

## **Miniature Power PCB Relay MSR**

- 1 pole 8 / 10 A, 1CO or 1NO contact
- High inrush currents with AgSnO contacts (TV4 = 65 A)
- 4 kV/8 mm coil-contact
- Reinforced insulation (protection class II)
- Ambient temperature up to 85°C at 8 A
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0404

#### **Applications**

HVAC, interface technology, power supplies, TV-/Monitor control, computer-/communication technology, domestic appliances, Hi-Fi products, timers



F0143-C

# Approvals

REG.-Nr. 3919, **c 33** us E214024
Technical data of approved types on request

Contact data					
	100 01	100			
Contact configuration	1CO or				
Contact set	single contact				
Type of interruption	micro disconnection				
Rated current	versions A,B:	8 A			
	versions C,D:	10 A			
Rated voltage / max.switching voltage AC	240/400	VAC			
Maximum breaking capacity AC	2000 VA				
Limiting making capacity, max 20 ms	A302: 65 A				
max 4 s, duty factor 10%	15 A	15 A			
Contact material	AgSnO <sub>2</sub> , AgCdO	AgNi0,15*			
Mechanical endurance 10x10 <sup>6</sup> cycles					
Rated frequency of operation with / without load 6 / 1200 min <sup>-1</sup>					
*not recommended for AC loads with arcing (CC2 according EN61810-2)					

Contact ratings

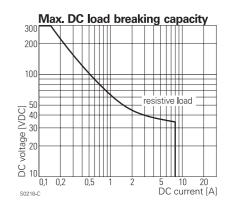
Type	Load	Cycles
V23061-A1***-A302	8 A, 250 VAC, resistive load, 85°C, 1 mm mounting	
	distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-C2***-A302	10 A, 250 VAC, resistive load, 85°C, 0 mm mounting	
	distance, 6 cycles min-1, 50% duty factor, EN61810-1	10x10 <sup>3</sup>
V23061-C2***-A302	5 A, 250 VAC, resistive load, 105°C, 0 mm mounting	
	distance, 6 cycles min-1, 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-A1***-A302	TV-4 Tungsten, 120 VAC, UL508	25x10 <sup>3</sup>
V23061-****-A30*,	240 VAC, A300, Pilot duty, UL508	6x10 <sup>3</sup>

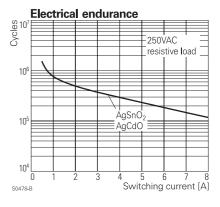
Coil data	
Rated coil voltage range DC coil	360 VDC
Coil power DC coil	typ. 220 mW
Operative range	2
Coil insulation system according UL1446	Class A, Class F

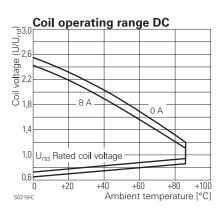
Coil versions. DC-co	١ii

	,				
Coil	Rated	Operate	Release	Coil	Rated coil
code	voltage	voltage	voltage	resistance	power
	VDČ	VDC	VDČ	Ohm	mW
001	3	2.1	0.3	40±10%	225
002	5	3.4	0.5	118±10%	212
003	6	4.1	0.6	165±10%	218
004	9	6.1	0.9	364±10%	223
005	12	8.2	1.2	652±10%	221
007	24	16.3	2.4	2270±10%	254
009	48	32.6	4.8	8790±10%	262
010	60	40.8	6.0	15265±15%	236

All figures are given for coil without preenergization, at ambient temperature +23°C Other coil voltages on request











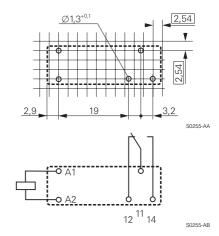
## Miniature Power PCB Relay MSR (Continued)

Insulation	CO co	ontact	NO contact
Dielectric strength coil-contact circuit		4000	V <sub>rms</sub>
open contact circuit		1000	$V_{rms}$
Clearance / creepage coil-contact circuit	≥8/	8 mms	≥ 8 / 8 mm
Material group of insulation parts	ll!	b	IIIb
Insulation to IEC 60664-1			
Type of insulation coil-contact circuit	reinfo	rced	reinforced
open contact circuit	funct	ional	functional
Rated insulation voltage	250	O V	250 V
Pollution degree	3	2	3
Rated voltage system	230 V	400 V	230 / 400 V
Overvoltage category		I	III

