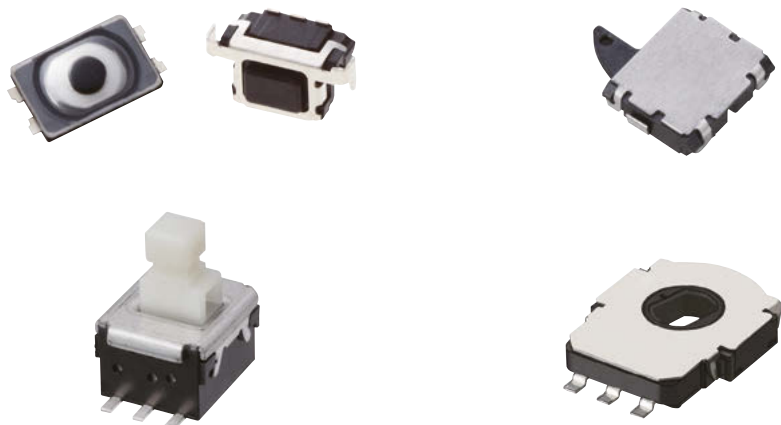


Input Devices

Tactile Switches / Detector Switches /
Push Switches / Position Sensors /
Encoders

SELECTION GUIDE

IN Better Solution



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Switch series introduction

Tactile·Detector·Push Switches

*Light touch switch is our unique name of tactile switch.

Variations

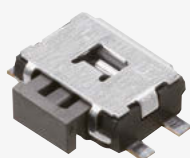
Tactile SW

Detector SW

To satisfy different design needs, many variations are offered such as top push operation, side push operation and vertical and horizontal direction detection.



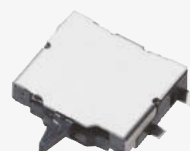
Top push type



Side push type



Vertical type

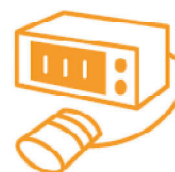


Horizontal type

Vehicle



Health care
Medical



Appliance

Operation feeling

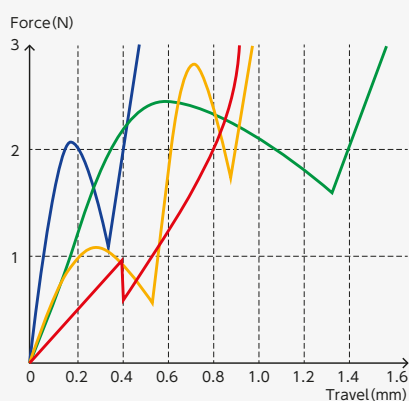
Tactile SW

Push SW

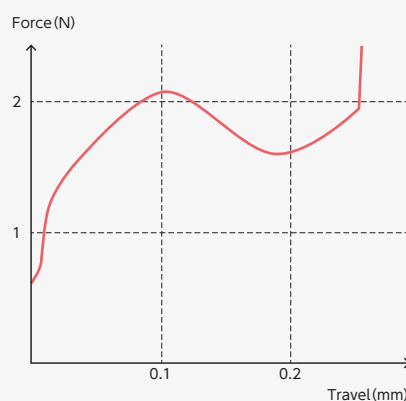
Operation feeling is one of the key feature of switches. Our large selection of operation feeling and travel meet customer requests.

Feeling curve

Tactile switch



Push switch



Meeting customer needs with our extensive features.

Offering suitable switch features such as operation feeling and reliability for our customer. Panasonic switch products have been adopted into various field applications.

Reliability

Tactile SW

Detector SW

Push SW

In order to raise reliability of customer's product, our switches make progress on operating life, water-proof and dust-proof property (IP67), anti-flux characteristics, contact reliability and shock resistance.

*IP67: Some products of Tactile Switches

ICT



Wearable



Industry and O.A.

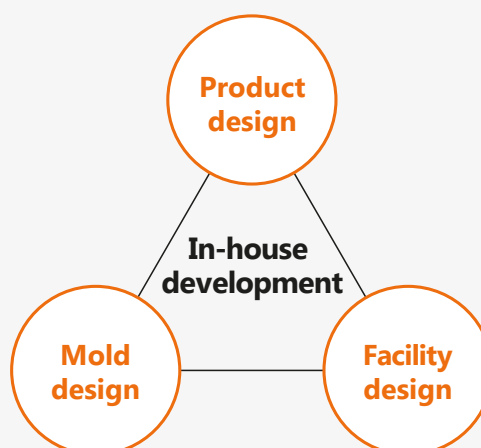


Complete waterproof structure by laser processing of cover film.

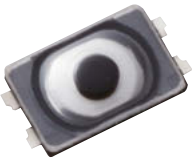
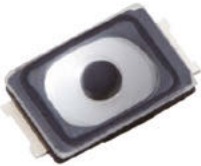
Customization

Tactile SW

All Tactile SW parts are designed and produced by our own factory so that able to offer customization of click feeling and provide quick customer services.

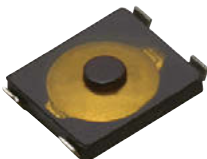
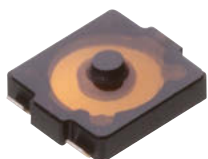


Tactile Switches Selector Chart

Types		Top Push SMD		
Product name		2.6 mm × 1.6 mm SMD	2.8 mm × 1.9 mm SMD	3.0 mm × 2.0 mm SMD
Part No.		EVPBB	EVPBL	EVPAW/EVP6A
Shape				
Features		Low profile and small size		
Vehicle compatible		—	—	—
Protection grade		IP67	IP67	IP67
External dimensions (mm)	W	2.6	2.8	3.0
	D	1.6	1.9	2.0
	H	0.5/0.53/0.55	0.53/0.57/0.60	0.6
Operating Force (N)	MAX. 0.9	0.7		
	1.0	1.0 1.6	1.6	1.6
	2.0	2.4	2.25	2.4
	3.0		3.0	3.0 3.3
	4.0			
	5.0			
	6.0			
	7.0			
Travel (mm)		0.7 N, 1.0 N: 0.08 1.6 N, 2.4 N: 0.11	0.15	1.6 N, 2.4 N: 0.13 3.0 N, 3.3 N: 0.15
Operating Life (Min. cycles)		0.7 N: 200,000 1.0 N, 1.6 N, 2.4 N: 500,000	300,000	1.6 N, 2.4 N: 500,000 3.0 N, 3.3 N: 300,000
Ground terminal		—	—	—
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)		
Temperature Specifications	Operating Temperature	−40 °C to +85 °C		
	Storage Temperature (Taping)	−20 °C to +60 °C		
Electrical Specifications	Contact Resistance	Max. 500 mΩ		
	Insulation Resistance	Min. 50 MΩ (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		
	Bouncing	Max. 10 ms (ON, OFF)		
Environment		RoHS compliant, ELV compliant		

Design and specifications are each subject to change without notice. Ask our sales representative for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact our sales representative immediately.

Tactile Switches Selector Chart

Types		Top Push SMD	
Product name		3.0 mm × 2.6 mm SMD	3.4 mm × 2.9 mm SMD
Part No.		EVPAF/EVP0A	EVPAY
Shape			
Features		Low profile and small size	
Vehicle compatible		—	—
Protection grade		—	IP67
External dimensions (mm)	W	3.0	3.4
	D	2.6	2.9
	H	0.65/0.7	0.7
Operating Force (N)	MAX. 0.9		
	1.0	1.3 1.6	1.6
	2.0	2.4	2.4
	3.0	3.4	
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		0.15	0.15
Operating Life (Min. cycles)		1.3 N, 1.6 N, 3.4 N: 100,000 1.6 N (Low profile), 2.4 N: 500,000	500,000
Ground terminal		—	—
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)	
Temperature Specifications	Operating Temperature	−40 °C to +85 °C	
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 500 mΩ	
	Insulation Resistance	Min. 50 MΩ (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

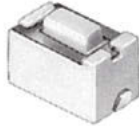
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Tactile Switches Selector Chart

