<a href="#">SSD1A360M7C2</a>	0.507/1.117		
			60	Contactor, Spring input connector	<a href="#">SSD1A360M7C3</a>	0.507/1.117		
			20	Relay	<a href="#">SSD1A320BDR1</a>	0.298/0.657		
			20	Contactor, Screw input connector	<a href="#">SSD1A320BDR2</a>	0.301/0.664		
			20	Contactor, Spring input connector	<a href="#">SSD1A320BDR3</a>	0.301/0.664		
			35	Relay	<a href="#">SSD1A335BDR1</a>	0.298/0.657		
		35	Contactor, Screw input connector	<a href="#">SSD1A335BDR2</a>	0.301/0.664			
				<a href="#">SSD1A335BDR3</a>	0.301/0.664			
				45	Contactor, Screw input connector	<a href="#">SSD1A345BDR2</a>	0.507/1.117	
				45	Contactor, Spring input connector	<a href="#">SSD1A345BDR3</a>	0.507/1.117	
				60	Contactor, Screw input connector	<a href="#">SSD1A360BDR2</a>	0.507/1.117	
				60	Contactor, Spring input connector	<a href="#">SSD1A360BDR3</a>	0.507/1.117	

### Accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg/lb
Clip-in Legends, Blank strip	All SSD1 solid state relays	10	<a href="#">SSDZLB</a>	0.002/0.004
Clip-in Legends, Numbered strip (1 to 10)	All SSD1 solid state relays	10	<a href="#">SSDZLN1</a>	0.002/0.004
Clip-in Legends, Numbered strip (11 to 20)	All SSD1 solid state relays	10	<a href="#">SSDZLN2</a>	0.002/0.004

## Presentation of the range

SSM solid state relays are compact relays offering greater power density. The modular IP 20 housing design and built-in heat sink offer optimized operating solutions.

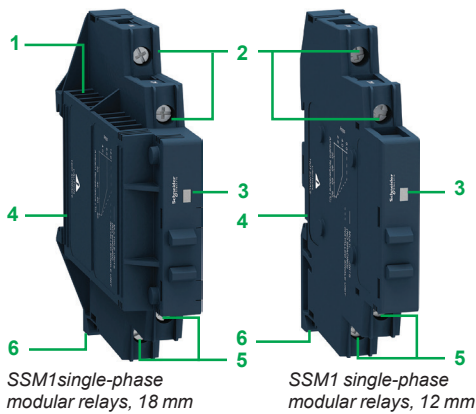
The SSM relay range comprises:

- **SSM1:** Single-phase SSR relays with 6, 12 A ratings
- **SSM2:** Single-phase dual SSR relays with 6 A rating
- **SSM3:** Three-phase SSR relays with 25 A rating

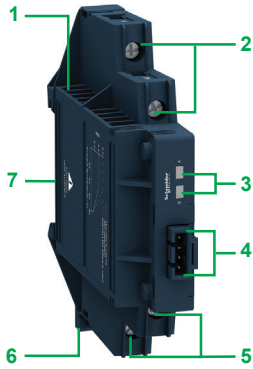
## Relay description

**SSM1 relays, 12 mm/0.472 in. width and 18 mm/0.709 in. width**

- 1 Built-in heat sink for heat dissipation
- 2 Control input connection terminals
- 3 Control input voltage LED indicator in green
- 4 Bracket for mounting on 35 mm/1.378 in. DIN rail
- 5 Load output connection terminals
- 6 Mounting latch







SSM2 single-phase dual channel modular relays, 18 mm

### Relay description

#### SSM2 relays, 18 mm/0.709 in. width

- 1 Built-in heat sink for heat dissipation
- 2 Load output connection terminals for Channel A
- 3 Separate input voltage LED indicator in green
- 4 Separate control input connection terminals
- 5 Load output connection terminals for Channel B
- 6 Mounting latch
- 7 Bracket for mounting on 35 mm/1.378 in. DIN rail



