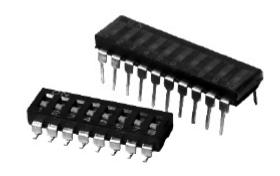
# DIP Switch A6T/A6S

#### **DIP Switch with Slide Pins**

- Allows automatic mounting with DIP IC insertion machines
- Washable models with seal tape are available
- SMT (surface-mounted terminal) models are available with/ without embossed tape
- RoHS Compliant



### **Ordering Information**

No. of poles	Flat actuated		Raised actuator	Flat actuated			Raised actuator
	Standard	With seal tape		Standard	Tape seal	Tape seal in embossed tape	
	DIP terminal	DIP terminal	DIP terminal	SMT terminal	SMT terminal	SMT terminal	SMT terminal
				Carlo Carlo	Carlotte Control		Charles and the same of the sa
1	A6T-1101	A6T-1102	A6T-1104	<b> </b> -	<b> </b>	_	_
2	A6T-2101	A6T-2102	A6T-2104	A6S-2101	A6S-2102	_	A6S-2104
3	_	_	_	A6S-3101	A6S-3102	_	A6S-3104
4	A6T-4101	A6T-4102	A6T-4104	A6S-4101	A6S-4102	A6S-4102-P	A6S-4104
5	_	_	<u> </u>	A6S-5101	A6S-5102	_	A6S-5104
6	A6T-6101	A6T-6102	A6T-6104	A6S-6101	A6S-6102	A6S-6102-P	A6S-6104
7	_	_	_	A6S-7101	A6S-7102	_	A6S-7104
8	A6T-8101	A6T-8102	A6T-8104	A6S-8101	A6S-8102	A6S-8102-P	A6S-8104
9	<u> </u>	_	<u> </u>	A6S-9101	A6S-9102	_	A6S-9104
10	A6T-0101	A6T-0102	A6T-0104	A6S-0101	A6S-0102	_	A6S-0104

Important Note: Switches cannot be water-washed.

#### **Specifications**

#### **■** Characteristics

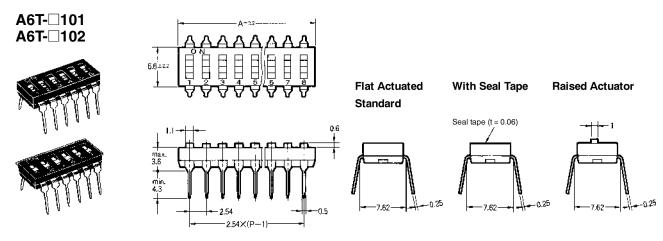
Switching capacity		25 mA at 24 VDC		
Insulation resistance		100 MΩ min. (at 250 VDC)		
Contact resistance		200 m $\Omega$ max. (initial value)		
Dielectric strength		500 VAC for 1 min between terminals of same polarity, and between terminals of different polarity		
Vibration resistance		Malfunction: 10 to 55 Hz, 1.5-mm double amplitude		
Shock resistance		Malfunction: 300 m/s² min. (approx. 30G min.)		
Life expectancy	Mechanical	1,000 operations min.		
	Electrical	1,000 operations min.		
Ambient temperature	pient temperature Operating -20°C to 70°C (with no icing)			
Ambient humidity	Operating 35% to 90%			
Operating force		30 gf		

#### **Dimensions**

Unit: mm (inch)

**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

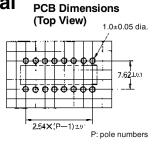
# ■ Flat Actuated with DIP Terminal Standard/With Seal Tape