Types		Top Push SMD		
Product name		3.5 mm × 2.9 mm SMD	4.7 mm × 3.5 mm SMD	
Part No.		EVPA4/EVP2A/EVP3A	EVQP2/EVQP9/EVQ3P2	
Shape				
Features		High operating force	High operating force, Short travel	High operating force, Middle travel
Vehicle compatible		●	●	●
Protection grade		—	—	—
External dimensions (mm)	W	3.5	4.7	4.7
	D	2.9	3.5	3.5
	H	1.7	2.1/2.5	2.5
Operating Force (N)	MAX. 0.9			
	1.0	1.0 1.6	1.0 1.6	
	2.0	2.4	2.4	2.5
	3.0	3.5	3.5	3.5
	4.0		4.0	
	5.0	5.0	5.0	5.0
	6.0			
	7.0	7.0		
Travel (mm)		0.15	0.25	0.70
Operating Life (Min. cycles)		1.0 N: 1,000,000 3.5 N: 500,000 1.6N, 2.4 N, 3.5 N, 5.0 N: 200,000 5.0 N, 7.0 N: 100,000	1.0N, 1.6 N: 1,000,000 2.4 N: 500,000 3.5N, 4.0N, 5.0N: 200,000	2.5 N: 1,000,000 3.5 N: 500,000 5.0 N: 200,000
Ground terminal		●	●	●
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)		
Temperature Specifications	Operating Temperature	−40 °C to +85 °C		
	Storage Temperature (Taping)	−20 °C to +60 °C		
Electrical Specifications	Contact Resistance	Max. 100 mΩ		
	Insulation Resistance	Min. 100 MΩ (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		
	Bouncing	Max. 10 ms (ON, OFF)		
Environment		RoHS compliant, ELV compliant		

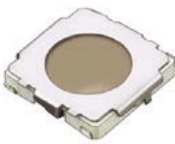
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Tactile Switches Selector Chart

Types		Top Push SMD	
Product name		4.9 mm × 4.0 mm SMD	6.0 mm × 3.5 mm SMD
Part No.		EVPBK	EVQPE1/EVQPN/EVQ5P
Shape			
Features		Low profile	SMD
Vehicle compatible		—	—
Protection grade		IP67	—
External dimensions (mm)	W	4.9	6.0
	D	4.0	3.5
	H	0.63/0.70	4.3/5.0
Operating Force (N)	MAX. 0.9		
	1.0	1.65	1.0 1.6
	2.0	2.5	2.4
	3.0		
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		1.65 N: 0.20 2.5 N: 0.23	0.25
Operating Life (Min. cycles)		1,000,000	1.0 N, 1.6 N: 50,000 2.4 N: 30,000
Ground terminal		—	—
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)	10 μA 2 V DC to 50 mA 12 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−40 °C to +85 °C	−30 °C to +85 °C
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 500 mΩ	Max. 100 mΩ
	Insulation Resistance	Min. 50 MΩ (at 100 V DC)	Min. 100 MΩ (at 100 V DC)
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

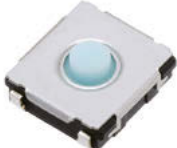
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Tactile Switches Selector Chart

Types		Top Push SMD	
Product name		4.9 mm Square SMD	
Part No.		EVQPL/EVQ5PL	EVQPL/EVQPT/EVQ3PL
Shape		 Without Push Plate	 With Push Plate
Features		Low profile, Long operating life	
Vehicle compatible		—	●
Protection grade		—	—
External dimensions (mm)	W	4.9	4.9
	D	4.9	4.9
	H	0.8	1.5
Operating Force (N)	MAX. 0.9		
	1.0	1.6	1.0 1.6
	2.0	2.6	2.6
	3.0	3.5	3.5
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		0.25	0.25
Operating Life (Min. cycles)		1.6 N: 500,000 2.6 N, 3.5 N: 200,000	1.0N, 1.6 N: 500,000 2.6N, 3.5 N: 200,000
Ground terminal		●	●
Rating		10 μ A 2 V DC to 20 mA 15 V DC (Resistive load)	
Temperature Specifications	Operating Temperature	−20 °C to +70 °C	
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 50 m Ω	
	Insulation Resistance	Min. 50 M Ω (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 3 ms (ON) /Max. 8 ms (OFF)	
Environment		RoHS compliant, ELV compliant	

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Tactile Switches Selector Chart

Types		Top Push SMD		
Product name		6 mm Square Thin Type SMD		6 mm Square Middle Travel SMD
Part No.		EVQP0/EVQQ2/EVQ6Q2 EVQ7Q2/EVPBT	EVQP0	EVPBF
Shape				
Features		Long operating life	Over travel	Long operating life
Vehicle compatible		—	—	●
Protection grade		—	—	—
External dimensions (mm)	W	6.5	6.5	6.0
	D	6.0	6.0	6.0
	H	2.0/2.5/3.1/4.3	2.5	3.5
Operating Force (N)	MAX. 0.9	0.5 0.8	0.6	
	1.0	1.0 1.3 1.6	1.0	
	2.0	2.6		2.0
	3.0	3.5		3.5
	4.0			
	5.0			
	6.0			
	7.0			
Travel (mm)		0.5 N, 0.8 N, 1.0 N: 0.2 1.3 N, 1.6 N, 2.6 N, 3.5 N: 0.25	0.3	2.0 N: 0.25 3.5 N: 0.32
Operating Life (Min. cycles)		0.5 N, 0.8 N: 2,000,000 1.0 N, 1.3 N, 1.6 N: 1,000,000 2.6 N: 200,000 3.5 N: 100,000	0.6 N: 2,000,000 1.0 N: 1,000,000	2.0 N: 1,000,000 3.5 N: 100,000
Ground terminal		●	●	—
Rating		10 μ A 2 V DC to 20 mA 15 V DC (Resistive load)		
Temperature Specifications	Operating Temperature	−40 °C to +85 °C		
	Storage Temperature (Taping)	−20 °C to +60 °C		
Electrical Specifications	Contact Resistance	Max. 100 m Ω		Max. 500 m Ω
	Insulation Resistance	Min. 100 M Ω (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		
	Bouncing	Max. 10 ms (ON, OFF)		
Environment		RoHS compliant, ELV compliant		

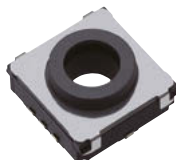
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Tactile Switches Selector Chart

Types		Top Push SMD	
Product name		6 mm Square Middle Travel 2 terminals SMD	6 mm Square Long Travel SMD
Part No.		EVPBD/EVP0B/EVPCD	EVQP0/EVQP1/EVQ9P
Shape			
Features		Middle travel	Long travel
Vehicle compatible		●	●
Protection grade		—	—
External dimensions (mm)	W	6.0	6.0
	D	6.0	6.1
	H	4.0	5.0
Operating Force (N)	MAX. 0.9		
	1.0		1.6
	2.0		2.0 2.2 2.5
	3.0	3.5	3.0 3.5
	4.0	4.0	
	5.0	5.0	
	6.0		
	7.0	7.0	
Travel (mm)		3.5 N: 0.75 4.0 N: 0.7, 1.0 5.0 N: 1.0 7.0 N: 0.8	2.2 N, 2.5 N: 1.0 1.6 N, 2.0 N, 2.5 N, 3.0 N, 3.5 N: 1.3
Operating Life (Min. cycles)		3.5 N, 7.0 N: 100,000 4.0 N, 5.0 N: 200,000	1.6 N, 2.0 N, 2.2 N, 2.5 N, 3.0 N: 100,000 3.5 N: 30,000
Ground terminal		—	—
Rating		10 μ A 2 V DC to 20 mA 15 V DC (Resistive load)	10 μ A 2 V DC to 50 mA 12 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−40 °C to +90 °C	−40 °C to +85 °C
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 500 m Ω	Max. 100 m Ω
	Insulation Resistance	Min. 100 M Ω (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

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Tactile Switches Selector Chart

Types		Top Push SMD		
Product name		6 mm Square Long Travel 2 terminals SMD	8 mm Square Long Travel SMD	10 mm Square Center Space Long Travel SMD
Part No.		EVPAS	EVQQ1	EVPAD
Shape				
Features		Long travel	Long travel High operating force	Center space structure, Long travel, High operating force
Vehicle compatible		●	●	●
Protection grade		—	—	—
External dimensions (mm)	W	6.0	8.5	9.8
	D	6.1	8.5	9.8
	H	5.0	6.5	4.7
Operating Force (N)	MAX. 0.9			
	1.0	1.6		
	2.0	2.0 2.2 2.5		
	3.0	3.0 3.5		
	4.0		4.0	4.0
	5.0		5.0	
	6.0			
	7.0			
Travel (mm)		2.2 N, 2.5 N, 3.0 N: 1.0 1.6 N, 2.0 N, 2.5 N, 3.0 N, 3.5 N: 1.3	1.0	1.0
Operating Life (Min. cycles)		1.6 N, 2.0 N, 2.2 N, 2.5 N: 100,000 3.0 N: 200,000 3.5 N: 100,000 Operating force narrow tolerance 3.0 N: 300,000	100,000	100,000
Ground terminal		—	—	—
Rating		10 μ A 2 V DC to 50 mA 12 V DC (Resistive load)		
Temperature Specifications	Operating Temperature	−40 °C to +90 °C	−40 °C to +85 °C	
	Storage Temperature (Taping)	−20 °C to +60 °C		
Electrical Specifications	Contact Resistance	Max. 100 m Ω		
	Insulation Resistance	Min. 100 M Ω (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		
	Bouncing	Max. 10 ms (ON, OFF)		
Environment		RoHS compliant, ELV compliant		

