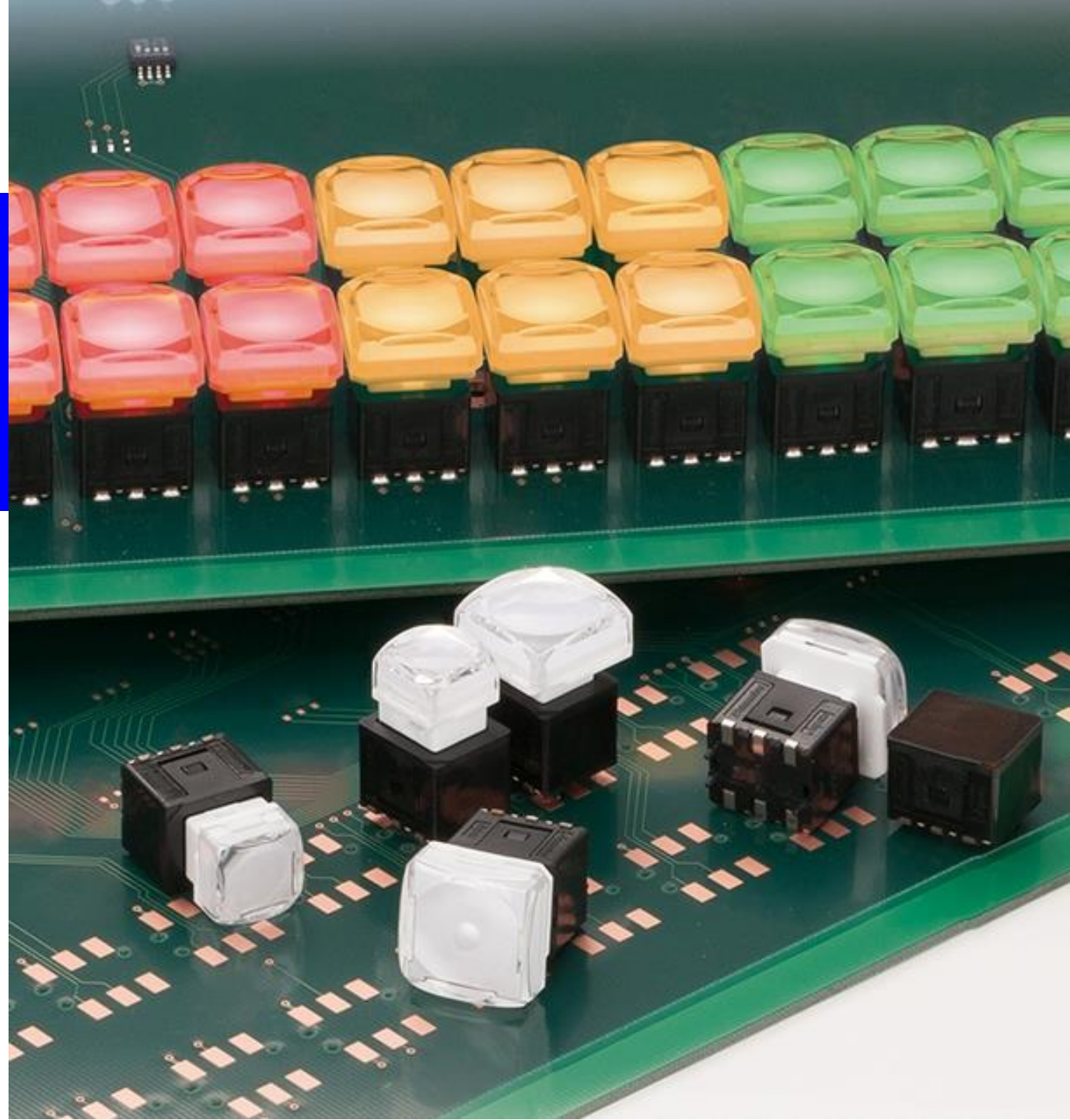


A World First SMT-compatible Switch

KA / K2 / K9 Series



What is SMT-compatible switch?

* SMT : Surface Mount Technology

Difference in Mounting Method
between 'Reflow' and 'Flow' Soldering

Advantages compared with conventional switch

What is SMT-compatible switch?