### ■ Raised Actuator With DIP Terminal

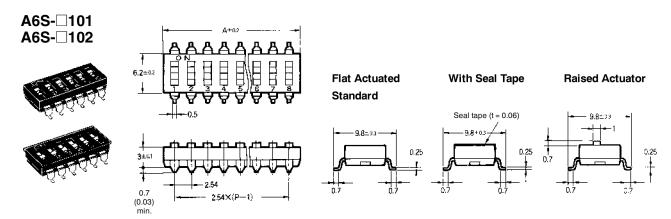




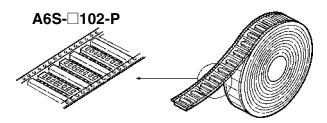


No. of poles	Part number	А		
1	A6T-1101	A6T-1102	A6T-1104	3.48
2	A6T-2101	A6T-2102	A6T-2104	6.02
4	A6T-4101	A6T-4102	A6T-4104	11.10
6	A6T-6101	A6T-6102	A6T-6104	16.18
8	A6T-8101	A6T-8102	A6T-8104	21.26
10	A6T-0101	A6T-0102	A6T-0104	26.34

# ■ Flat Actuated with SMT Terminal Standard/With Seal Tape



#### **■** Embossed Tape

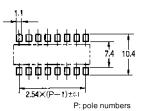


### ■ Raised Actuator With SMT Terminal

A6S-□104



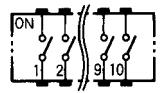
### PCB Dimensions (Top View)



No. of poles	Part number			A	
2	A6S-2101	A6S-2102	_	A6S-2104	6.02 (0.24)
3	A6S-3101	A6S-3102	_	A6S-3104	8.56 (0.34)
4	A6S-4101	A6S-4102	A6S-4102-P	A6S-4104	11.10 (0.44)
5	A6S-5101	A6S-5102	_	A6S-5104	13.64 (0.54)
6	A6S-6101	A6S-6102	A6S-6102-P	A6S-6104	16.18 (0.64)
7	A6S-7101	A6S-7102	_	A6S-7104	18.72 (0.74)
8	A6S-8101	A6S-8102	A6S-8102-P	A6S-8104	21.26 (0.84)
9	A6S-9101	A6S-9102	_	A6S-9104	23.80 (0.94)
10	A6S-0101	A6S-0102	_	A6S-0104	26.34 (1.04)

#### Installation

#### ■ Internal Connections (Top View)



#### **Precautions**

#### **■** Circuit Design

Use the DIP Switch within the rated voltage and current ranges, otherwise the DIP Switch may have a shortened life expectancy, radiate heat, or burn out.

#### **■** Mounting

Do not operate the DIP Switch while mounting, soldering, or washing the DIP Switch, otherwise the DIP Switch may deform due to the heat of the solder, the DIP Switch may malfunction due to the penetration of the washing agent, or the machine incorporating the DIP Switch may operate or be set incorrectly.

An automatic insertion machine incorporating a body stopper is available for mounting the DIP Switch. When using an automatic insertion machine incorporating a half-lead stopper to mount the DIP Switch, make sure that the automatic insertion machine will not deform the terminals of the DIP Switch, otherwise the improper insertion of the DIP Switch may result.

#### ■ Soldering

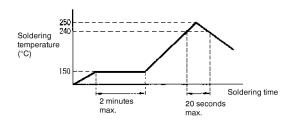
Observe the following conditions when soldering the DIP Switch.

#### Automatic Soldering Bath

Soldering temperature: 350°C at the tip of the soldering iron
Soldering time: 3 s max. for a 1.6-mm thick, single-side

**PCB** 

#### Reflow Soldering



#### **Manual Soldering**

Soldering temperature: 350°C at the tip of the soldering iron

Soldering time: 3 s max. for a 1.6-mm thick, single-side

PCB

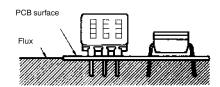
Set the pins of the DIP Switch to OFF before soldering the DIP Switch.

Before soldering the DIP Switch on a PCB, make sure that there is no unnecessary space between the DIP Switch and PCB.

Before soldering the DIP Switch on a multilayer PCB, make sure that the DIP Switch will not be deformed by the soldering heat on the pattern or land of the multilayer PCB.

Do not solder the DIP Switch more than twice including rectification soldering. An interval of five minutes is required between the first and second solderings.

Make sure that there is no flux rise on the surface of the PCB.