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Tactile Switches Selector Chart

Types		Side Push SMD	
Product name		2.8 mm × 2.3 mm Side-operational Edge Mount	3.4 mm × 1.7 mm Side-operational Edge Mount
Part No.		EVPAV	EVPAT
Shape			
Features		Low profile	Low profile
Vehicle compatible		—	—
Protection grade		—	IP67
External dimensions (mm)	W	2.8	3.4
	D	2.3 (Excluding the push plate) 2.65 (Including the push plate)	1.73 (Excluding the push plate) 1.9 (Including the push plate)
	H	1.95	1.65
Operating Force (N)	MAX. 0.9		
	1.0	1.6	1.0 1.6
	2.0		2.4
	3.0		
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		0.13	1.0 N: 0.08 1.6 N, 2.4 N: 0.11
Operating Life (Min. cycles)		300,000	500,000
Ground terminal		—	●
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)	
Temperature Specifications	Operating Temperature	−40 °C to +85 °C	
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 500 mΩ	
	Insulation Resistance	Min. 50 MΩ (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

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Tactile Switches Selector Chart

Types		Side Push SMD	
Product name		3.5 mm × 2.9 mm Side-operational SMD	3.8 mm × 1.9 mm Side-operational SMD
Part No.		EVQP7/EVQP3/EVQ9P7	EVPAK
Shape			
Features		Low profile	High soldering strength in operating direction
Vehicle compatible		—	—
Protection grade		—	IP67
External dimensions (mm)	W	3.5	3.9
	D	2.9 (Excluding the push plate) 3.55 (Including the push plate)	2.05 (Excluding the push plate) 2.9 (Including the push plate)
	H	1.35	1.6
Operating Force (N)	MAX. 0.9		
	1.0	1.6	1.6
	2.0	2.2	
	3.0		
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		0.2	0.12
Operating Life (Min. cycles)		100,000	500,000
Ground terminal		●	●
Rating		10 μA 2 V DC to 50 mA 12 V DC (Resistive load)	10 μA 2 V DC to 20 mA 15 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−20 °C to +70 °C	−40 °C to +85 °C
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 500 mΩ	Max. 100 mΩ
	Insulation Resistance	Min. 100 MΩ (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

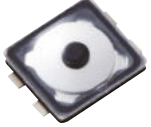
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Tactile Switches Selector Chart

Types		Side Push SMD	
Product name		4.5 mm × 2.2 mm Side-operational Edge Mount SMD	Small-sized Side-operational SMD
Part No.		EVPAE	EVQPU
Shape			
Features		Edge Mount, High soldering strength in operating direction	Low profile
Vehicle compatible		●	—
Protection grade		—	—
External dimensions (mm)	W	4.5	4.7
	D	2.25 (Excluding the push plate) 2.6 (Including the push plate)	3.5 (Excluding the push plate) 4.5 (Including the push plate)
	H	2.9	1.65
Operating Force (N)	MAX. 0.9		
	1.0	1.6	1.6
	2.0	2.4	2.2
	3.0	3.0 3.5	
	4.0		
	5.0		
	6.0		
	7.0		
Travel (mm)		1.6 N (with L-shape terminals) : 0.13 1.6 N, 2.4 N, 3.0 N, 3.5 N: 0.15	0.3
Operating Life (Min. cycles)		200,000	100,000
Ground terminal		●	—
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)	10 μA 2 V DC to 50 mA 12 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−40 °C to +85 °C	−20 °C to +70 °C
	Storage Temperature (Taping)	−20 °C to +60 °C	
Electrical Specifications	Contact Resistance	Max. 1,000 mΩ	Max. 500 mΩ
	Insulation Resistance	Min. 100 MΩ (at 100 V DC)	
	Dielectric Withstanding Voltage	250 V AC for 1 minute	
	Bouncing	Max. 10 ms (ON, OFF)	
Environment		RoHS compliant, ELV compliant	

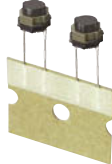
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Tactile Switches Selector Chart

Types		Side Push SMD		Double-Action
Product name		6.2 mm × 2.5 mm Side-operational Edge Mount SMD		3.0 mm × 2.6 mm Double-action SMD
Part No.		EVQP4		EVPAx
Shape				
Features		Short Travel Edge Mount, High soldering strength in operating direction	Middle travel Edge Mount, High soldering strength in operating direction	Double-action
Vehicle compatible		●	●	—
Protection grade		—	—	—
External dimensions (mm)	W	6.2	6.2	3.0
	D	2.55 (Excluding the push plate) 3.0 (Including the push plate)	2.55 (Excluding the push plate) 3.4 (Including the push plate)	2.6
	H	3.5	3.5	0.7
Operating Force (N)	MAX. 0.9			1st action: 0.7
	1.0	1.0 1.6		
	2.0	2.4	2.5	2nd action: 2.0
	3.0	3.5	3.5	
	4.0			
	5.0		5.0	
	6.0			
	7.0			
Travel (mm)		0.25	0.70	1st action: 0.07 2nd action: 0.16
Operating Life (Min. cycles)		1.0 N, 1.6 N: 1,000,000 2.4 N: 500,000 3.5 N: 200,000	2.5 N: 1,000,000 3.5 N: 500,000 5.0 N: 200,000	100,000
Ground terminal		●	●	—
Rating		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)		10 μA 2 V DC to 20 mA 15 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−40 °C to +85°C		−20°C to +70°C
	Storage Temperature (Taping)	−20 °C to +60°C		−20°C to +60°C
Electrical Specifications	Contact Resistance	Max. 100 mΩ		Max. 500 mΩ
	Insulation Resistance	Min. 100 MΩ (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		
	Bouncing	Max. 10 ms (ON, OFF)		Max. 3 ms (ON) Max. 20 ms (OFF)
Environment		RoHS compliant, ELV compliant		

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Tactile Switches Selector Chart

Types		Radial	Bulk	
Product name		6 mm Square Long Travel 2R	6.0 mm × 3.5 mm	Over Travel
Part No.		EVQPV	EVQPE	EVQPO
Shape				
Features		High mountability, Section terminals	Main body prevents the escape of flux	Over Travel
Vehicle compatible		●	—	—
Protection grade		—	—	—
External dimensions (mm)	W	6.0	6.0	6.2
	D	6.1	3.5	6.2
	H	5.0	4.3/5.0	7.45
Operating Force (N)	MAX. 0.9			0.74
	1.0	1.6	1.0 1.6	1.3
	2.0	2.0 2.2 2.5	2.4	
	3.0	3.5		
	4.0			
	5.0			
	6.0			
	7.0			
Travel (mm)		2.2 N: 1.0 1.6 N, 2.0 N, 2.5 N, 3.5 N: 1.3	0.25	0.2
Operating Life (Min. cycles)		1.6 N, 2.0 N, 2.2 N, 2.5 N: 100,000 3.5 N: 30,000	1.0 N, 1.6 N: 50,000 2.4 N: 30,000	0.74 N: 5,000,000 1.3 N: 1,000,000
Ground terminal		●	—	—
Rating		10 μA 2 V DC to 50 mA 12 V DC (Resistive load)		10 μA 2 V DC to 50 mA 30 V DC (Resistive load)
Temperature Specifications	Operating Temperature	−30 °C to +85°C		−20°C to +70°C
	Storage Temperature (Taping)	−20 °C to +40°C	−40 °C to +85°C	
Electrical Specifications	Contact Resistance	Max. 100 mΩ		Max. 100 mΩ (Max. 1 Ω after life test)
	Insulation Resistance	Min. 100 MΩ (at 100 V DC)		
	Dielectric Withstanding Voltage	250 V AC for 1 minute		600 V AC for 1 minute
	Bouncing	Max. 10 ms (ON, OFF)		Max. 3 ms (ON) Max. 8 ms (OFF)
Environment		RoHS compliant, ELV compliant		

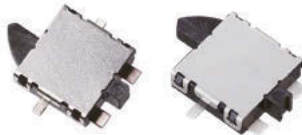
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Detector Switches Selector Chart

