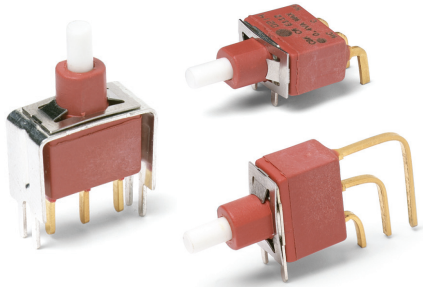




# E010 Series Sealed Momentary Pushbutton Switches

Pushbutton  
A



## Features/Benefits

- Process sealed, withstands soldering and cleaning
- Long life contact design
- Snap-fitting plunger available, accepts a variety of caps
- RoHS compliant models available

## Typical Applications

- Instrumentation
- Telecommunications and networking equipment
- Computers and peripherals



Models Available

## Specifications

**CONTACT RATING:** Q contact material: 4 AMPS @ 125 V AC or 28 V DC. See page A-50 for additional ratings.

**ELECTRICAL LIFE:** 40,000 make-and-break cycles at full load.

**CONTACT RESISTANCE:** Below 20 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

**INSULATION RESISTANCE:** 10<sup>9</sup>Ω min.

**DIELECTRIC STRENGTH:** 1000 Vrms min. @ sea level.

**OPERATING TEMPERATURE:** -30°C to 75°C.

**CAP INSTALLATION FORCE:** 10 lbs. max. permissible.

**SOLDERABILITY:** Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

**NOTE:** Any models supplied with P, Q, B or G contact material are RoHS compliant.

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

## Materials

**CASE & BUSHING:** Glass filled nylon 6/6, flame retardant (UL 94V-0).

**PLUNGER:** Glass filled nylon or glass filled polyester (PBT) (UL 94V-0), with internal o-ring seal standard.

**SWITCH SUPPORT:** Brass or steel, matte-tin plated.

**SWITCH SUPPORT RETAINER:** Stainless steel.

**END CONTACTS:** Q contact material: Coin silver, silver plated. See A-50 for additional ratings.

**CENTER CONTACTS & ALL TERMINALS:** Q contact material: Copper alloy, silver plated. See page A-50 for additional ratings.

**TERMINAL SEAL:** Epoxy.

**HARDWARE:** Nut & locking ring-Brass, nickel plated. Lockwasher-Steel, nickel plated.

## Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-47 thru A-51. For additional options not shown in catalog, consult Customer Service Center. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.

<p><b>Switch Function</b> _____</p> <p><b>E112</b> SPDT On-Mom.</p> <p><b>Plunger</b> _____</p> <p><b>S</b> .222" high</p> <p><b>L</b> .338" high</p> <p><b>M</b> .331" high, snap-fitting</p> <p><b>Bushing</b> _____</p> <p><b>D1</b> Unthreaded</p> <p><b>Y</b> Threaded, keyway</p> <p><b>Terminations</b> _____</p> <p><b>A</b> Right angle, PC thru-hole</p> <p><b>AV2</b> Vertical right angle, PC thru-hole</p> <p><b>C</b> PC Thru-hole</p> <p><b>A3</b> Right angle, snap-in, PC thru-hole</p> <p><b>AV3</b> Vertical right angle, snap-in, PC thru-hole</p> <p><b>R2</b> Right angle with PCB</p> <p><b>V3</b> .460" high, V-bracket</p> <p><b>V4</b> .630" high, V-bracket</p> <p><b>V6</b> .460" high, V-bracket</p> <p><b>V8</b> .953" high, V-bracket</p> <p><b>V31</b> .460" high, snap-in V-bracket</p> <p><b>V81</b> .953" high, snap-in V-bracket</p> <p><b>V91</b> 1.150" high, snap-in V-bracket</p> <p><b>W</b> .750" long, wire wrap</p> <p><b>Z</b> Solder lug</p>	<p><b>Contact Material</b> _____</p> <p><b>B</b> Gold</p> <p><b>P</b> Gold, matte-tin</p> <p><b>Q</b> Silver</p> <p><b>G</b> Gold over silver</p> <p><b>Seal</b> _____</p> <p><b>E</b> Epoxy</p>
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Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