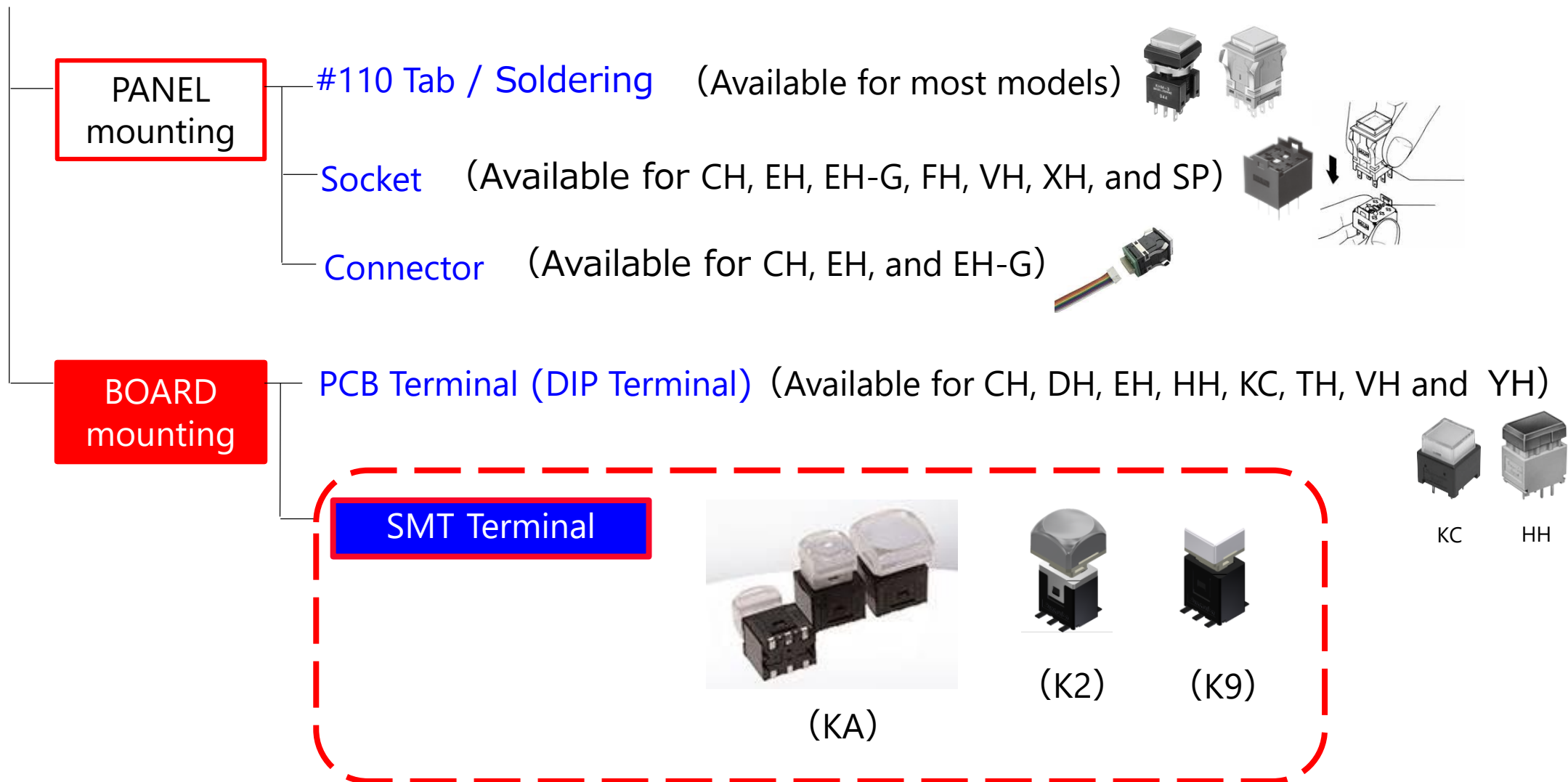
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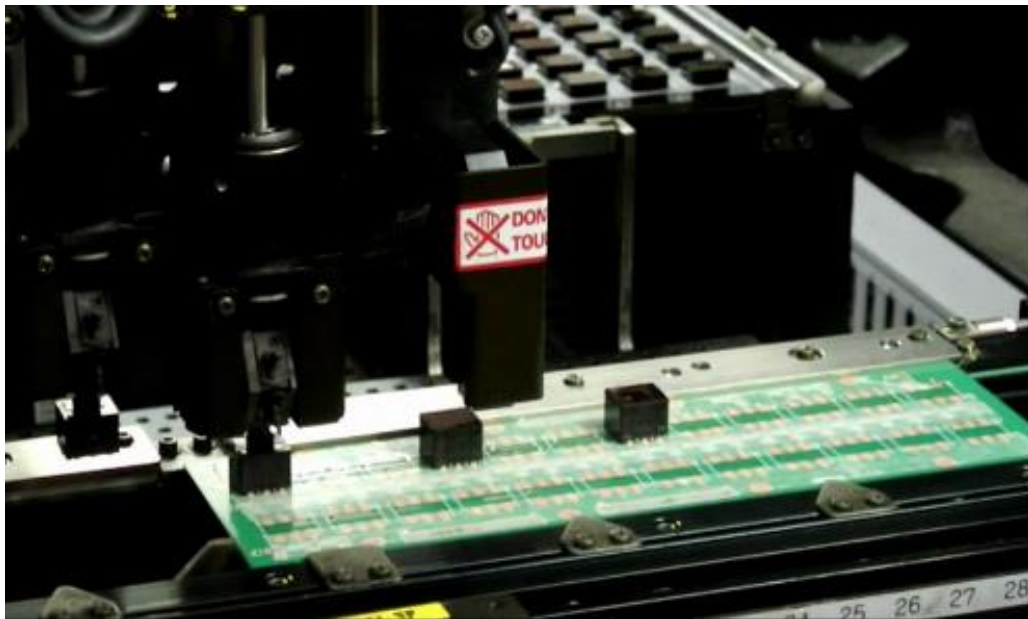
Advantages compared with conventional switch