Types		Detector Switches		
Product name		ESE58	ESE16	ESE13
Part No.		ESE58	ESE16	ESE13
Shape				
Features		Low profile	Small size	Low profile, Long stroke
Vehicle compatible		—	●	●
Protection grade		—	—	—
External dimensions (mm)	W	3.5	2.2	4.2
	D	3.0	3.35	3.6
	H	0.9	1.5	1.2
Operating Force (mN)	100			
	200		250	
	300	350		300
Poles and Throws		1 pole 1 throw		
Circuit		N.O./N.C.	N.O.	
Full Travel (pushing distance) (mm)		With boss : 1.5 (1.4) Without boss: 1.25 (1.4)	1.5 (1.0)	ESE13V type: 0.95 (2.1) ESE13H type: 3.05 (2.1)
Operating Life (Min. cycles)		50,000		
Rating		50 μA 3 V DC to 10 mA 5 V DC (Resistive load)		
Environmental Specifications	Temperature Range	−10 °C to +60 °C	−10 °C to +60 °C (Standard) −40 °C to +85 °C (Automotive)	
	Heat Resistance	+70 °C 96 hours		
	Low Temperature Resistance	−25 °C 96 hours		
	Humidity Resistance	+40 °C 90% to 95% RH 96 hours		
Electrical Specifications	Contact Resistance	Max. 500 mΩ		
	Insulation Resistance	Min. 100 MΩ (100 V DC 1 minute)		
	Dielectric Withstanding Voltage	100 V AC (50 Hz to 60 Hz 1 minute)		
Environment		RoHS compliant, ELV compliant		

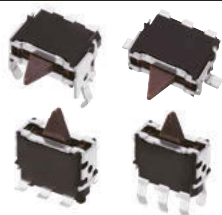
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Detector Switches Selector Chart

Types		Detector Switches		
Product name		ESE18	ESE31	ESE22
Part No.		ESE18	ESE31	ESE22
Shape				
Features		Low profile, N.O./N.C. are available	Improved mounting strength	Multi direction detection (horizontal and vertical direction)
Vehicle compatible		●	●	●
Protection grade		—	—	—
External dimensions (mm)	W	4.0	5.9	ESE22MH type: 5.7
	D	4.4	5.4	ESE22MH type: 5.0
	H	1.2	1.7	ESE22MH type: 2.1
Operating Force (mN)	100			
	200			290
	300	300	390	
Poles and Throws		1 pole 1 throw		
Circuit		N.O./N.C.	N.O.	
Full Travel (pushing distance) (mm)		■Standard travel type With boss : 1.4 (1.5) Without boss: 2.1 (1.5) ■Long travel type With boss : 1.4 (2.15) Without boss: 2.1 (2.15)	3.2 (2.15)	ESE22MV type : 4.25 (2.05) ESE22MH type : 1.2 (2.0) ESE22MH5 type: 0.6 (2.0)
Operating Life (Min. cycles)		50,000		
Rating		50 μ A 3 V DC to 10 mA 5 V DC (Resistive load)		
Environmental Specifications	Temperature Range	-10 °C to +60 °C (Standard) -40 °C to +85 °C (Automotive)		
	Heat Resistance	+70 °C 96 hours	+85 °C 96 hours	+80 °C 96 hours
	Low Temperature Resistance	-25 °C 96 hours	-40 °C 96 hours	-25 °C 96 hours
	Humidity Resistance	+40 °C 90% to 95% RH 96 hours	+60 °C 90% to 95% RH 96 hours	+40 °C 90% to 95% RH 96 hours
Electrical Specifications	Contact Resistance	Max. 500 m Ω		
	Insulation Resistance	Min. 100 M Ω (100 V DC 1 minute)		
	Dielectric Withstanding Voltage	100 V AC (50 Hz to 60 Hz 1 minute)		
Environment		RoHS compliant, ELV compliant		

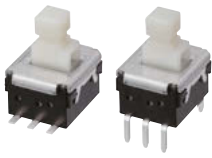
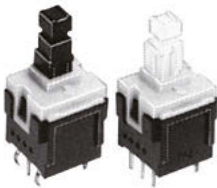
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Detector Switches Selector Chart

Types		Detector Switches		
Product name		ESE11	ESE23	ESE24
Part No.		ESE11	ESE23	ESE24
Shape				
Features		Large selection of mounting types and mounting directions	Bidirectional operation, Midpoint auto-return type	
Vehicle compatible		●	●	●
Protection grade		—	—	—
External dimensions (mm)	W	ESE11SV type: 5.2	5.0	ESE24SV type: 7.5
	D	ESE11SV type: 3.0	4.4	ESE24SV type: 3.0
	H	ESE11SV type: 4.9	1.5	ESE24SV type: 5.6
Operating Force (mN)	100			
	200			
	300	350	300	350
Poles and Throws		1 pole 1 throw	1 pole 2 throws	
Circuit		N.O.		
Full Travel (pushing distance) (mm)		ESE11SV type : 6.1 (2.4) ESE11MV type: 6.1 (2.4) ESE11SH type : 3.0 (2.4) ESE11MH type: 1.7 (2.4) ESE11HS type : 6.3 (2.4)	With boss : 1.0 (1.5) Without boss: 2.2 (1.5)	ESE24SV type : 6.1 (2.45) ESE24SH type : 2.6 (2.45) ESE24MV type: 6.1 (2.45) ESE24MH type: 1.4 (2.45)
Operating Life (Min. cycles)		50,000		
Rating		50 μA 3 V DC to 10 mA 5 V DC (Resistive load)		
Environmental Specifications	Temperature Range	−10 °C to +70 °C (Standard) −40 °C to +85 °C (Automotive)	−10 °C to +60 °C (Standard) −40 °C to +85 °C (Automotive)	−10 °C to +70 °C (Standard) −40 °C to +85 °C (Automotive)
	Heat Resistance	+80 °C 96 hours	+70 °C 96 hours	+80 °C 96 hours
	Low Temperature Resistance	−25 °C 96 hours		
	Humidity Resistance	+40 °C 90% to 95% RH 96 hours		
Electrical Specifications	Contact Resistance	Max. 500 mΩ		
	Insulation Resistance	Min. 100 MΩ (100 V DC 1 minute)		
	Dielectric Withstanding Voltage	100 V AC (50 Hz to 60 Hz 1 minute)		
Environment		RoHS compliant, ELV compliant		

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Push Switches Selector Chart

Types		Push Switches		
Product name		ESB33	ESB30	ESE20C/20D
Part No.		ESB33	ESB30	ESE20C/20D
Shape				
Features		Low profile SMD	Long travel	User friendly tactile feedback
Vehicle compatible		●	●	●
Protection grade		—	—	—
External dimensions (mm)	W	9.85	10.9	7.8
	D	8.6	10.0	7.9
	H	12.5	20.5	17.5/12.5
	Mounting Height	6.0	12.5	8.9
Operating Force (N)	1.0			
	2.0		2.0	2.0
	3.0	3.0	3.5	
	4.0			4.0
	5.0			
Poles and Throws		2 poles 2 throws		1 poles 1 throw
Operating Mode		Self-lock, Non-lock		Non-lock
Travel (mm)	Lock travel	1.5	2.5	—
	Full travel	2.5	3.5	2.5
Operating Life (Min. cycles)		10,000 (Standard use) 30,000 (Automotive)		
Rating		50 μ A 3 V DC to 0.2 A 14 V DC (Resistive load)		0.01 A 5 V DC to 0.1 A 14 V DC (Resistive load)
Environmental Specifications	Temperature Range	−10 °C to +70 °C (Standard use) −40 °C to +85 °C (Automotive)		
	Heat Resistance	+70 °C 96 hours		
	Low Temperature Resistance	−10 °C 96 hours		
	Humidity Resistance	+40 °C, 90% to 95% RH 96 hours		
Electrical Specifications	Insulation Resistance	Terminal to terminal and terminal to frame: 100 M Ω (500 V DC)		
	Dielectric Withstanding Voltage	Terminal to terminal and terminal to frame: 500 V AC for 1 minute		
Environment		RoHS compliant, ELV compliant		

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Position Sensors Selector Chart

Types		Position Sensors
Product name		10 mm GS
Part No.		EVWAE/EVWAD
Shape		
Features		Low profile, Long life sensor, Suitable for detecting the angles of rotating axes
Vehicle compatible		●
External dimensions (mm)	W	10.60
	D	12.65
	H	2.20
Stroke (mm)		—
Operating Force		Max. 3 mN
Rating		0.05 W
Total Resistance		5 k Ω $\pm$ 30%, 10 k Ω $\pm$ 30%
Linearity		Max. $\pm$ 2%
Operating Life (Min. cycles)		1,000,000 (Operation angle $\pm$ 30°)
Environment		RoHS compliant, ELV compliant