#### Terms and Conditions of Sale

- Offer: Acceptance. These terms and conditions (these "Terms") are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronic Components LLC ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
- Prices: Payment. All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. Payments for Products received are due net 30 days unless otherwise stated
- <u>Discounts.</u> Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's
- payment terms and (ii) Buyer has no past due amounts owing to Seller. Currencies. If the prices quoted herein are in a currency other than U.S. dol lars, Buyer shall make remittance to Seller at the then current exchange rate most favorable to Seller and which is available on the due date; provided that if remittance is not made when due, Buyer will convert the amount to U.S. dol-lars at the then current exchange rate most favorable to Seller available during the period between the due date and the date remittance is actually made.
- Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
- Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
- Financial. If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid
- <u>Cancellation; Etc.</u> Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith
- Force Majeure. Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.

  10. Shipping: Delivery.

  1. Shipments shall be by a carrier selected by Seller:
- - Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - 3. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buver:
- paid by Buyer;

  4. Delivery and shipping dates are estimates only.

  5. Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.

  11. Claims. Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Seller in the condition claimed.

- 12. <u>Warranties.</u> (a) <u>Exclusive Warranty</u>. Seller's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) Limitations. SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or othany type for clams or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) <u>Buyer Remedy</u>. Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the noncomplying Product or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Product; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Seller's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of ject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies, or any other materials or substances or environ-
- circuits, system assembles, or any other materials of substances of environments. Any advice, recommendations or information given orally or in writing are not to be construed as an amendment or addition to the above warranty. Limitation on Liability: Etc. SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Seller exceed the individual price of the Product on which liability is asserted.
- which liability is asserted.
  <u>Indemnities</u>. Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Product made to Buyer specifications infringed intellectual property rights
- of another party.

  Property: Confidentiality. The intellectual property embodied in the Products is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Notwithstand to the product of the property of the product of the produc ing any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and
- etary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.

  16. Miscellaneous. (a) Waiver. No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller. (b) Assignment. Buyer may not assign its rights hereunder without Seller's written consent. (c) Law. These Terms are governed by Illinois law (without regard to conflict of law principles). Federal and state courts in Illinois shall have exclusive jurisdiction for any dispute hereunder. (d) Amendment. These Terms constitute the entire agreement between Buyer and Seller relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) Severability. If any provision hereof is rendered ineffective or invalid such provision shall not invalidate any hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) Setoff. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice.. (g) Definitions. As used herein, "including" means "including without limitation".

#### Certain Precautions on Specifications and Use

- Suitability for Use. Seller shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in Buyer's application or use of the Product. At Buyer's request, Seller will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the partic-Buyer shall be solely responsible for determining appropriateless of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:

  (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.

  - (ii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.

(iii)Use in consumer products or any use in significant quantities. (iv)Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products. Seller shall not be responsible for the user's

programming of a programmable product, or any consequence thereof.

Performance Data. Performance data given in this publication is provided as a guide for the user in determining suitability and does not constitute a warranty It may represent the result of Seller's test conditions, and the users must corre late it to actual application requirements. Actual performance is subject to Seller's Warranty and Limitations of Liability.

Change in Specifications. Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our pract tice to change part numbers when published ratings or features are changed or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for you application. Please consult with your Seller representative at any time to con firm actual specifications of purchased Product.

<u>Errors and Omissions</u>. The information in this publication has been carefully

checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors, or omissions.

RoHS Compliance. Where indicated, our products currently comply, to the bes

of our knowledge as of the date of this publication, with the requirements of the European Union's Directive on the Restriction of certain Hazardous Sub stances ("RoHS"), although the requirements of RoHS do not take effect until July 2006. These requirements may be subject to change. Please consult our website for current information. website for current information.

Complete "Terms and Conditions of Sale" for product purchase and use are on Omron's website at www.components.omron.com - under the "About Us" tab, in the Legal Matters section.

#### ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

OMRON ELECTRONIC COMPONENTS LLC

55 E. Commerce Drive, Suite B Schaumburg, IL 60173

847-882-2288

OMRON CANADA, INC.

885 Milner Avenue Toronto, Ontario M1B 5V8

416-286-6465

OMRON ON-LINE

Global - http://www.omron.com USA - http://www.components.omron.com Canada - http://www.omron.ca