Positioning of SMT-compatible switch in Sunmulon products

Relationship between 「Mounting Method」 and 「Terminal Shape」



A SWITCH that can be mounted on the SURFACE
of PCB and soldered by REFLOW process.



A SWITCH that can be mounted on the SURFACE
of PCB and soldered by REFLOW process.

Sunmulon succeeded **world-first**
commercializing of SMT-compatible
illuminating pushbutton switch.

Only Sunmulon mass-produce
SMT-compatible illuminating pushbutton
switch at this time.

(As at end of March 2019 researched by Sunmulon)

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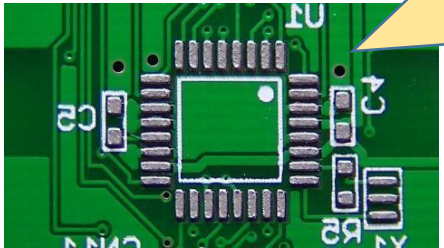
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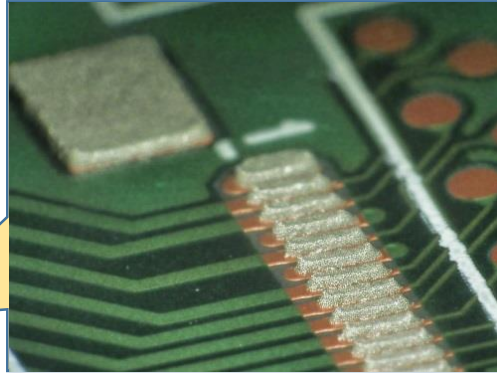
SMT Reflow Soldering Process



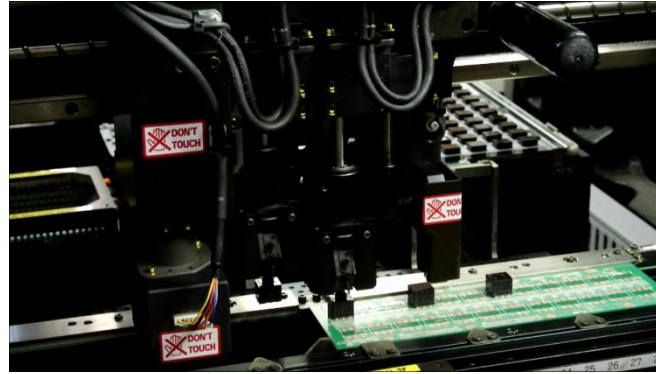
Cream solder



PCB after applying cream solder



Enlarged photo



Mount the switch on PCB
with the mounting machine



To reflow furnace



Reflow furnace

Heat in a reflow furnace

In a reflow furnace?