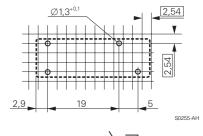
Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0404
Flammability class according to UL94	V-0
For WG version: GWFI to IEC 60335-1	> 850 °C
GWIT to IEC 60335-1	> 775 °C
Ambient temperature range	-40+85°C
Operate- / release time	6 / 2,5 ms
Bounce time NO / NC contact	0,5 / 4 ms
Vibration resistance (function) NO / NC contact	ct 10 / 4 g
Shock resistance (function) NO / NC contact	20 / 5 g
Shock resistance (destruction)	100 g
Category of protection	RTII-flux proof; RTIII- wash tight
Mounting	pcb
Mounting position	any
Minimum mounting distance	0 mm
Resistance to soldering heat flux-proof version	n 270°C / 10 s
wash-tight version	on 260°C / 5s
Relay weight	11 g
Packaging unit	20 / 1000 pcs

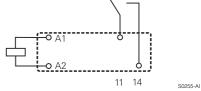
# **PCB layout / terminal assignment** Bottom view on solder pins

#### 1 CO contact, 3.2 mm



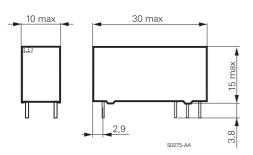
### 1 NO contact, 5 mm



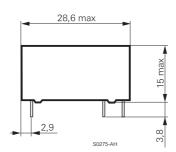


### **Dimensions**

#### 1 CO contact, 3.2 mm



1 NO contact, 5 mm







# Miniature Power PCB Relay MSR (Continued)

Product k	кеу		V 2 3 0 6 1 - A	
Туре				
Version				
Α	1 NO contact, UL-class A	В	1 CO contact, UL-class A	
С	1 NO contact, UL-class F	D	1 CO contact, UL-class F	
Version				
1	wash tight	2	flux proof	
Coil				
Co	oil code: please refer to coil vers	sions	table	
Contact s	ystem			
Α	standard			
Contact m	naterial			
3	AgSnO <sub>2</sub>	5	AgNi 0.15	
4	AgCdO	6	AgCdO, gold plated	
Contact of	configuration			
	1 CO contact	02	1 NO contact	

