

New Product



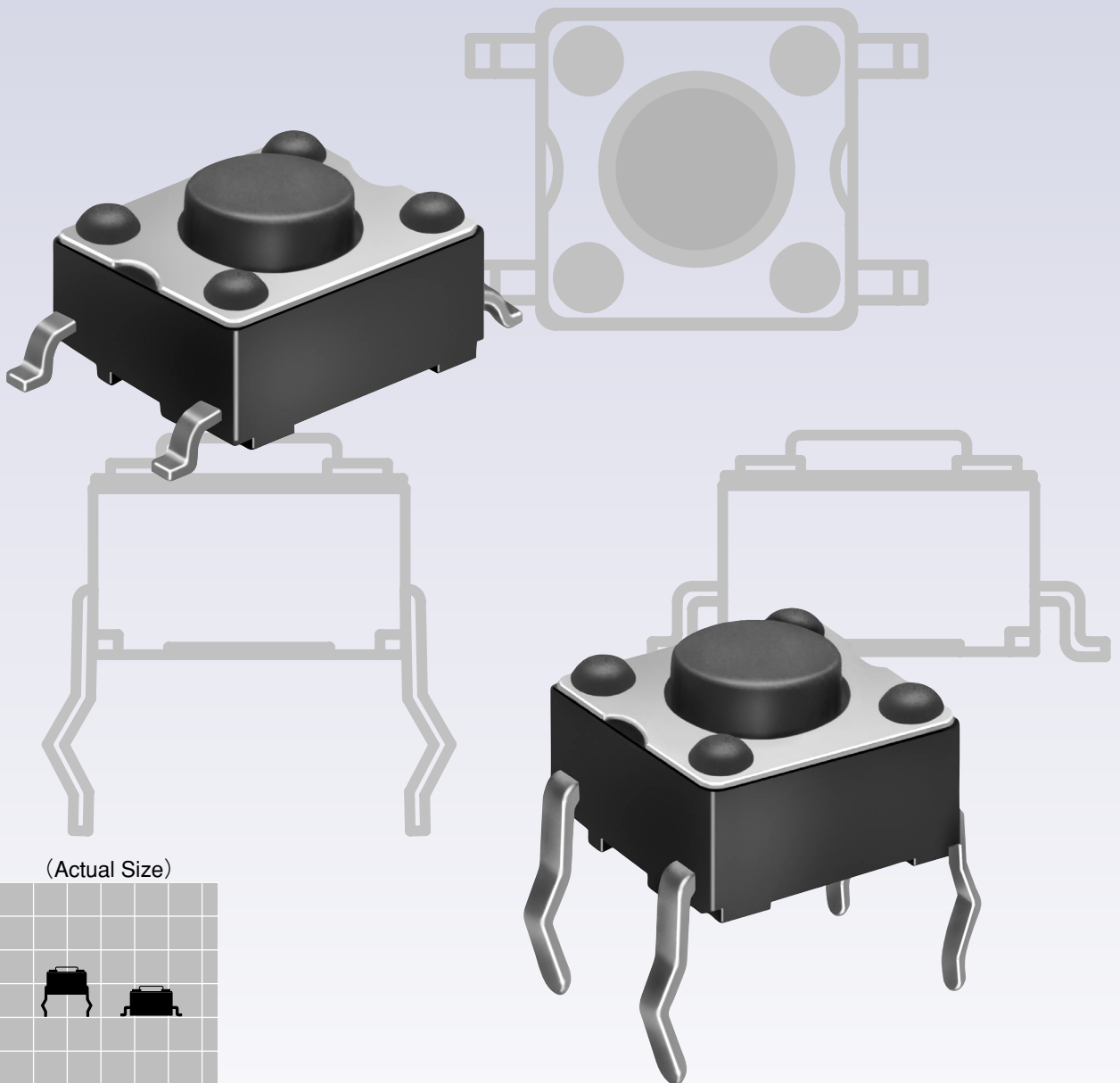
CONTACT No.097

Through-hole mount type Series HP02

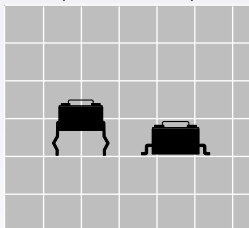
Lead-free 6.2 mm Tactile Switch

Surface mount type Series HP03

Lead-free 6.2 mm Tactile Switch



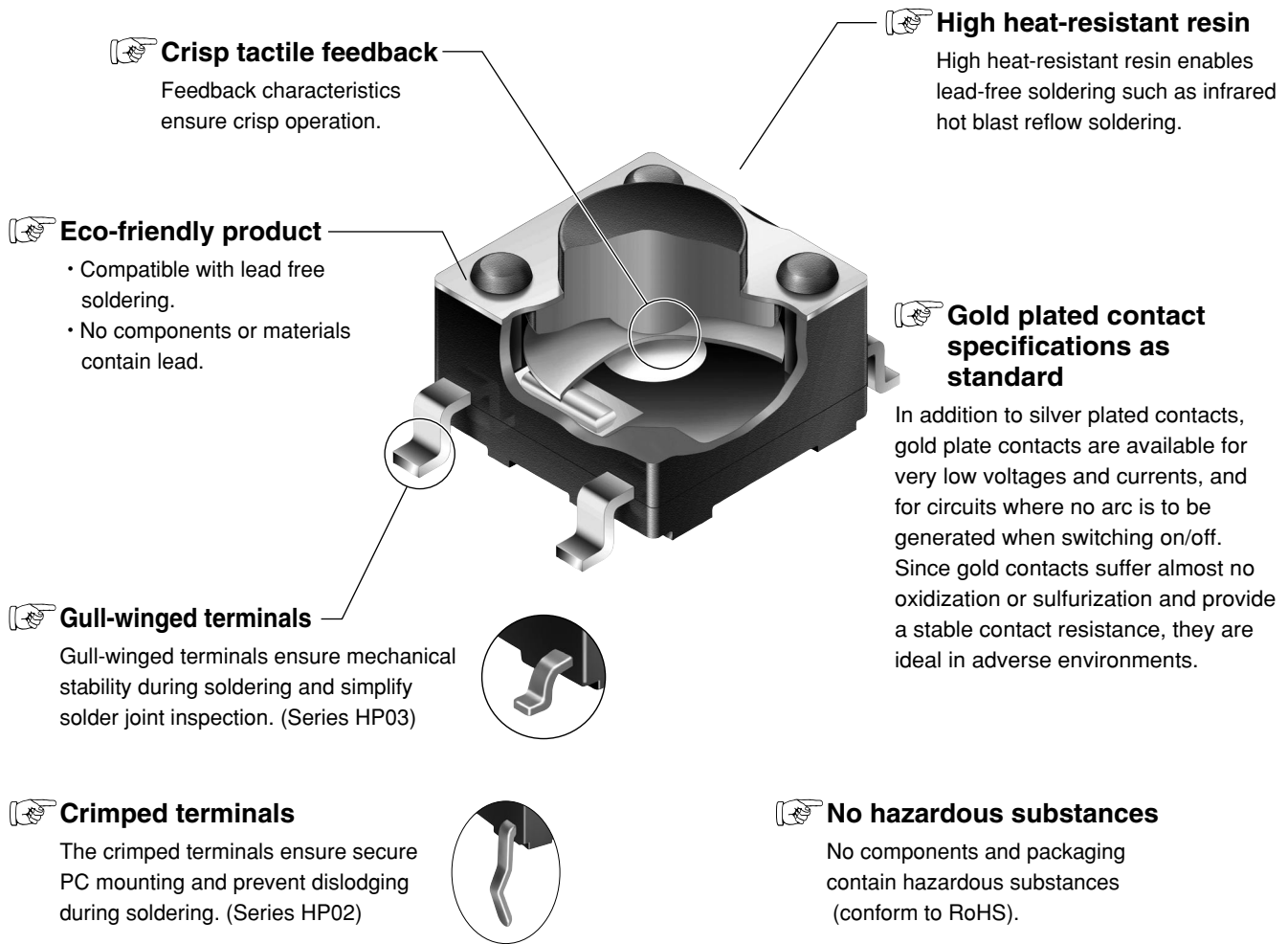
(Actual Size)



□ 6.2mm Tactile Switches

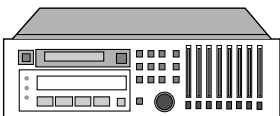
Series HP02/HP03

Highly Cost effective, eco-friendly product!

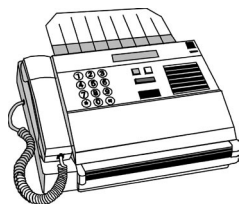


► Applications

Office automation equipment, control panels, Telecommunication, electronic measurement, consumer electronic equipment, amusement devices, etc.



Consumer Electronic Equipment



Office Automation Equipment

► Release

January 28, 2004

► Specifications

Contact Materials	Silver plated contact		Gold plated contact	
Lead-free or not	Lead-free		Lead-free	
Terminals	Through-hole mount type	Surface mount type	Through-hole mount type	Surface mount type
Part Number	HP0215AFAP2	HP0315AFAP2	HP0215AFAP4	HP0315AFAP4
Electrical Capacity	3VA MAX. DC (Applicable voltage range : 0.1V to 28V) (Applicable current range : 10mA to 125mA)		3VA MAX. DC (Applicable voltage range : 20mV to 28V) (Applicable current range : 0.1mA to 0.1A)	