# E010 Series Sealed Momentary Pushbutton Switches



A  
Pushbutton

## SWITCH FUNCTION

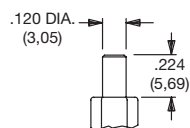
NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
SP	<b>E112</b>	ON	MOM.	2-1	2-3	
<p><b>SPDT</b></p> <p>Part number shown: E112SD1CQE</p>						

MOM. = Momentary

All models with all options when ordered with G or Q contact material.

## PLUNGER

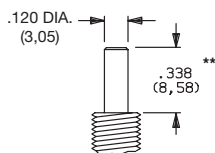
**S** .218" HIGH



Standard with D1 bushing (as shown).

† Subtract .100 (2,54) from plunger length when ordered with Y bushing.

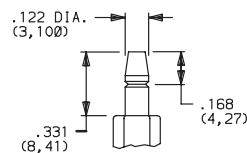
**L** .338" HIGH



Standard with Y bushing (as shown).

\*\* Add .100 (2,54) from plunger length when ordered with D1 bushing.

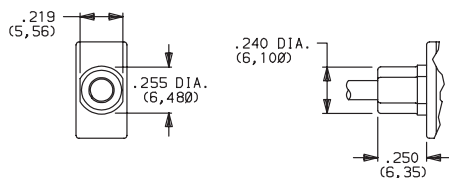
**M** .331" HIGH, SNAP-FITTING



**NOTE:** Caps available for all plunger options, see pages A-50 and A-51.

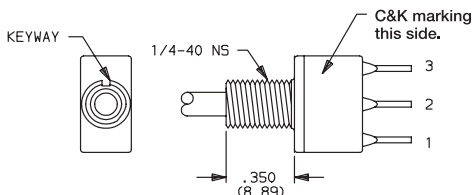
## BUSHING

**D1** UNTHREADED



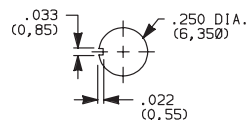
S plunger standard with D1 bushing.

**Y** THREADED, KEYWAY



L plunger standard with Y bushing. Available only with C, Z terminations.  
Hardware: One dress nut part number 299D01201, one hex nut and lockwasher supplied standard.  
Withstands 4 in./lbs. without distortion.

**PANEL MOUNTING**



**NOTE:** Internal o-ring actuator seal standard for all bushing options.

Third Angle Projection  
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change