SSM3 single-phase modular relays, 90 mm

#### SSM3 relays, 90 mm/0.354 in. width

- 1 Lugs for panel mounting
- 2 Built-in heat sink for heat dissipation
- 3 Control input connection terminals
- 4 Control input voltage LED indicator in green
- 5 Bracket for mounting on 35 mm/1.378 in. DIN rail
- 6 Load output connection terminals

# Harmony Solid State Relays

## SSM solid state modular DIN rail relays



SSM1A36BD



SSM1A312BD

**SSM1 single-phase solid state relays (6 A, 12 mm and 12 A, 18 mm)**

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
DC switching	≡ 4...32	≡ 1...60	6	<a href="#">SSM1D26BD</a>	0.050/0.110
			12	<a href="#">SSM1D212BD</a>	0.090/0.198
	≡ 1...100	6	<a href="#">SSM1D36BD</a>	0.050/0.110	
			<a href="#">SSM1D312BD</a>	0.090/0.198	
		12	<a href="#">SSM1A16BD</a>	0.050/0.110	
			<a href="#">SSM1A112BD</a>	0.090/0.198	
Zero voltage switching	≡ 4...32	~ 24...280	6	<a href="#">SSM1A16BD</a>	0.050/0.110
			12	<a href="#">SSM1A112BD</a>	0.090/0.198
	~ 48...600	6	<a href="#">SSM1A36BD</a>	0.050/0.110	
			<a href="#">SSM1A312BD</a>	0.090/0.198	
		12	<a href="#">SSM1A16B7</a>	0.050/0.110	
			<a href="#">SSM1A112B7</a>	0.090/0.198	
	~ 18...36	~ 24...280	6	<a href="#">SSM1A16B7</a>	0.050/0.110
			12	<a href="#">SSM1A112B7</a>	0.090/0.198
		12	<a href="#">SSM1A312B7</a>	0.090/0.198	
			<a href="#">SSM1A312F7</a>	0.090/0.198	
	~ 90...140	~ 24...280	6	<a href="#">SSM1A16F7</a>	0.050/0.110
			12	<a href="#">SSM1A112F7</a>	0.090/0.198
12		<a href="#">SSM1A312F7</a>	0.090/0.198		
		<a href="#">SSM1A312P7</a>	0.090/0.198		
~ 200...265	~ 24...280	6	<a href="#">SSM1A16P7</a>	0.050/0.110	
		12	<a href="#">SSM1A112P7</a>	0.090/0.198	
	12	<a href="#">SSM1A16BDR</a>	0.050/0.110		
		<a href="#">SSM1A112BDR</a>	0.090/0.198		
Random switching	≡ 4...32	~ 24...280	6	<a href="#">SSM1A16BDR</a>	0.050/0.110
			12	<a href="#">SSM1A112BDR</a>	0.090/0.198
	~ 48...600	6	<a href="#">SSM1A36BDR</a>	0.050/0.110	
			<a href="#">SSM1A312BDR</a>	0.090/0.198	
		12	<a href="#">SSM1A112B7R</a>	0.090/0.198	
			<a href="#">SSM1A312B7R</a>	0.090/0.198	
	~ 18...36	~ 24...280	12	<a href="#">SSM1A112B7R</a>	0.090/0.198
			12	<a href="#">SSM1A312B7R</a>	0.090/0.198
		12	<a href="#">SSM1A112F7R</a>	0.090/0.198	
			<a href="#">SSM1A312F7R</a>	0.090/0.198	
	~ 90...140	~ 24...280	12	<a href="#">SSM1A112F7R</a>	0.090/0.198
			12	<a href="#">SSM1A312F7R</a>	0.090/0.198
12		<a href="#">SSM1A112P7R</a>	0.090/0.198		
		<a href="#">SSM1A312P7R</a>	0.090/0.198		
~ 200...265	~ 24...280	12	<a href="#">SSM1A112P7R</a>	0.090/0.198	
		12	<a href="#">SSM1A312P7R</a>	0.090/0.198	
	12	<a href="#">SSM1A112P7R</a>	0.090/0.198		
		<a href="#">SSM1A312P7R</a>	0.090/0.198		