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Encoders Selector Chart

Types		Encoders	
Product name		10 mm Square SMD	18 mm Square (Waterproof type)
Part No.		EVQVV	EVQV9
Shape			
Features		Low profile, Shaft hole dimeters of up to 4mm	Water resistant
Vehicle compatible		●	—
External dimensions (mm)	W	10.6	18.8
	D	12.65	20.0
	H	2.2	9.22 (Excluding shaft)
Rotation Angle		360° (Endless)	360° (Endless)
Rotation Torque		Max. 2 mN · m	50 mN · m
Detents		Without points	8 points, 16 points
Resolution		3 pulses/360°	Absolute 3 bit, 4 bit
Output Signals		Phase A and B	Gray code
Rating		1 mA 10 V DC	1 mA 10 V DC
Bouncing		Max. 5 ms	Max. 5 ms
Rotation Life (Min. cycles)		70,000	30,000
Environment		RoHS compliant, ELV compliant	RoHS compliant, ELV compliant

* () Product height

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■ Application ■

- Connectors
- Tactile Switches
- Detector Switches
- Others

- Next generation smart equipment, etc
- ICT / Social infrastructure equipment, etc
- Measuring / Industrial equipment, etc
- Automotive device

AI speaker

Push switches
For Power ON-OFF

ESB 33 type
ESB33

- SMD type available

Tactile Switches
For Power ON-OFF / Volume UP-DOWN

3020 SMD EVPAW	3529 SMD EVPAA	4735 SMD EVQP2	6 mm Square Thin Type SMD EVQQ2
• Low profile, Small size • High operability	• High operating force • Optional ground terminal	• High operating force • Short, Middle push travel	• Long operation life • Over travel

Connectors
Board

For FPC/FFC Y5B	For FPC Y3B
• Double top and bottom contacts construction • Increased design flexibility	• Slim type • Double top and bottom contacts construction

Connectors
Board

Board-to-FPC Board-to-Board P4S	Board-to-FPC Board-to-Board P5KF
• Space-saving • Increased design flexibility	• Wide lineup for pin counts • Simple lock mechanism

Board-to-Board
P5KS

- Wide range of mated heights
- The effective mating length is long

Detector Switches
Cover open / close detection (Privacy protection)

ESE 58 type ESE58	ESE 16 type ESE16
• Low profile • NO/NC type are available • Over push travel	• Small size • Light operating force • Over push travel • Can be operated with different actuation angles

Wearable watch

Connectors

LCD

Board-to-FPC

S35



- Slim type
- Low profile

Connectors

Touch panel

Board-to-FPC

S35



- Slim type
- Low profile

Connectors

Board

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

Tactile Switches

For operation

3.4 mm X 1.7 mm
Side-operational

EVPAT



- Low profile
- High soldering strength

2616
SMD

EVPBB



- Low profile, Small size
- High operability

3.8 mm X 1.9 mm
Side-operational

EVPAK



- High operability
- Measure against ESD

4522
EM

EVPAE



- High soldering strength
- Long operational life

Connectors

Main camera

Board-to-FPC

S35



- Slim type
- Low profile

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Connectors

Battery

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Connectors

Sensor

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Smart watch

Connectors

Board

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction



Tactile Switches

For operation

4522
EM

EVPAE



- High soldering strength
- Long operational life

3.8 mm X 1.9 mm
Side-operational

EVPAK

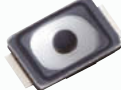


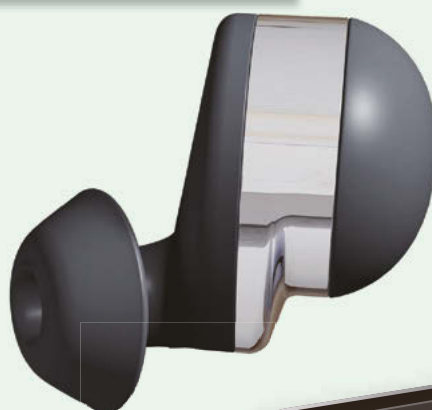
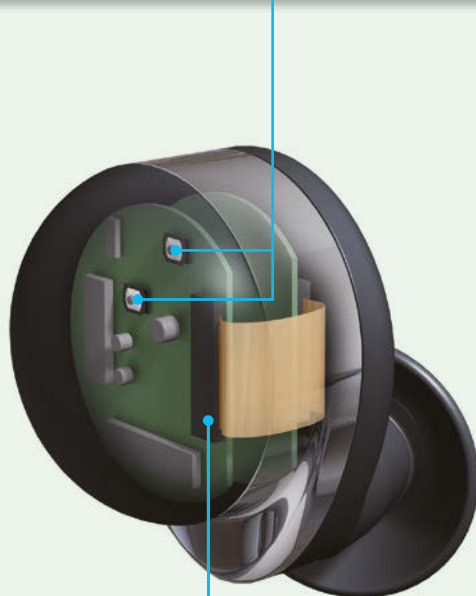
- High operability
- Measure against ESD

Hearable devices

Tactile Switches

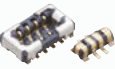
For Power ON-OFF /Operation

2616 SMD EVPBB	2819 SMD EVPBL	3020 SMD EVPAW	3.4 mm X 1.7 mm Side-operational EVPAT	4522 EM EVPAE
				
• Low profile, Small size • High operability	• Low profile, Small size • High operability	• Low profile, Small size • High operability	• Low profile • High soldering strength	• High soldering strength • Long operational life



Connectors

Board

Board-to-FPC R35K	Board-to-FPC S35	For FPC Y3B
		
• The ultra-small • Supports 3A • High removal force	• Slim type • Low profile	• Slim type • Double top and bottom contacts construction

Detector Switches

Battery cover open-close detection

ESE 16 type ESE16	ESE 13 type ESE13
	
• Small size • Light operating force • Over push travel • Can be operated with different actuation angles	• Low profile • Long push travel • Over push travel • Can be operated with different actuation angles

Smart glasses

Connectors

Board

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction



Tactile Switches

For Power ON-OFF /Operation

2616
SMD

EVPBB



- Low profile, Small size
- High operability

3020
SMD

EVPAW



- Low profile, Small size
- High operability

3.4 mm X 1.7 mm
Side-operational

EVPAT



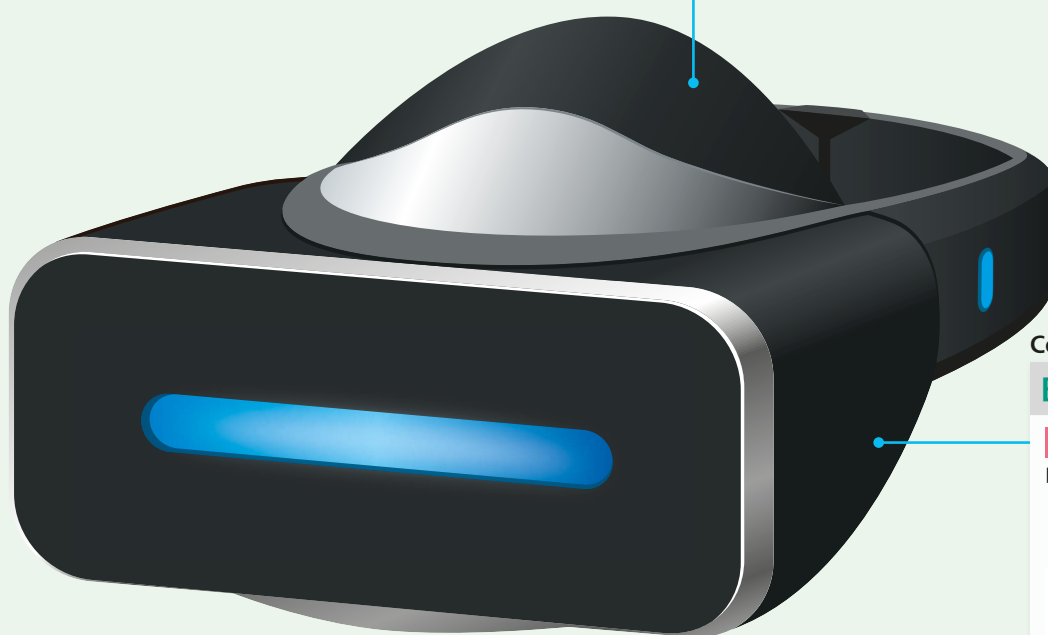
- Low profile
- High soldering strength

VR

Connectors

Board

Board-to-FPC	Board-to-FPC	Board-to-FPC	Board-to-FPC	For FPC/FFC	For FPC
R35K	S35	A35P	A35UH	Y5B	Y3B
					