Contact Resistance	100mΩ max. (@20mV and 10mA)		100mΩ max. (@20mV and 10mA)	
Insulation Resistance	100MΩ min. @100V DC		100MΩ min. @100V DC	
Dielectric Strength	250V AC (between terminals) for one minute min. 250V AC (between a terminal and earth) for one minute min.		250V AC (between terminals) for one minute min. 250V AC (between a terminal and earth) for one minute min.	
Mechanical Life	500,000 operations min.		500,000 operations min.	
Electrical Life	500,000 operations min.		500,000 operations min.	
Nominal Operating Force	1.6N		1.6N	
Total Travel	0.2 ± 0.1 mm		0.2 ± 0.1 mm	
Operating Temp. Range	-20 ~ +70°C		-20 ~ +70°C	
Soldering Time & Temperature	<ul style="list-style-type: none"> ▶ Hand soldering: 4 seconds max. @ 410°C max. ▶ Soldering bath: 11 seconds max. @ 270°C max. 	<ul style="list-style-type: none"> ▶ Hand soldering: 4 seconds max. @ 390°C max. ▶ Reflow soldering: See "Operation Instructions" on the next page. 	<ul style="list-style-type: none"> ▶ Hand soldering: 4 seconds max. @ 410°C max. ▶ Soldering bath: 11 seconds max. @ 270°C max. 	<ul style="list-style-type: none"> ▶ Hand soldering: 4 seconds max. @ 390°C max. ▶ Reflow soldering: See "Operation Instructions" on the next page.