PF124428B



SSM2A16BDR

### SSM2 single-phase solid state relays, dual channel (6 A, 18 mm)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
Zero voltage switching	≡ 4...32	~ 24...280	6	<a href="#">SSM2A16BD</a>	0.090/0.198
Random switching	≡ 4...32	~ 24...280	6	<a href="#">SSM2A16BDR</a>	0.090/0.198

PF152212



SSM3A325F7

### SSM3 three-phase solid state relays (25 A, 90 mm)

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
Zero voltage switching	≡ 4...32	~ 48...600	25	<a href="#">SSM3A325BD</a>	0.740/1.631
	~ 90...140	~ 48...600	25	<a href="#">SSM3A325F7</a>	0.740/1.631
	~ 180...280	~ 48...600	25	<a href="#">SSM3A325P7</a>	0.740/1.631
Random switching	≡ 4...32	~ 48...600	25	<a href="#">SSM3A325BDR</a>	0.740/1.631

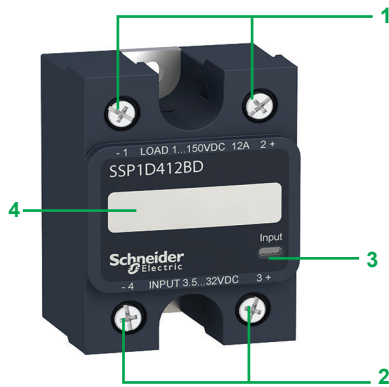
RS\_CP2037



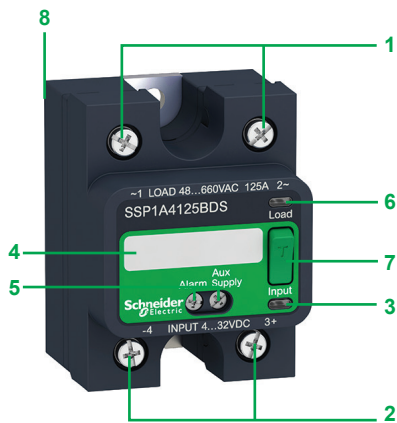
SSRAC200

### Accessories

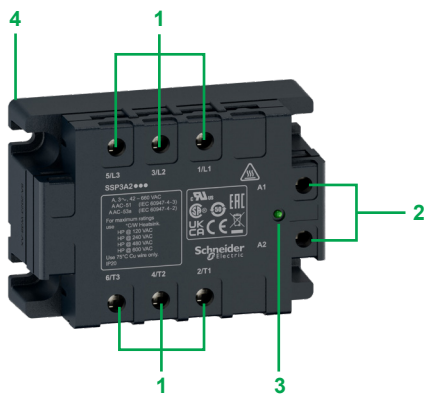
Description	Types of relay supported	Unit reference	Weight
4 Pin connector cable for SSM2 relay	SSM2A16BD, SSM2A16BDR	<a href="#">SSRAC200</a>	0.055/0.121



SSP1 single-phase panel mount relays



SSP1 single-phase panel mount relays with smart diagnostic feature



SSP3 three-phase panel mount relays

### Presentation of the range

SSP solid state relays are single-phase and three-phase panel mount relays that offer complete solid state control and switching solutions.

- Easy product selection with simplified product nomenclature and direct heat sink selection available in product data sheets.
- Wide choice of heat sinks with thermal resistance ratings of 2.5 °C/W to 0.2 °C/W.

The SSP relay range comprises:

- **SSP1**: Single-phase panel mount solid state relays available with/without embedded thermal pad and smart diagnostic features, extended load output voltage of up to 660 V ~ and load current rating of 10 A to 125 A.
- **SSP3**: Three-phase panel mount solid state relays integrated with R-C snubber circuit, TVS (Transient Voltage Suppression), extended load output voltage of up to 660 V ~ and load current ratings of 25 A and 50 A.