• The ultra-small • Supports 3A • High removal force	• Slim type • Low profile	• High current rating • Space-saving	• With power terminal • Space-saving	• Double top and bottom contacts construction • Increased design flexibility	• Slim type • Double top and bottom contacts construction



Connectors

Battery

Board-to-FPC	Board-to-FPC
B01	B02
	
• High current rating (6 A) • Miniature, Low profile, High removal force	• High current rating (10 A) • Miniature, Low profile, High removal force

Tactile Switches

For operation

4940 SMD	3529 SMD
EVP	EVPA
	
• High operability • Protection grade: IP67	• High operating force • Optional ground terminal



Smart toy

Connectors

Board

Board-to-FPC

A35P



- High current rating
- Space-saving

Board-to-FPC

A35UH



- With power terminal
- Space-saving

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Connectors

Main camera

Board-to-FPC

S35



- Slim type
- Low profile

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Connectors

Battery

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Position Sensors

Angle detection

10 mm
GS

EVWAE



- Low profile
- Long operational life

Tactile Switches

For operation

3529
SMD

EVPA4



- High operating force
- Optional ground terminal

4735
SMD

EVQP2



- High operating force
- Short, Middle push travel

6 mm Square Thin Type
SMD

EVQQ2



- Long operation life
- Over travel

Heated tobacco

Connectors

Board

Board-to-FPC

A35P



- High current rating
- Space-saving

Board-to-FPC

A35UH



- With power terminal
- Space-saving

Tactile Switches

For Power ON-OFF /Operation

3529
SMD

EVPA4



- High operating force
- Optional ground terminal

4735
SMD

EVQP2



- High operating force
- Short, Middle push travel

3.5 mm X 2.9mm
Side-operational

EVQP



- Wide range of terminal type
- High soldering strength

Tactile Switches

For operation

3020
SMD

EVPAW



- Low profile, Small size
- High operability

4735
SMD

EVQP2



- High operating force
- Short, Middle push travel

Connectors

Battery

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Detector Switches

Insertion and open-close detection

ESE
18 type

ESE18



- Low profile
- NO/NC type are available
- Over push travel
- A wide variety of lever length

Smartphone

Connectors

Switch

Board-to-FPC

A35S



- Low profile
- Available for multiple pins

Connectors

LCD

Board-to-FPC

S35



- Slim type
- Low profile

Board-to-FPC

A35S



- Low profile
- Available for multiple pins

Board-to-FPC

A35UH



- With power terminal
- Space-saving

Tactile Switches

For Power ON-OFF and Operation / Volume UP•DOWN

2616
SMD

EVPBB



- Low profile, Small size
- High operability

3020
SMD

EVPAW



- Low profile, Small size
- High operability

3.4 mm X 1.7 mm
Side-operational

EVPAT



- Low profile
- High soldering strength

Connectors

Battery

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

A35UH



- With power terminal
- Space-saving

Board-to-FPC

A35P



- High current rating
- Space-saving

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Connectors

In-camera / Main camera

Board-to-FPC

A35S



- Low profile
- Available for multiple pins

Board-to-FPC

S35



- Slim type
- Low profile

Board-to-FPC

A35UH



- With power terminal
- Space-saving

Connectors

Side switch / Board

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

Board-to-FPC

A35S



- Low profile
- Available for multiple pins

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Gaming smartphone

Tactile Switches

For operation

4735
SMD

EVQP2



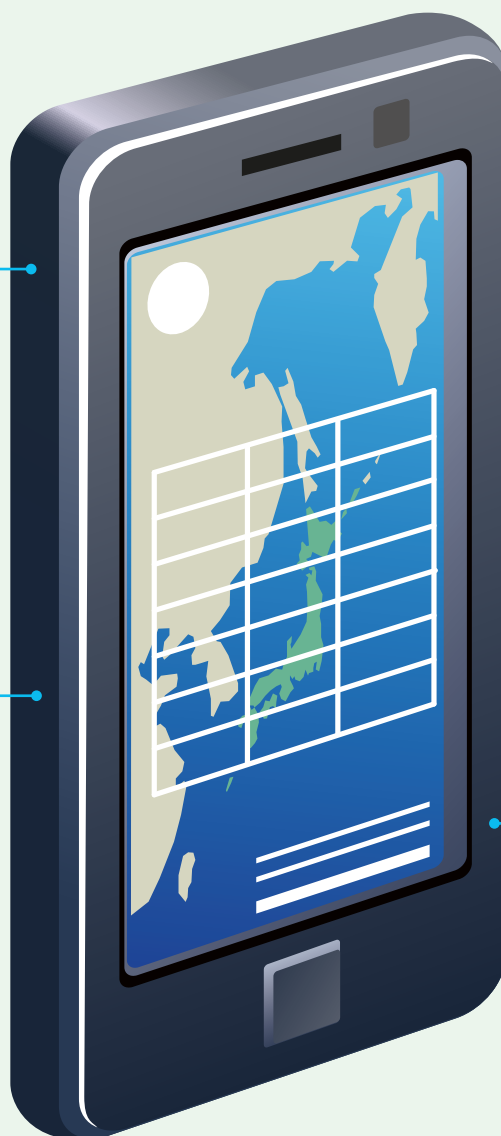
- High operating force
- Short, Middle push travel

3529
SMD

EVPA4



- High operating force
- Optional ground terminal



Connectors

Battery

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Connectors

Board

Board-to-FPC

R35K



- The ultra-small
- Supports 3A
- High removal force

Board-to-FPC

S35



- Slim type
- Low profile

Board-to-FPC

A35P



- High current rating
- Space-saving

Board-to-FPC

A35UH



- With power terminal
- Space-saving

For FPC/FFC

Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Tablet

Connectors

Main camera

Board-to-FPC A4S  • Slim type • Simple lock mechanism	Board-to-FPC A35UH  • With power terminal • Space-saving	Board-to-FPC A35P  • High current rating • Space-saving
For FPC Y3B  • Slim type • Double top and bottom contacts construction		

Connectors

LCD / Sub camera

Board-to-FPC A35S  • Low profile • Available for multiple pins	Board-to-FPC S35  • Slim type • Low profile
For FPC Y3B  • Slim type • Double top and bottom contacts construction	

Connectors

Board

Board-to-FPC A35S  • Low profile • Available for multiple pins	Board-to-FPC S35  • Slim type • Low profile	For FPC Y3B  • Slim type • Double top and bottom contacts construction
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Connectors

Touch panel / Switch

Board-to-FPC A35S  • Low profile • Available for multiple pins	Board-to-FPC S35  • Slim type • Low profile
For FPC Y3B  • Slim type • Double top and bottom contacts construction	

Connectors

Battery

Board-to-FPC A35UH  • With power terminal • Space-saving	Board-to-FPC A35P  • High current rating • Space-saving
Board-to-FPC B01  • High current rating (6 A) • Miniature, Low profile, High removal force	Board-to-FPC B02  • High current rating (10 A) • Miniature, Low profile, High removal force