# E010 Series Sealed Momentary Pushbutton Switches

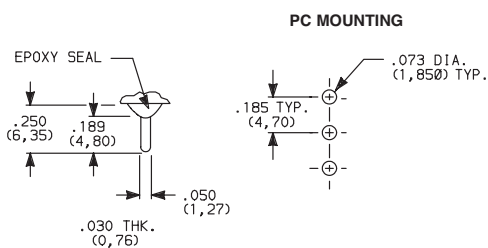
## TERMINATIONS



Pushbutton

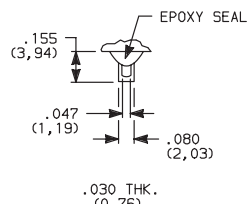
A

### C PC THRU-HOLE



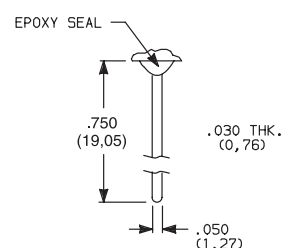
SPDT

### Z SOLDER LUG



SPDT *Not available with P contact materials.*

### W WIRE WRAP

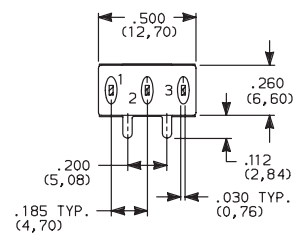
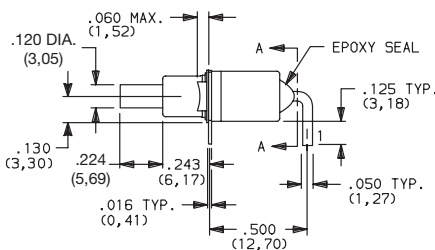
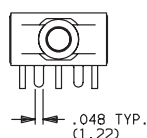


SPDT

### A RIGHT ANGLE, PC THRU-HOLE

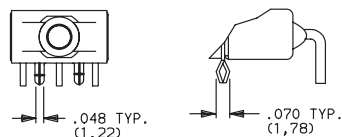


E112SD1ABE SPDT

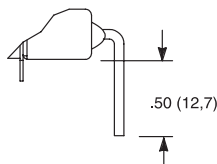


SECTION A-A

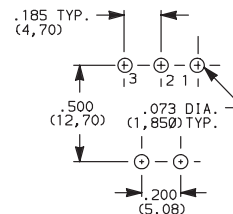
### A3 RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



### AW RIGHT ANGLE, EXTENDED, PC THRU-HOLE

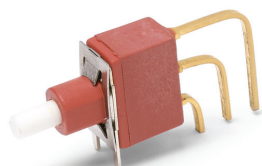


### PC MOUNTING

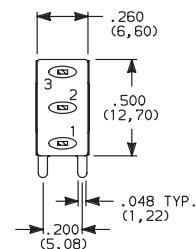
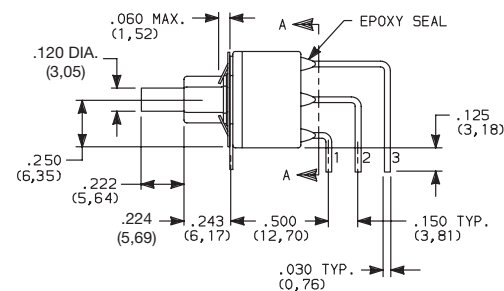
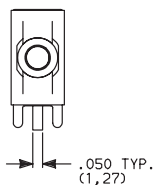


**NOTE:** Terminal bend radii and lead-in manufacturing option. Available with D1 bushing only.

### AV2 VERTICAL RIGHT ANGLE, PC THRU-HOLE, .150" PITCH

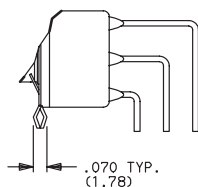
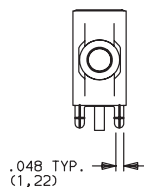


E112SD1AV2BE SPDT

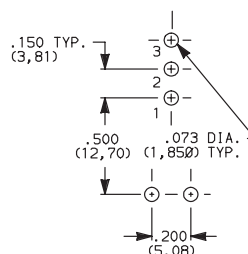


SECTION A-A

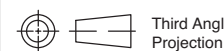
### AV3 VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE, .150" PITCH