### Relay description

#### SSP1 single-phase panel mount relays

- 1 Load output connection screw terminals
- 2 Control input connection screw terminals
- 3 Control input voltage LED indicator
- 4 Indication area for product label or markings
- 5 Smart diagnostic auxiliary input and alarm output
- 6 Load output LED indicator
- 7 Test button
- 8 Optional factory-fit thermal pad that is glued on the rear of the product

#### SSP3 three-phase panel mount relays

- 1 Load output connection screw terminals
- 2 Control input connection screw terminals
- 3 Control input voltage LED indicator
- 4 Factory-fit thermal pad that is glued on the rear of the product



SSP1D425BD

### SSP1 single-phase solid state relays

#### Relays with embedded thermal pad

Switching	Voltage range		Load current range	Reference	Weight
	Control input	Load output			
	V	V	A		kg/lb
DC switching	≡ 3.5...32	≡ 1...150	12	SSP1D412BDT	0.089/0.196
			25	SSP1D425BDT	0.089/0.196
			40	SSP1D440BDT	0.089/0.196
Zero voltage switching	≡ 3...32	~ 24...300	10	SSP1A110BDT	0.089/0.196
			25	SSP1A125BDT	0.089/0.196
			50	SSP1A150BDT	0.089/0.196
			75	SSP1A175BDT	0.089/0.196
			75	SSP1A450BDT	0.089/0.196
	≡ 4...32	~ 48...660	50	SSP1A475BDT	0.089/0.196
			75	SSP1A490BDT	0.089/0.196
			90	SSP1A4125BDT	0.089/0.196
			125	SSP1A4125BDT	0.089/0.196
			125	SSP1A4125M7T	0.089/0.196
	~ 90...280	~ 24...300	10	SSP1A110M7T	0.089/0.196
			25	SSP1A125M7T	0.089/0.196
			50	SSP1A150M7T	0.089/0.196
			75	SSP1A175M7T	0.089/0.196
			75	SSP1A450M7T	0.089/0.196
~ 48...660		50	SSP1A475M7T	0.089/0.196	
		75	SSP1A490M7T	0.089/0.196	
		90	SSP1A490M7T	0.089/0.196	
		90	SSP1A490M7T	0.089/0.196	
		125	SSP1A4125M7T	0.089/0.196	

#### Relays without embedded thermal pad

DC switching	≡ 3.5...32	≡ 1...150	12	SSP1D412BD	0.089/0.196
			25	SSP1D425BD	0.089/0.196
			40	SSP1D440BD	0.089/0.196
Zero voltage switching	≡ 3...32	~ 24...300	10	SSP1A110BD	0.089/0.196
			25	SSP1A125BD	0.089/0.196
			50	SSP1A150BD	0.089/0.196
			75	SSP1A175BD	0.089/0.196
			75	SSP1A450BD	0.089/0.196
	≡ 4...32	~ 48...660	50	SSP1A475BD	0.089/0.196
			75	SSP1A490BD	0.089/0.196
			90	SSP1A4125BD	0.089/0.196
			125	SSP1A4125BD	0.089/0.196
			125	SSP1A4125M7	0.089/0.196
	~ 90...280	~ 24...300	25	SSP1A125M7	0.089/0.196
			50	SSP1A150M7	0.089/0.196
			50	SSP1A450M7	0.089/0.196
			75	SSP1A475M7	0.089/0.196
			75	SSP1A490M7	0.089/0.196
~ 48...660		50	SSP1A475M7	0.089/0.196	
		75	SSP1A490M7	0.089/0.196	
		90	SSP1A490M7	0.089/0.196	
		90	SSP1A490M7	0.089/0.196	
		125	SSP1A4125M7	0.089/0.196	

#### Relays with embedded thermal pad and smart diagnostic features

Zero voltage switching	≡ 3...32	~ 24...300	25	SSP1A125BDS	0.097/0.214
			75	SSP1A475BDS	0.097/0.214
			125	SSP1A4125BDS	0.097/0.214