Tactile Switches

For Power ON-OFF and Operation / Volume UP • DOWN

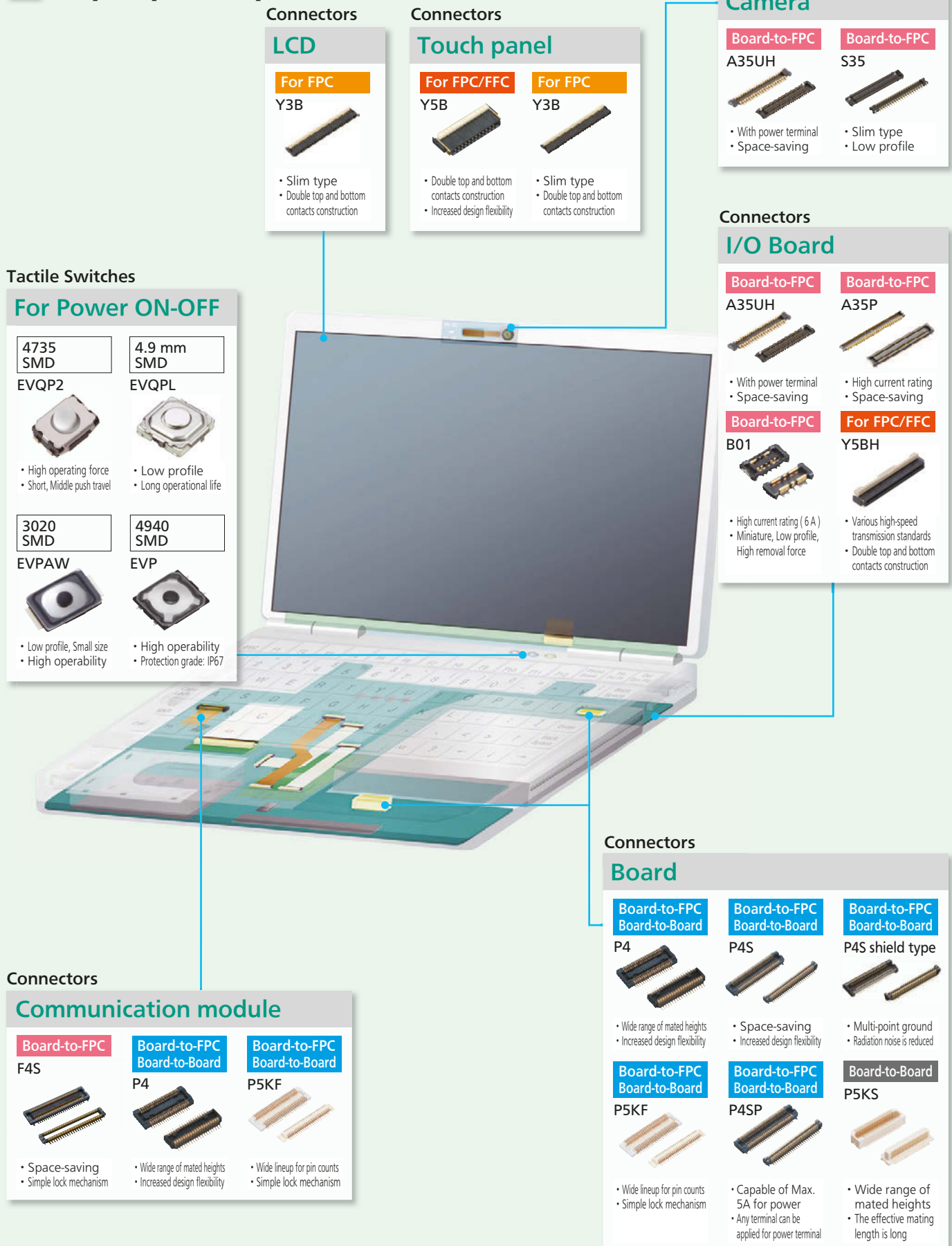
3020 SMD EVPAW  • Low profile, Small size • High operability	3.4 mm × 1.7 mm Side-operational EVPAT  • Low profile • High soldering strength	4.9 mm SMD EVQPL  • Low profile • Long operational life	3.5 mm × 2.9 mm Side-operational EVQP  • Wide range of terminal type • High soldering strength	3.8 mm × 1.9 mm Side-operational EVPAK  • High operability • Measure against ESD
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Connectors

Communication module

Board-to-FPC A35S  • Low profile • Available for multiple pins	Board-to-FPC A35UH  • With power terminal • Space-saving
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Laptop computer



■ Mouse



Tactile Switches

For operation

6 mm Square Thin Type
SMD

EVQQ2



- Long operation life
- Over travel

Over
Travel

EVQP0



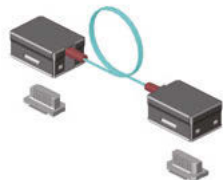
- Over push travel
- Light-touch operational

Security camera

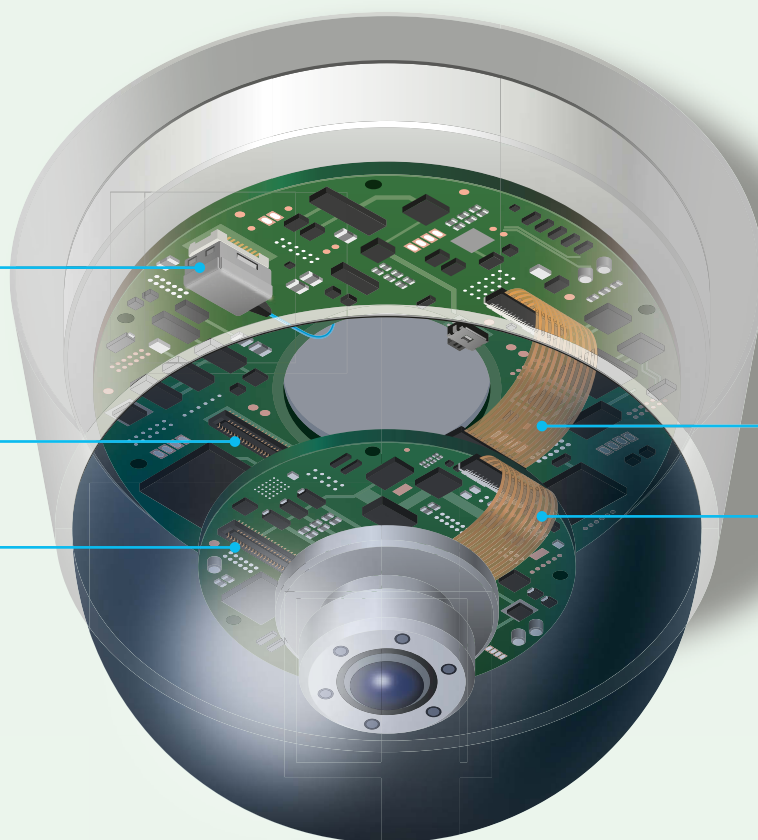
Connectors

Board

Active optical connectors



- Equipped with electrical/optical conversion function (Plug)
- High speed and wide data transmission possible



Connectors

Camera / Board

Board-to-FPC Board-to-Board

P4



- Wide range of mated heights
- Increased design flexibility

Board-to-FPC Board-to-Board

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board

P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Board-to-Board

P5KS



- Wide range of mated heights
- The effective mating length is long

Connectors

Camera / Board

For FPC/FFC

Y5BH



- Various high-speed transmission standards
- Double top and bottom contacts construction

For FPC

Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Drive recorder

Connectors

Board

Board-to-FPC Board-to-Board

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board

P4SP



- Capable of Max. 5A for power
- Any terminal can be applied for power terminal

Board-to-FPC Board-to-Board

P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Board-to-Board

P5KS



- Wide range of mated heights
- The effective mating length is long

Tactile Switches

For operation

3529
SMD

EVPA4



- High operating force
- Optional ground terminal

4735
SMD

EVQP2



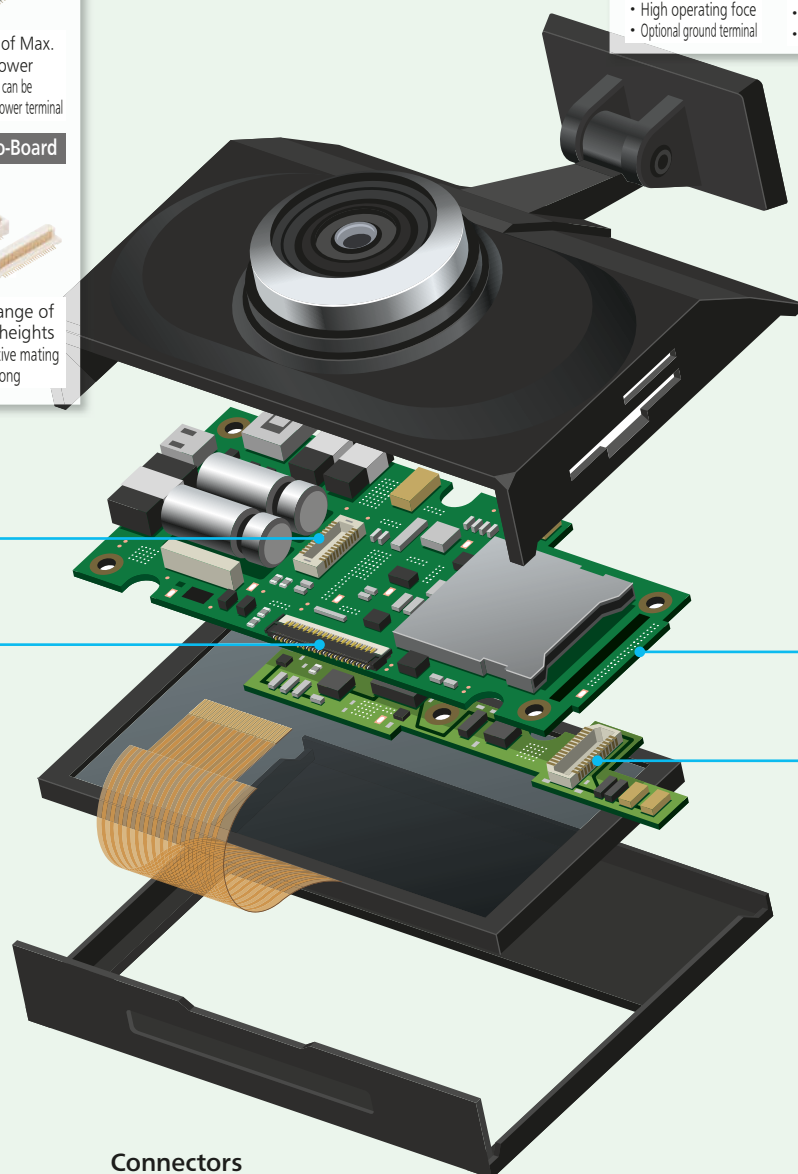
- High operating force
- Short, Middle push travel