### PC MOUNTING



**NOTE:** Terminal bend radii and lead-in manufacturing option. Available with D1 bushing only.



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

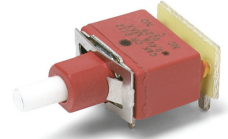
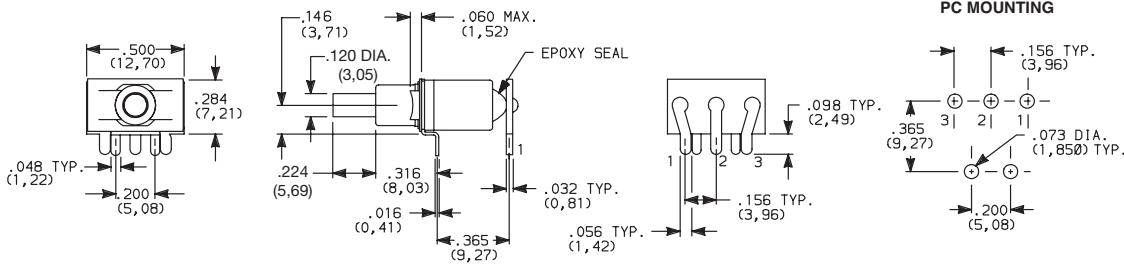
# E010 Series Sealed Momentary Pushbutton Switches



A  
Pushbutton

## TERMINATIONS

### R2 RIGHT ANGLE WITH PCB

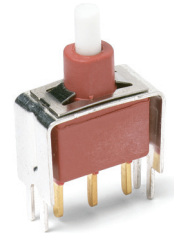
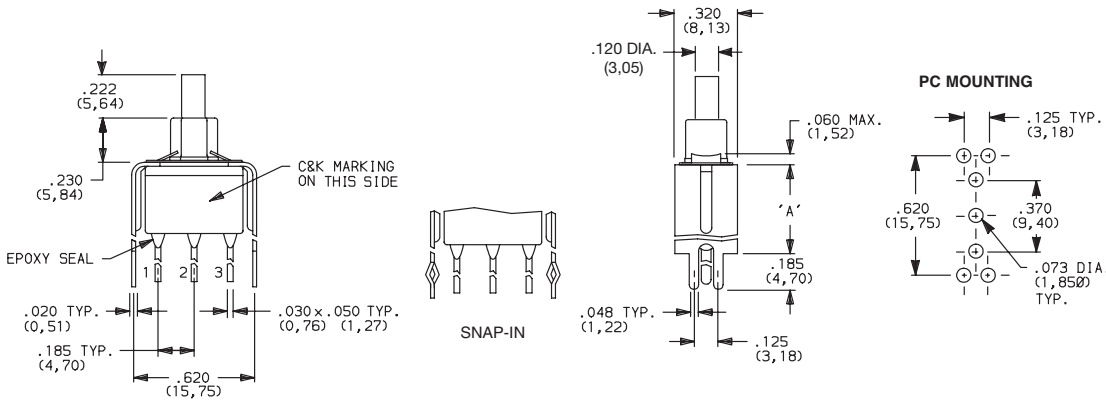


E112SD1R2BE  
SPDT

NOTE: Available with D1 bushing and B contact material only.

### V3, V4 VERTICAL MOUNT, V-BRACKET

### V31, V91 VERTICAL MOUNT, V-BRACKET, SNAP-IN



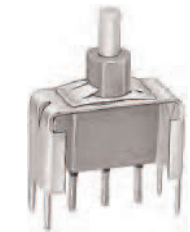
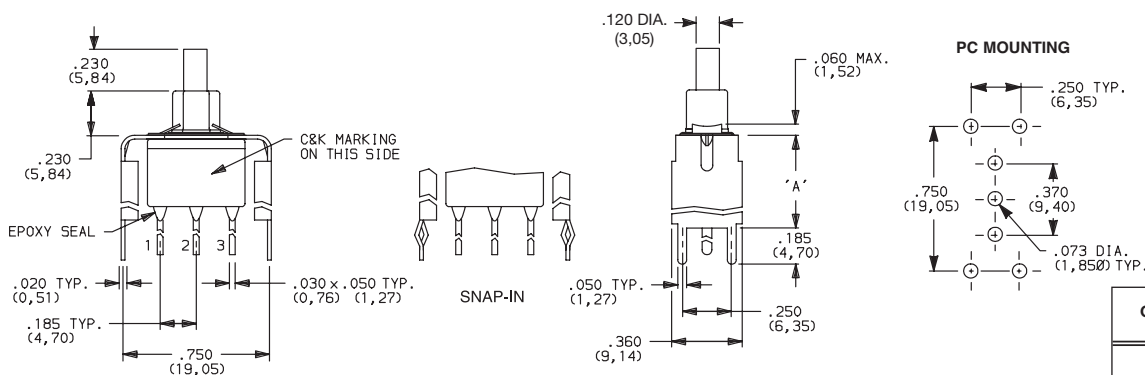
E112SD1\_BE  
SPDT