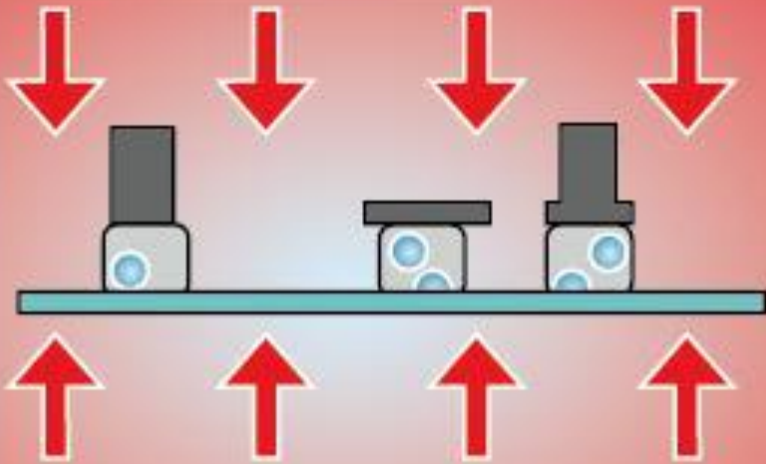


Soldering completed

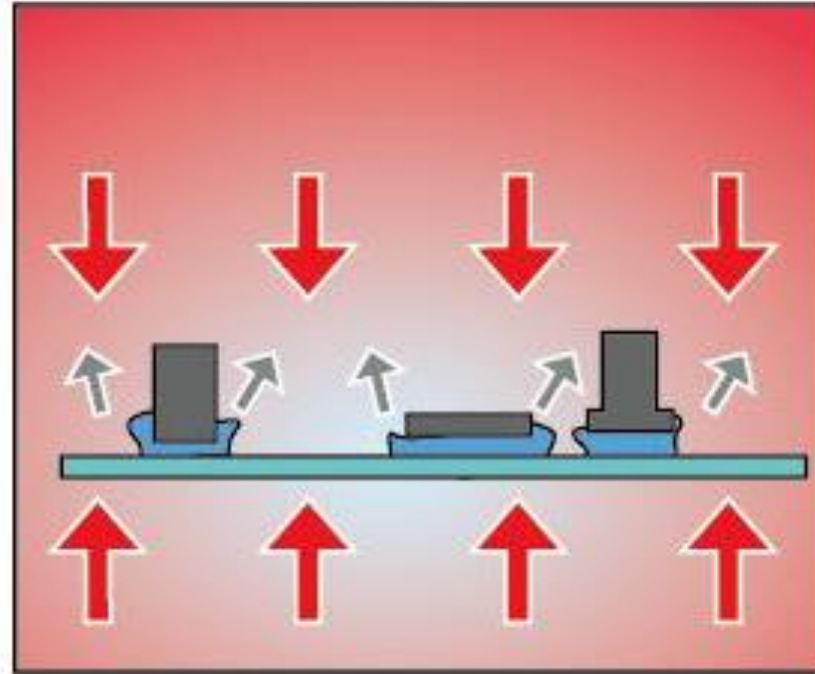
Heating Mechanism in a Reflow Furnace

In a reflow furnace?

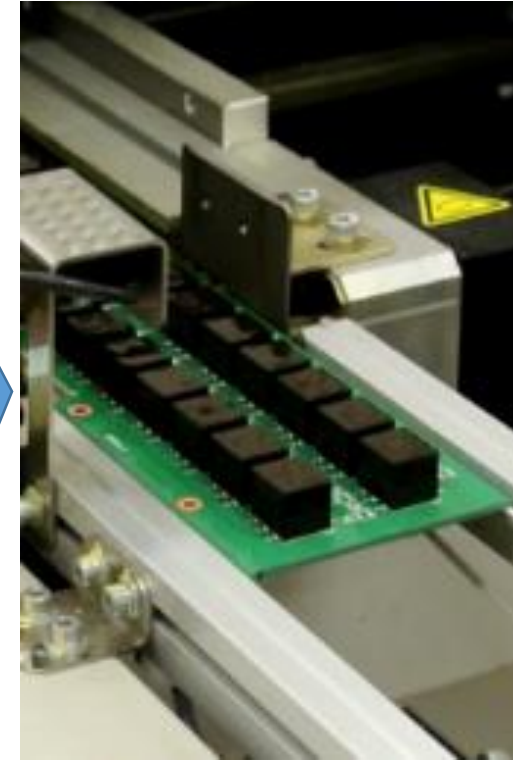
Heat in a reflow furnace



Right after entering the reflow furnace, the cream solder remains in particles and the chip parts are just on it, but not yet bonded.