SSP1A125BDS

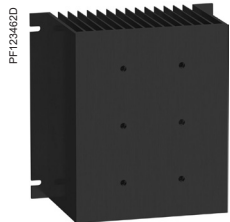
# Harmony Solid State Relays

## SSP solid state panel mount relays

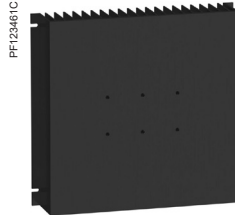


SSP3A225P7T

SSP3 three-phase solid state relays					
Relays with embedded thermal pad					
Switching	Voltage range		Load current range	Reference	Weight
	Control Input	Load Output			
	V	V	A		kg/lb
Zero voltage switching	= 4...32	~ 42...660	25	<a href="#">SSP3A225BDT</a>	0.370/0.816
			50	<a href="#">SSP3A250BDT</a>	0.370/0.816
	~ 18...36	~ 42...660	50	<a href="#">SSP3A250B7T</a>	0.370/0.816
			25	<a href="#">SSP3A225P7T</a>	0.370/0.816
	~ 90...280	~ 42...660	50	<a href="#">SSP3A250P7T</a>	0.370/0.816
			25	<a href="#">SSP3A225BDRT</a>	0.370/0.816
Random switching	= 4...32	~ 42...660	50	<a href="#">SSP3A250BDRT</a>	0.370/0.816
			25	<a href="#">SSP3A225P7RT</a>	0.370/0.816
	~ 90...280	~ 42...660	50	<a href="#">SSP3A250P7RT</a>	0.370/0.816



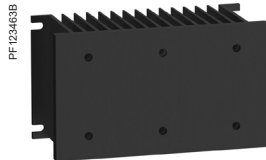
SSRHP05



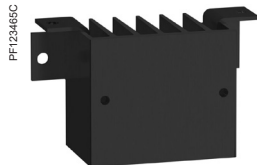
SSRHP02



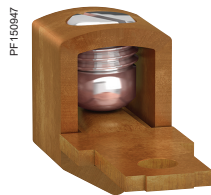
SSRHP07



SSRHP10



SSRHP25



SSRAL1

### Heat sinks for customer assembly

Mounting	Number and type of relays supported	Surface area	Thermal resistance	Reference	Weight
		cm <sup>2</sup> /in <sup>2</sup>	°C/W		
Panel mount	Up to 3 SSP1 units 1 SSP3 unit	6,823/1,058	0.2	<a href="#">SSRHP02</a>	2.592/5.714
	Up to 3 SSP1 units 1 SSP3 unit	4,406/683	0.5	<a href="#">SSRHP05</a>	1.440/3.174
	1 SSP1 unit	1,640/254	0.7	<a href="#">SSRHP07</a>	0.526/1.159
	Up to 3 SSP1 units 1 SSP3 unit	1,425/221	1	<a href="#">SSRHP10</a>	0.620/1.367
	1 SSP1 unit	336/52.10	2.5	<a href="#">SSRHP25</a>	0.100/0.220
DIN rail mount	Up to 3 SSP1 units 1 SSP3 unit	1,425/221	1	<a href="#">SSRHD10</a>	0.630/1.389

### Accessories

Description	Type of relays supported	Unit reference	Weight kg/lb
Copper terminal lug for AWG 6 (13.3 mm <sup>2</sup> ) to AWG 0 (53.5 mm <sup>2</sup> ) <b>Sold in lots of 10</b>	SSP1	<a href="#">SSRAL1</a>	0.042/0.093