OPTION CODE	DIM 'A'
V3, V31	.460 (11,68)
V4	.630 (16,00)
V91	1.150 (29,21)

NOTE: Available with D1 bushing only.

### V6, V8 VERTICAL MOUNT, V-BRACKET

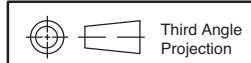
### V81 VERTICAL MOUNT, V-BRACKET, SNAP-IN



E112SD1\_BE  
SPDT

OPTION CODE	DIM 'A'
V6	.460 (11,68)
V8, V81	.953 (24,21)

NOTE: Available with D1 bushing only.



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



# E010 Series Sealed Momentary Pushbutton Switches

Pushbutton

## CONTACT MATERIAL



OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
<b>B</b>	GOLD <sup>1</sup>	GOLD <sup>1</sup>	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
<b>P</b>		MATTE-TIN <sup>6</sup>		
<b>Q</b>	SILVER <sup>4,5</sup>	SILVER <sup>5</sup>	POWER	4 AMPS @ 125 V AC OR 28 V DC.
<b>G</b>	GOLD OVER SILVER <sup>2,3</sup>	GOLD <sup>3</sup>	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX. @ 20 V AC OR DC MAX. OR 4 AMPS @ 125 V AC OR 28 V DC.

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

- 1 CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
- 2 END CONTACTS: Coin silver, with gold plate over nickel plate.
- 3 CENTER CONTACTS & ALL TERMINALS: Coin silver, with gold plate over nickel plate.
- 4 END CONTACTS: Coin silver, silver plated.
- 5 CENTER CONTACTS & ALL TERMINALS: Copper alloy, silver plated.
- 6 TERMINALS: Copper alloy, with matte-tin over nickel plate.

**NOTE:** Any models supplied with P, Q, B or G contact material are RoHS compliant.

All models with all options when ordered with G or Q contact material.

B contact material standard with all terminations except C, Z.

B contact material must be ordered with R2 terminations.

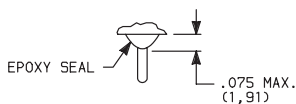
Q contact material standard with C, Z terminations.

P contact materials not available with Z terminations.

## SEAL

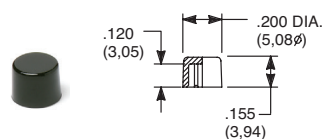


**E** EPOXY SEAL



## AVAILABLE HARDWARE

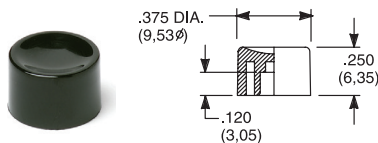
Cap



**PART NO.**  
**708901000** WHITE  
**708902000** BLACK  
**708903000** RED

Material: Nylon  
 Finish: Gloss

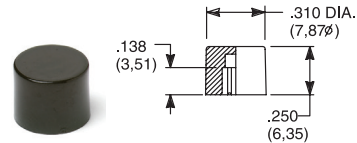
Cap



**PART NO.**  
**752701000** WHITE  
**752702000** BLACK  
**752703000** RED

Material: Nylon  
 Finish: Gloss

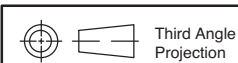
Cap



**PART NO.**  
**801801000** WHITE  
**801802000** BLACK  
**801803000** RED

Material: Nylon  
 Finish: Gloss

**NOTE:** Additional nuts, locking rings and lockwashers available separately, see section "Technical Data and Additional Hardware". Other cap colors available, consult Customer Service Center.