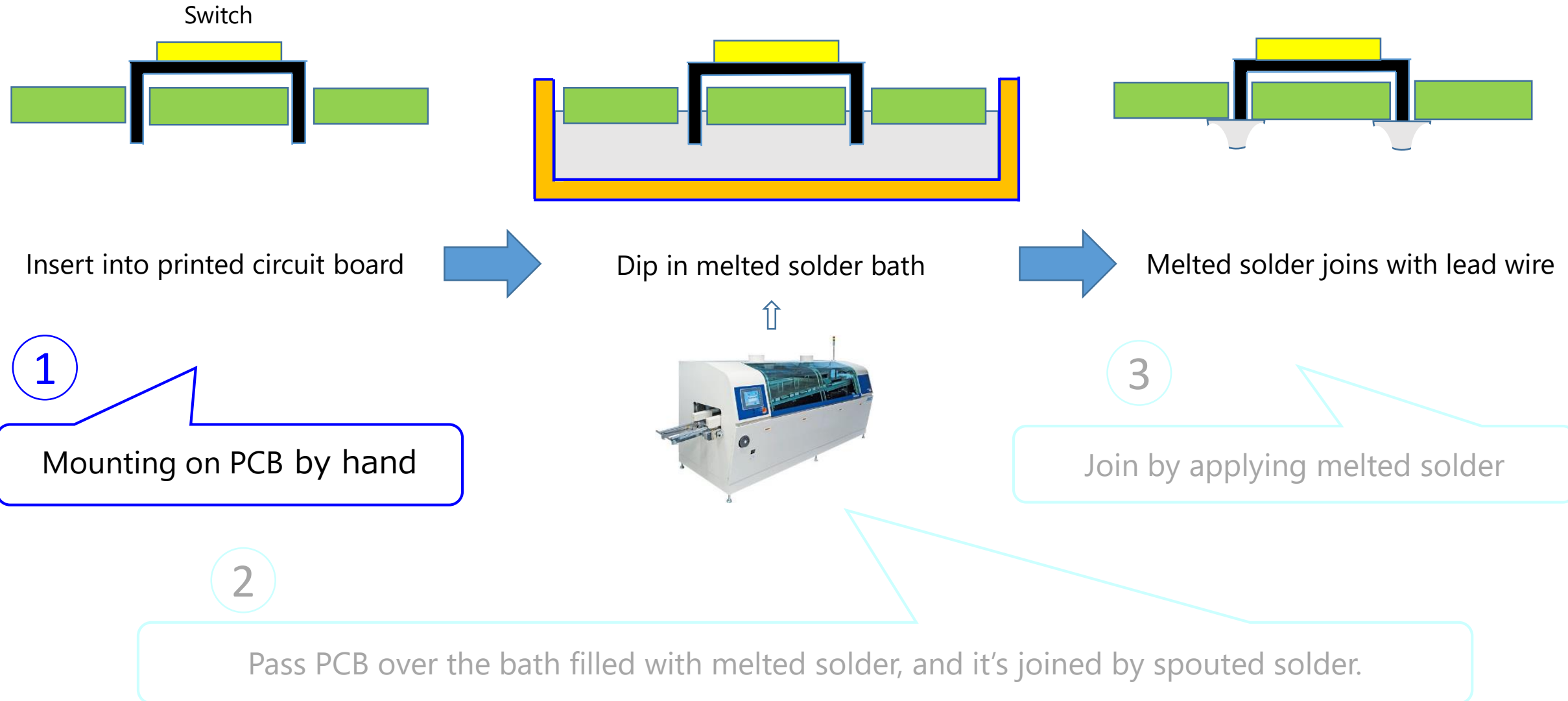
The flux evaporates and the cream solder particles melt and join. The parts such as switches also "sink" into the liquid solder and are adhered to the solder.