<b>R</b>		
RSLZ2	11	
RSLZ3	11	
RSLZ5	11	
<b>S</b>		
SSD1A320BDC1	13	SSL1D03JDPV 9
SSD1A320BDC2	13	SSL1D101BD 10
SSD1A320BDC3	13	SSL1D101BDPV 9
SSD1A320BDRC1	13	SSL1D101JD 10
SSD1A320BDRC2	13	SSLZRA1 10
SSD1A320BDRC3	13	SSLZVA1 10
SSD1A320M7C1	13	SSM1A112B7 16
SSD1A320M7C2	13	SSM1A112B7R 16
SSD1A320M7C3	13	SSM1A112BD 16
SSD1A320M7RC1	13	SSM1A112BDR 16
SSD1A320M7RC2	13	SSM1A112F7 16
SSD1A320M7RC3	13	SSM1A112F7R 16
SSD1A335BDC1	13	SSM1A112P7 16
SSD1A335BDC2	13	SSM1A112P7R 16
SSD1A335BDC3	13	SSM1A16B7 16
SSD1A335BDRC1	13	SSM1A16BD 16
SSD1A335BDRC2	13	SSM1A16BDR 16
SSD1A335BDRC3	13	SSM1A16F7 16
SSD1A335M7C1	13	SSM1A16P7 16
SSD1A335M7C2	13	SSM1A312B7 16
SSD1A335M7C3	13	SSM1A312B7R 16
SSD1A335M7RC1	13	SSM1A312BD 16
SSD1A335M7RC2	13	SSM1A312BDR 16
SSD1A335M7RC3	13	SSM1A312F7 16
SSD1A345BDC2	13	SSM1A312F7R 16
SSD1A345BDC3	13	SSM1A312P7R 16
SSD1A345BDRC2	13	SSM1A36BD 16
SSD1A345BDRC3	13	SSM1A36BDR 16
SSD1A345M7C2	13	SSM1D212BD 16
SSD1A345M7C3	13	SSM1D26BD 16
SSD1A345M7RC2	13	SSM1D312BD 16
SSD1A345M7RC3	13	SSM1D36BD 16
SSD1A360BDC2	13	SSM2A16BD 17
SSD1A360BDC3	13	SSM2A16BDR 17
SSD1A360BDRC2	13	SSM3A325BD 17
SSD1A360BDRC3	13	SSM3A325BDR 17
SSD1A360M7C2	13	SSM3A325F7 17
SSD1A360M7C3	13	SSM3A325P7 17
SSD1A360M7RC2	13	SSP1A110BD 19
SSD1A360M7RC3	13	SSP1A110BDT 19
SSD1D520BDC1	13	SSP1A110M7T 19
SSD1D530BDC1	13	SSP1A125BD 19
SSDZLB	13	SSP1A125BDS 19
SSDZLN1	13	SSP1A125BDT 19
SSDZLN2	13	SSP1A125M7 19
SSL1A12BD	10	SSP1A125M7T 19
SSL1A12BDPR	9	SSP1A150BD 19
SSL1A12BDPV	9	SSP1A150BDT 19
SSL1A12BDR	10	SSP1A150M7 19
SSL1A12BDRPR	9	SSP1A150M7T 19
SSL1A12BDRPV	9	SSP1A175BD 19
SSL1A12JD	10	SSP1A175BDT 19
SSL1A12JDPV	9	SSP1A175M7T 19
SSL1A12JDR	10	SSP1A4125BD 19
SSL1D03BD	10	SSP1A4125BDS 19
SSL1D03BDPR	9	SSP1A4125BDT 19
SSL1D03BDPV	9	SSP1A4125M7 19
SSL1D03JD	10	SSP1A4125M7T 19
SSL1D03JDPR	9	SSP1A450BD 19
		SSP1A450BDT 19
		SSP1A450M7 19
		SSP1A450M7T 19
		SSP1A475BD 19
		SSP1A475BDS 19
		SSP1A475BDT 19
		SSP1A475M7 19
		SSP1A475M7T 19
		SSP1A490BD 19
		SSP1A490BDT 19
		SSP1A490M7 19
		SSP1A490M7T 19
		SSP1D412BD 19
		SSP1D412BDT 19
		SSP1D425BD 19
		SSP1D425BDT 19
		SSP1D440BD 19
		SSP1D440BDT 19
		SSP3A225BDRT 20
		SSP3A225BDT 20
		SSP3A225P7T 20
		SSP3A250B7T 20
		SSP3A250BDRT 20
		SSP3A250BDT 20
		SSP3A250P7RT 20
		SSP3A250P7T 20
		SSRAC200 17
		SSRAL1 21
		SSRHD10 21
		SSRHP02 21
		SSRHP05 21
		SSRHP07 21
		SSRHP10 21
		SSRHP25 21



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