Dimensions are shown: Inches (mm)  
 Specifications and dimensions subject to change



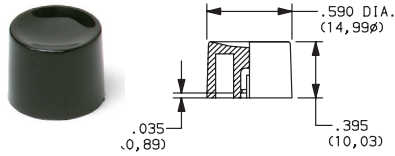
# E010 Series Sealed Momentary Pushbutton Switches



A  
Pushbutton

## AVAILABLE HARDWARE

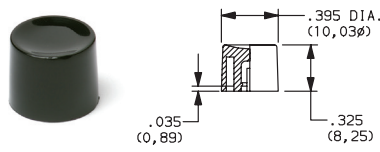
### Cap, Snap-fitting plunger



**PART NO.**  
**452D01000** WHITE  
**452D02000** BLACK  
**452D03000** RED

Material: Nylon  
 Finish: Gloss

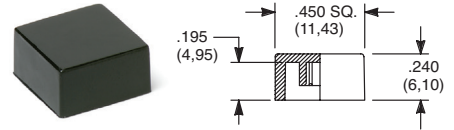
### Cap, Snap-fitting plunger



**PART NO.**  
**894101000** WHITE  
**894102000** BLACK  
**894103000** RED

Material: Nylon  
 Finish: Gloss

### Cap



**PART NO.**  
**484601000** WHITE  
**484602000** BLACK  
**484603000** RED

Material: Nylon  
 Finish: Gloss

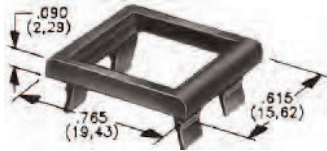
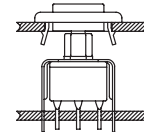
**PART NO.**  
**798201000** WHITE  
**798202263** BLACK  
**798203000** RED

Material: Nylon  
 Finish: Matte

**NOTE:** Additional nuts, locking rings and lockwashers available separately, see section "Technical Data and Additional Hardware".  
 Other cap colors available, consult Customer Service Center.

Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses .047-.125 in. Material: Nylon. Finish: Matte.

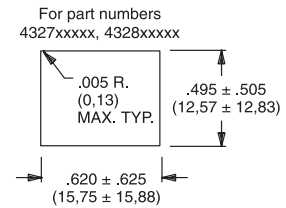
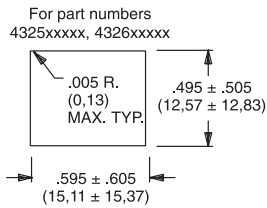
### TYPICAL APPLICATION



.090" (2,29) PANEL THK.      .125" (3,18) PANEL THK.

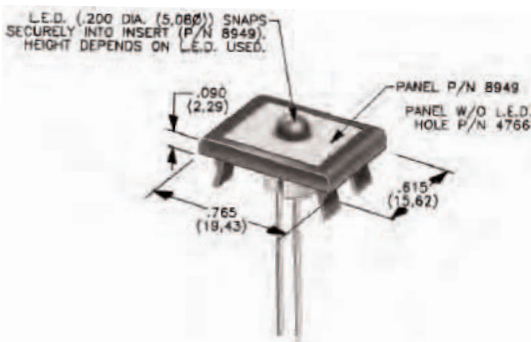
**PART NO.**      **PART NO.**  
**432702263**      **432802263** BLACK

### PANEL MOUNTING



### Panel Inserts

Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. **LED not included.**



PANEL INSERT  
WITH HOLE FOR LED

**PART NO.**  
**894902000**

BLANK PANEL INSERT  
WITHOUT HOLE FOR LED

**PART NO.**  
**476602000** BLACK

Special colors, custom markings available, consult Customer Service Center.



Dimensions are shown: Inches (mm)  
 Specifications and dimensions subject to change



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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