

NEWS RELEASE

PR1707E

ALPS Offers SPEF Series of Compact-sized Push Switch for Automotive Use

Combines Push-Lock Mechanism with Silent Operation

Duesseldorf, Germany, October 09, 2007 – ALPS ELECTRIC EUROPA GmbH has announced the development of the SPEF Series of push lock-type switches for car cabin interior map lamps and hazard switches.

Recently, quiet operation has been much sought after in the quest to make automotive interiors more comfortable. This requires design that minimizes not only noise coming from outside the automobile when it is in motion but also the noises made by the parts used in the input devices that operate in-car equipment. In addition, there is growing demand for parts that help imbue automobiles with a luxurious feel by operating smoothly and silently.

SPEF Series in-car switches feature a push-lock mechanism that moves into the locked position when pressed and returns to the initial position when pressed again, providing for almost silent and smooth operation. The moving part utilizes Alps Electric's proprietary ratchet cam^(Note 1) structure. An almost silent performance is achieved by smoothing out the ridges of the cam, which combines a rotating guide and a guide. This structure enables the smooth operational feel.

To streamline the soldering process, increasing use is being made of the reflow^(Note 2) method for mounting automotive electronic components, and surface mounting-type products that are compatible with this process are much in demand. As a push switch, the SPEF Series has augmented the variety offered by Alps Electric's first surface mounting-type product lineup. Used in

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addition to the ${\rm dip}^{({\rm Note}\ 3)}$ method, reflow widens the choice of soldering methods for set products.

By making use of Alps Electric's microfabrication technology, it was possible to achieve a low-profile and compact structure measuring 9.4 mm wide, 9.0 mm deep and 6.9 mm high.

Note 1 Ratchet cam: A movement structure comprising a rotating guide with serrated teeth to prevent backward rotations of the rotation cam, and gears designed to stop rotations at predefined angles.

Note 2 Reflow: A soldering method whereby parts are mounted, heated and connected using paste-like solder printed on a circuit board.

Note 3 Dip (flow): A soldering method that immerses the underside of a circuit board on which parts are mounted in a tank that holds the liquid solder.

Features

Development of compact-sized push switch for automotive use that combines push-lock mechanism and silent operation

- Delivers almost silent, smooth operational feel thanks to proprietary ratchet cam construction, contributes to quiet car cabin interiors and creates a sense of luxury
- 2. Adds variety to Alps Electric's surface mounting-type products, enables reflow soldering
- 3. Achieves a low-profile, compact format

Principal Applications

Push switches for car cabin interior map lamps, hazards, window locks

Specifications

Product name	SPEF series	
Dimensions (W x D x H)	9.4 mm x 9.0 mm x 6.9 mm	
Rating(max) (resistive load)	1A 14.5V DC	
Contact resistance	100mΩ max.	
Operating force	3N	
Operating life	30,000 cycles	
Circuit configuration	1-pole, 2-position	
Soldering type	Reflow	Dip

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ALPS Electric Co., Ltd.

Since its establishment in 1948 ALPS has grown as a comprehensive manufacturer of electronic components. At present ALPS is creating innovative high-value-added products in its main business segments — Components, Magnetic Devices, Communications, Peripheral Products, and Automotive Electronics — which are contributing to the advance of a digital society. ALPS is a global company that carries out its operations with 23 production bases in 9 countries as well as 57 sales bases in 14 countries. Consolidated net sales in the year ended March 31, 2007 amounted to YEN 708 billion.

ALPS ELECTRIC EUROPA GmbH, a subsidiary of ALPS Electric Co., Ltd., was established in 1979. Since 1989, the European Head Office has been located in Düsseldorf, where a team of specialists works in Sales, Marketing, and Product Engineering. The activities of our branch offices in Munich, Paris and Milton Keynes, our sales office in Milan and our European distribution work are co-ordinated from Düsseldorf. ALPS Nordic AB, a 100 percent subsidiary of ALPS ELECTRIC EUROPA GmbH, is based in Sweden and services the Scandinavian market.

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