Soldering completed

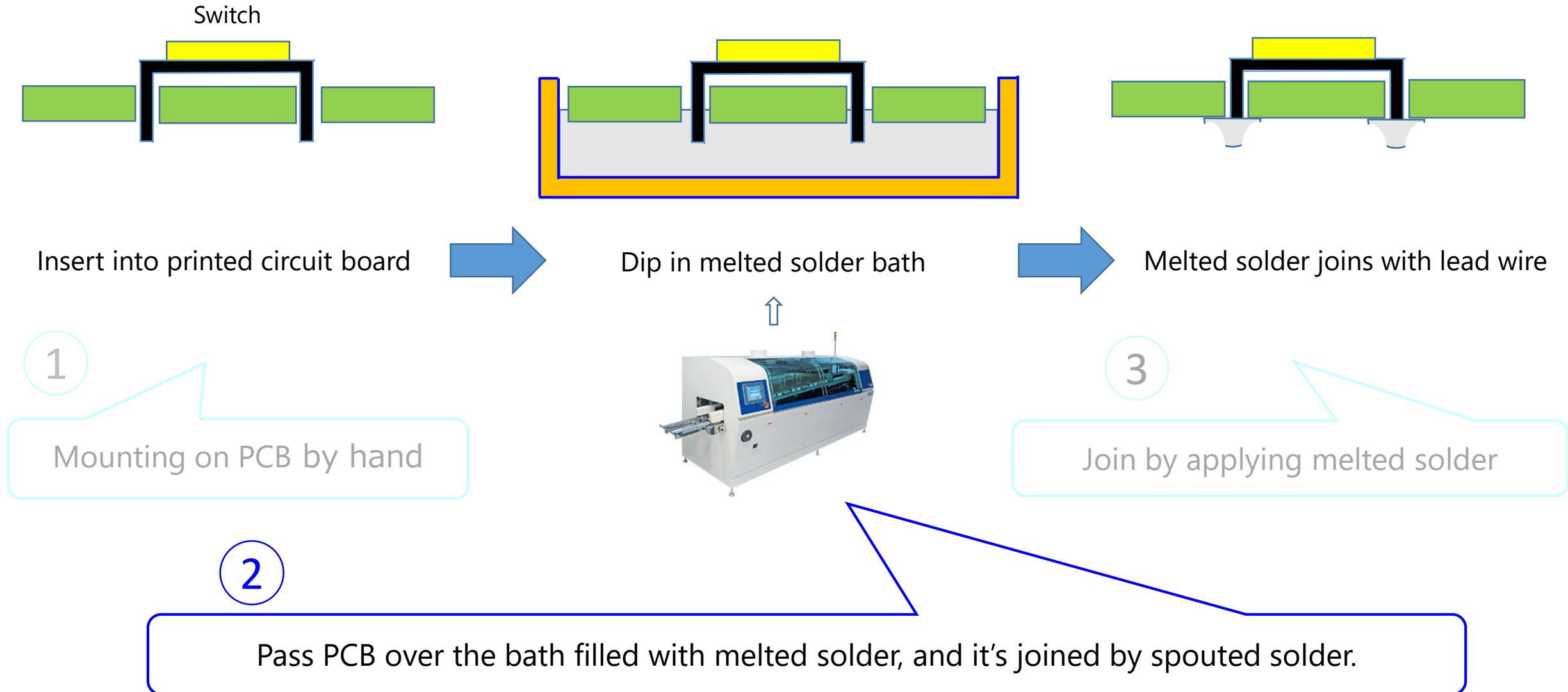
Flow Soldering Process

Flow



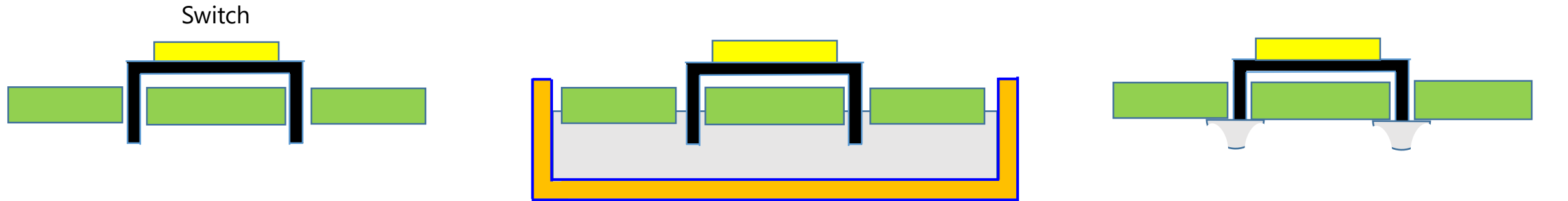
Flow Soldering Process

Flow



Flow Soldering Process

Flow



1

Mounting on PCB by hand

Dip in melted solder bath



Melted solder joins with lead wire

3

Join by applying melted solder

2

Pass PCB over the bath filled with melted solder, and it's joined by spouted solder.

What is SMT-compatible switch?