► CIRCUIT & TYPICAL SWITCH DIMENSION

Actuator position < >=momentary		Contact Material	Part Number		Switch Throw & Schematic
			Series HP02 Through-hole mount type	Series HP03 Surface mount type	
OFF	<ON>	Silver	◎ HP0215AFAP2	◎ HP0315AFAP2	
OFF	<ON>	Gold	◎ HP0215AFAP4	◎ HP0315AFAP4	

Through-hole mount type

▶ The terminal numbers are indicated on the case.

Single pole single through	◎ HP0215AFAP2 ◎ HP0215AFAP4		Foot print (View from the switch side)	

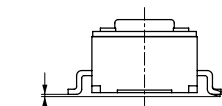
Surface mount type

▶ The terminal numbers are indicated on the case.

Single pole single through	◎ HP0315AFAP2 ◎ HP0315AFAP4		Foot print (View from the switch side)	

Coplanarity tolerance

HP0315AFAP2 HP0315AFAP4



Coplanarity tolerance: 0.15mm maximum

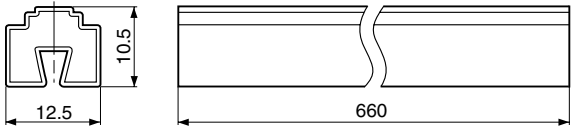
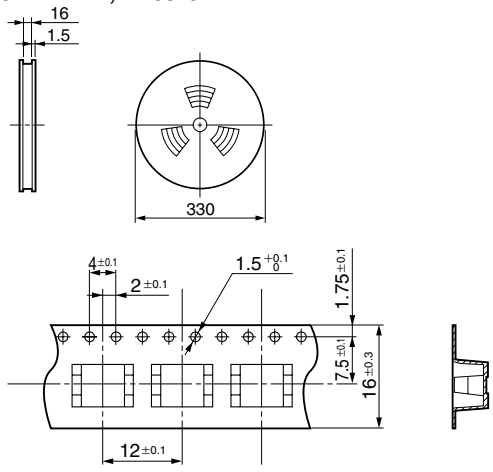
► Packaging

For the **HP02/HP03** packaging type, stick-tube packaging (50 pieces/tube) and tape-reel packaging (1,000 pieces/reel) are available.

Packaging specification code:

Stick-tube packaging : **-S**
Tape-reel packaging : **-R**

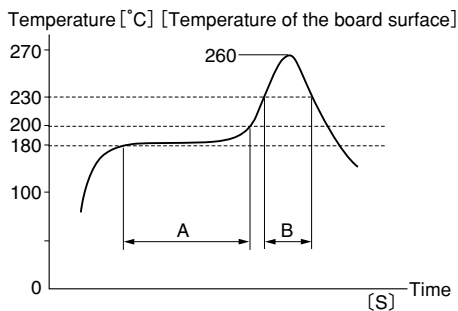
When ordering, please add the packaging code at the end of the product name. When tape-reel packaging is selected, please order by the packaging unit.

Stick-tube specification	Tape-reel specification
<p>HP0215AFAP2-S, HP0215AFAP4-S HP0315AFAP2-S, HP0315AFAP4-S</p> 	<p>HP0315AFAP2-R, HP0315AFAP4-R</p> 

► Operating Instructions

Soldering for surface mount type switches

- When a soldering iron is used:
4 seconds max. @ 390°C max.
- When reflow soldering is used:
 - Recommended temperature profile for the infrared reflow method



Time	A (Preheating)	B (Regular heating)
Series Name		
HP03	120seconds	60seconds

The above-mentioned conditions describe the surface temperature of a printed board. Since the board surface temperature and the switch surface temperature may vary greatly depending on the material, size and thickness of a board, take care to ensure that the switch surface temperature does not exceed 270°C. If the conditions are more stringent than the above profile, please consult our sales department.

Washing

The product is not washable.

For flux washing of a printed board after soldering, NKK recommends an alcohol-based washing fluid.

Installation

After soldering, take care to ensure that the terminals do not receive mechanical stress caused by warp of the printed board.

※ Note that the specifications are subject to change without notice.