Other types on request

Product key	Version	Contacts	Contact material	Coil	Part number
V23061-A1002-A302	wash tight	1 NO contact	AgSnO <sub>2</sub>	5 VDC	0-1393222-4
V23061-A1002-A502	Ü		AgNi 0.15		0-1393222-6
V23061-A1003-A302			AgSnO <sub>2</sub>	6 VDC	0-1393222-9
V23061-A1003-A502			AgNi 0.15		1-1393222-3
V23061-A1005-A302			AgSnO <sub>2</sub>	12 VDC	2-1393222-0
V23061-A1005-A502			AgNi 0.15		2-1393222-7
V23061-A1005-A602			AgCdO gold pl.		2-1393222-8
V23061-A1007-A302			AgSnO <sub>2</sub>	24 VDC	3-1393222-9
V23061-A1007-A502			AgNi 0.15		4-1393222-6
V23061-A1007-A602			AgCdO gold pl.		4-1393222-7
V23061-A1009-A502			AgNi 0.15	48 VDC	5-1393222-7
V23061-A1009-A602			AgCdO gold pl.		5-1393222-8
V23061-A1010-A502			AgNi 0.15	60 VDC	6-1393222-2
V23061-A1010-A602			AgCdO gold pl.		6-1393222-3
V23061-B1002-A301		1 CO contact	AgSnO <sub>2</sub>	5 VDC	7-1393222-2
V23061-B1002-A501			AgNi 0.15		7-1393222-4
/23061-B1002-A601			AqCdO gold pl.		7-1393222-5
/23061-B1003-A501			AaNi 0.15	6 VDC	8-1393222-1
/23061-B1003-A601			AgCdO gold pl.		8-1393222-2
/23061-B1005-A301			AgSnO <sub>2</sub>	12 VDC	9-1393222-1
/23061-B1005-A501			AgNi 0.15		9-1393222-7
/23061-B1005-A601			AgCdO gold pl.		9-1393222-9
/23061-B1007-A301			AgSnO <sub>2</sub>	24 VDC	1-1393223-7
/23061-B1007-A501			AgNi 0.15		2-1393223-5
/23061-B1007-A601			AgCdO gold pl.		2-1393223-6
V23061-B1009-A301			AgSnO <sub>2</sub>	48 VDC	3-1393223-7
/23061-B1009-A501			AaNi 0.15		3-1393223-9
/23061-B1009-A601			AgCdO gold pl.		4-1393223-0
/23061-B1010-A501			AgNi 0.15	60 VDC	4-1393223-3
/23061-B1010-A601			AgCdO gold pl.		4-1393223-4
/23061-A2002-A402	flux proof	1 NO contact	AgCdO	5 VDC	6-1393222-8
/23061-A2003-A402			1	6 VDC	1-1416200-9
/23061-A2005-A402				12 VDC	2-1416200-1
/23061-A2007-A402				24 VDC	2-1416200-3
/23061-A2009-A402				48 VDC	2-1416200-5
V23061-A2010-A402				60 VDC	2-1416200-6
/23061-B2002-A401		1 CO contact	1	5 VDC	2-1416200-7
/23061-B2003-A401		1 00 00111001		6 VDC	2-1416200-8
/23061-B2005-A401				12 VDC	3-1416200-1
/23061-B2007-A401				24 VDC	5-1393223-0
/23061-B2009-A401				48 VDC	3-1416200-6
V23061-B2010-A401				60 VDC	4-1416200-0

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#### 8-1393222-9 Product Details



8-1393222-9 (V23061B1004A601)



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### Industrial Relays (General Purpose)



### **Product Highlights:**

- MSR Series
   Contact Arra
- Contact Arrangement = 1 Form C, SPDT, 1 C/O Contact Current Rating = 8 Amps. Monostable Coil Magnetic System
- Without Coil Suppression Diode

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## **Documentation & Additional Information**

### Product Drawings:

Catalog Pages/Data Sheets:

• Miniature Power PCB Relay MSR (PDF, English)

#### **Product Specifications:**

### Application Specifications:

# Instruction Sheets: None Available

CAD Files: None Available

### Additional Information:

#### Related Products:

Tooling

## Product Features (Please use the Product Drawing for all design activity)

Product Type Features:

● <u>Termination Type</u> = Through Hole

#### **Electrical Characteristics:**

- Contact Current Rating (Amps.) = 8
- Coil Resistance ( $\Omega$ ) = 364
- Coil Power, Nominal (mW) = 220
- Actuating System = DC
- Coil Power, Nominal (W) = 0.22
- Input Voltage (VDC) = 9
- Dielectric Strength Coil Contacts (V rms) = 4000
- Coil Rating = Sensitive

#### **Body Related Features:**

- Polarized = No. Enclosure Color = White

List all Documents

- Housing Related Features:

   Version = Pinning 3.2mm, Version for IEC 60335-1 (domestic appliances)
  - Pick-Up (V) = 6.3
  - Drop-Out (V) = 0.9

- Configuration Related Features:

   Contact Arrangement = 1 Form C, SPDT, 1 C/O
  - <u>Coil Magnetic System</u> = Monostable
  - <u>Coil Suppression Diode</u> = Without
  - <u>Coil Selection Criteria</u> = Nominal Voltage
  - Coil Latching = Without
  - LED Indicator = Without
  - Number of Coils = 1

### **Industry Standards:**

- RoHS/ELV Compliance = RoHS/Not ELV Compliant
- <u>Lead Free Solder Processes</u> = Wave solder capable to 240°C,

### 8-1393222-9 Product Details - Tyco Electronics

- Contact Related Features:

   Mounting Options = PC Board, Socket
  - Enclosure = Immersion Cleanable
  - FCC Part 68 Isolation = No
  - Relay Type = PCB
  - Contact Material = Silver Cadmium Oxide, Gold Plated
  - Contact Finish = Gold Plate
  - Approx. Dimensions (L x W x H) (mm [in]) = 30.00 x 10.00 x 15.00 [1.182 x .394 x .591]
  - Contact Type = Single
  - Pin Configuration = Industry Standard 3.2mm
  - ullet Wiring Diagram = 1 Form C
  - Approved Standards = VDE Component Mark, UL Recognized for Canada and US
  - Number of Poles = 1

Wave solder capable to 260°C

- RoHS/ELV Compliance History = Converted to comply with RoHS not ELV directives
- Coil Insulation Classification = UL Class A

Packaging Related Features:

● Packaging Method = Plastic Bar

- Other:

   Electrical Spacing = 8.0mm Clearance 8.0mm Creepage
  - Brand = Schrack

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1-1393223-2 Product Details



1-1393223-2

(V23061B1006A401) Active

Add to Part List

**Product Highlights:** 

MSR Series
 Contact Arra

of Compliance)

Contact Arrangement = 1 Form C, SPDT, 1 C/O Contact Current Rating = 8 Amps. Monostable Coil Magnetic System

Converted to EU RoHS but not ELV Compliant (Statement

Without Coil Suppression Diode

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**Documentation & Additional Information** 

**Product Drawings:** 

Catalog Pages/Data Sheets:

• Miniature Power PCB Relay MSR (PDF, English)

**Product Specifications:** 

Application Specifications:

Instruction Sheets:

None Available

CAD Files:

None Available

Additional Information:

Related Products: Tooling

List all Documents

Product Features (Please use the Product Drawing for all design activity)

# Product Type Features: ● <u>Termination Type</u> = Through Hole

#### **Electrical Characteristics:**

- Contact Current Rating (Amps.) = 8
- Coil Resistance ( $\Omega$ ) = 1455
- Coil Power, Nominal (mW) = 223
- Actuating System = DC
- Coil Power, Nominal (W) = 0.223
- Input Voltage (VDC) = 18
- Dielectric Strength Coil Contacts (V rms) = 4000
- Coil Rating = Sensitive

#### **Body Related Features:**

- Polarized = No.
- Enclosure Color = White

- Housing Related Features:

   Version = Pinning 3.2mm, Version for IEC 60335-1 (domestic appliances)
  - Pick-Up (V) = 12.2
  - Drop-Out (V) = 1.8

- Configuration Related Features:

   Contact Arrangement = 1 Form C, SPDT, 1 C/O
  - <u>Coil Magnetic System</u> = Monostable
  - <u>Coil Suppression Diode</u> = Without
  - <u>Coil Selection Criteria</u> = Nominal Voltage
  - Coil Latching = Without • LED Indicator = Without
  - Number of Coils = 1

### **Industry Standards:**

• RoHS/ELV Compliance = RoHS/Not ELV Compliant • <u>Lead Free Solder Processes</u> = Wave solder capable to 240°C,

### 1-1393223-2 Product Details - Tyco Electronics

- Contact Related Features:

   Mounting Options = PC Board, Socket
  - Enclosure = Immersion Cleanable
  - FCC Part 68 Isolation = No
  - Relay Type = PCB
  - <u>Contact Material</u> = Silver Cadmium Oxide
  - Approx. Dimensions (L x W x H) (mm [in]) =  $30.00 \times 10.00 \times 15.00 [1.182 \times .394 \times .591]$
  - Contact Type = Single
  - Pin Configuration = Industry Standard 3.2mm
  - Wiring Diagram = 1 Form C
  - Approved Standards = VDE Component Mark, UL Recognized for Canada and US
  - Number of Poles = 1

Wave solder capable to 260°C

- RoHS/ELV Compliance History = Converted to comply with RoHS not ELV directives
- Coil Insulation Classification = UL Class A

Packaging Related Features:

● Packaging Method = Plastic Bar

- Other:

   Electrical Spacing = 8.0mm Clearance 8.0mm Creepage
  - Brand = Schrack

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