* SMT : Surface Mount Technology



Difference in Mounting Method
between 'Reflow' and 'Flow' Soldering

Advantages compared with conventional switch

Advantages of SMT-compatible switch ①

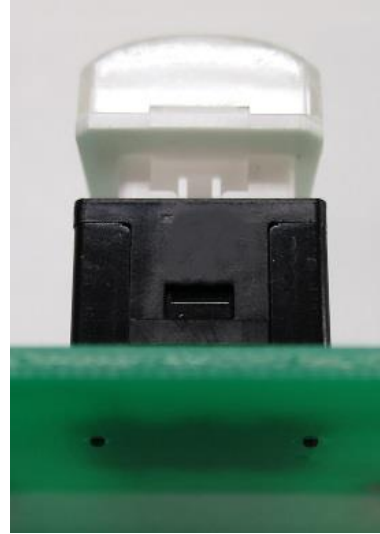
Enhance productivity

The difference can be seen clearly in the actual assembly board which is mixed surface mount parts such as semiconductor and switches.

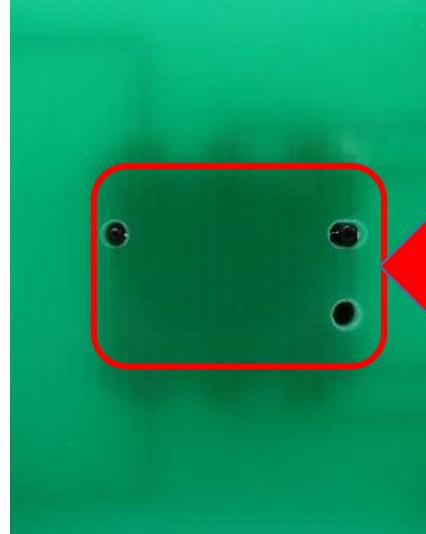
	SMT	PCB Terminal
Image		
Mounting procedure	Mounted switch TOGETHER with other surface mount parts by chip mounter	Mounted surface mount parts by chip mounter
	Soldering • REFLOW	Solder surface mount parts • REFLOW
	Peel off heat-resistant stickers Assemble light cartridge (MANUAL)	Mounted switch manually into the through hole (MANUAL) Soldering • FLOW • OR MANUAL Correct position (MANUAL)
Efficiency of mounting time ※per 1pc using 48pcs	15 seconds Machine : 11.5 seconds Manual : 3.5 seconds	40 seconds Machine : 14 seconds Manual : 26 seconds (3 steps)

Advantages of SMT-compatible switch ②

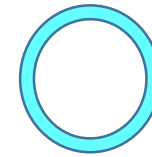
SMT



REVERSE side of PCB



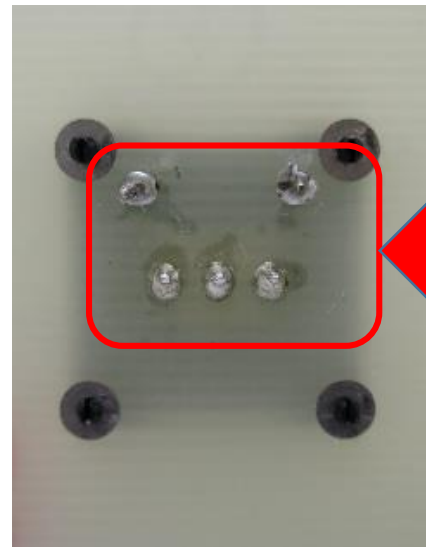
Higher design flexibility



PARTS and PATTERNS
can be placed on the
REVERSE side of PCB.

**High-density mounting
= Downsizing of machines**

PCB Terminal

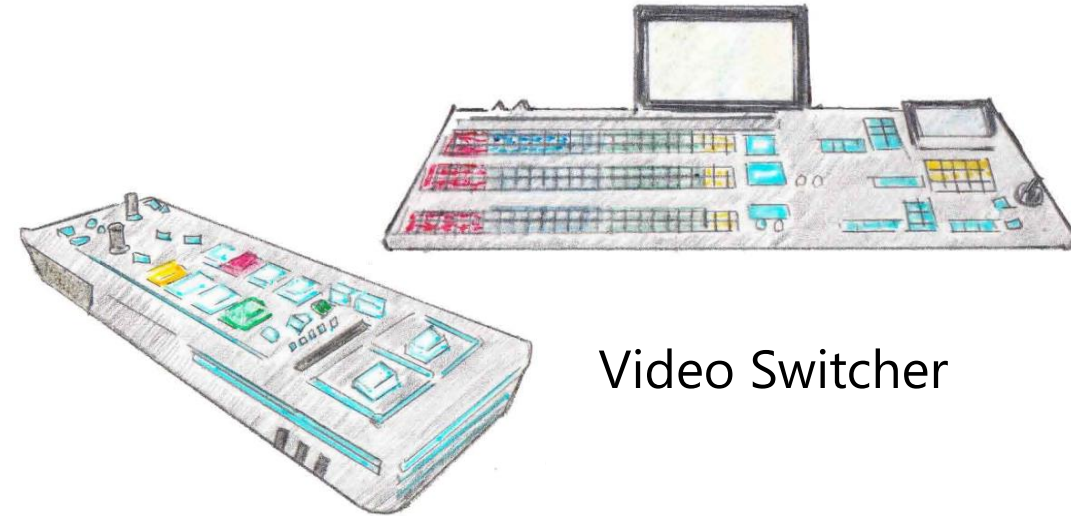


Applications benefited from SMT compatibility

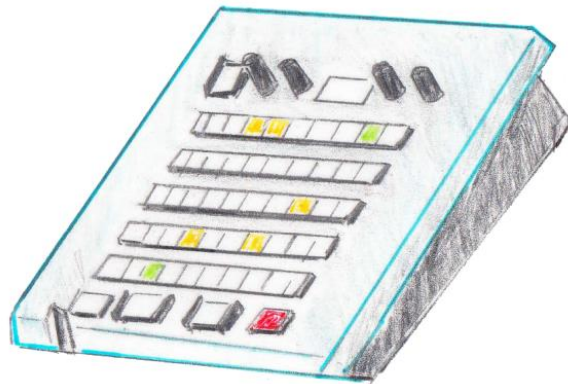
= Most suited to multiple usages of switches

Contributes to
Production Cost Reduction
by shortening
switch mounting time

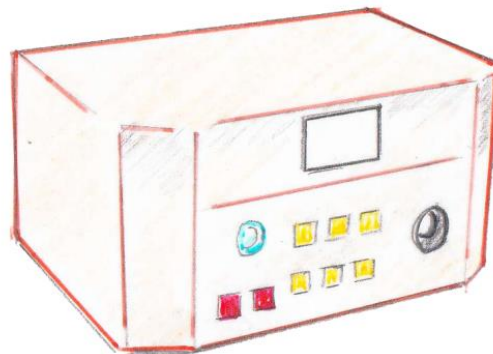
Contributes to
PCB & Device
Downsizing



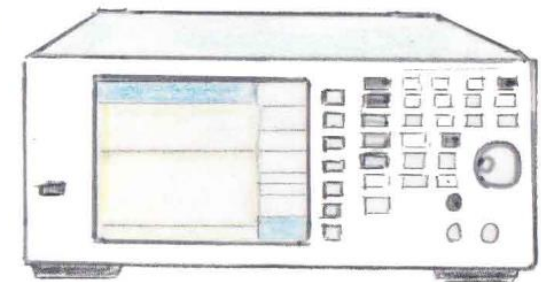
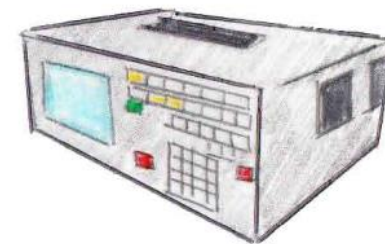
Video Switcher



Firefighting Command Device



Potential Treatment Device



Signal Generator

SMT Product Line-up

K9	K2		KA	KA	
9mm square	12mm & 15mm square			17.4mm square	
Flat	Flat	Concave	Raise dot	Concave	Raise dot

K2, K9

Mono-Color (Red • Green • Yellow)
Dual-Color (Red • Green)

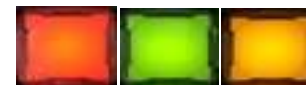


Dual-Color (Red • Super Green)

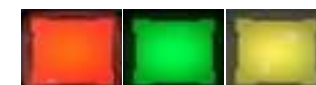


KA

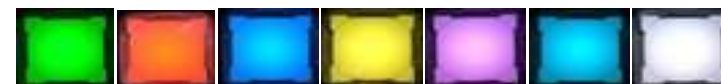
Dual-Color
(Red • Green)



Dual-Color
(Red • Super Green)



Multicolored (256 colors)





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Our Agent list