4522
EM

EVPAE



- High soldering strength
- Long operational life



Connectors

LCD

For FPC/FPC

Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC

Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Connectors

Modules – Main Board

For FPC/FPC

Y5BH



- Various high-speed transmission standards
- Double top and bottom contacts construction

Board-to-FPC Board-to-Board

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board

P4S shield type



- Multi-point ground
- Radiation noise is reduced

Board-to-FPC Board-to-Board

P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Board-to-FPC Board-to-Board

P4SP



- Capable of Max. 5A for power
- Any terminal can be applied for power terminal

Board-to-Board

P5KS



- Wide range of mated heights
- The effective mating length is long

Digital still camera

Connectors

LCD

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Detector Switches

Zoom

ESE
23 type

ESE23



- Bidirectional operation
- Low profile

Connectors

Board

Board-to-FPC

A35S



- Low profile
- Available for multiple pins

Connectors

Lens module

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Detector Switches

Cover open-close Lens attachment/detachment

ESE
13 type

ESE13



- Low profile
- Long push travel
- Over push travel
- Can be operated with different actuation angles

ESE
18 type

ESE18



- Low profile
- NO/NC type are available
- Over push travel
- A wide variety of lever length

Connectors

Flash module

Board-to-FPC

A35P



- High current rating
- Space-saving

Board-to-FPC

A35UH



- With power terminal
- Space-saving

Board-to-FPC Board-to-Board

P4



- Wide range of mated heights
- Increased design flexibility

Board-to-FPC Board-to-Board

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board

P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Connectors

Battery

Board-to-FPC

B01



- High current rating (6 A)
- Miniature, Low profile, High removal force

Board-to-FPC

B02



- High current rating (10 A)
- Miniature, Low profile, High removal force

Connectors

Touch panel

For FPC

Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Smart meter

Connectors

LCD

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

For FPC

Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

For FPC/FFC

Y5B



- Double top and bottom contacts construction
- Increased design flexibility

Connectors

Board

Board-to-FPC Board-to-Board

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board

P5KF



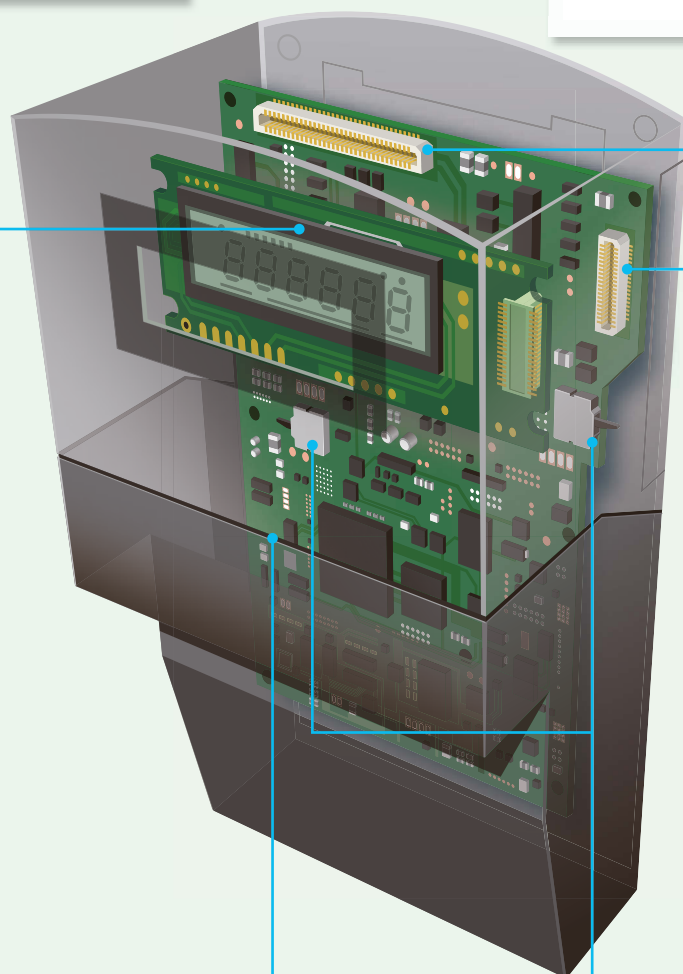
- Wide lineup for pin counts
- Simple lock mechanism

Board-to-Board

P5KS



- Wide range of mated heights
- The effective mating length is long



Tactile Switches

For operation

4735
SMD

EVQP2



- High operating force
- Short, Middle push travel

6 mm Square Thin Type
SMD

EVQQ2



- Long operation life
- Over travel

8 mm Square Long Travel
SMD

EVQQ1



- High operating force
- Long push travel

Detector Switches

Cover open-close Power shutoff position

ESE
23 type

ESE23



- Bidirectional operation
- Low profile

ESE
13 type

ESE13



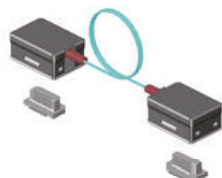
- Low profile
- Long push travel
- Over push travel
- Can be operated with different actuation angles

Measuring devices

Connectors

Board

Active optical connectors



- Equipped with electrical/optical conversion function (Plug)
- High speed and wide data transmission possible

Tactile Switches

Menu operation

3529
SMD

EVPA4



- High operating force
- Optional ground terminal

4735
SMD

EVQP2



- High operating force
- Short, Middle push travel

6 mm Square Thin Type
SMD

EVQQ2



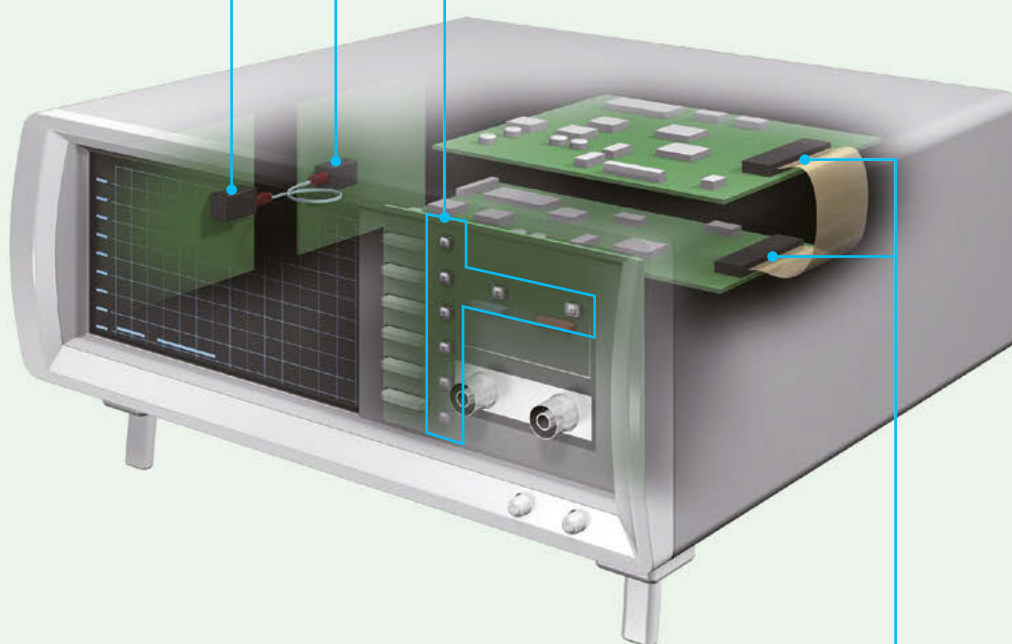
- Long operation life
- Over travel

4.9 mm
SMD

EVQPL



- Low profile
- Long operational life



Connectors

Board

For FPC/FFC
Y5BH



- Various high-speed transmission standards
- Double top and bottom contacts construction

For FPC/FFC
Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC
Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Board-to-FPC
Board-to-Board
P4S



- Space-saving
- Increased design flexibility

Board-to-FPC
Board-to-Board
P4SP



- Capable of Max. 5A for power
- Any terminal can be applied for power terminal

Board-to-FPC
Board-to-Board
P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Board-to-Board
P5KS



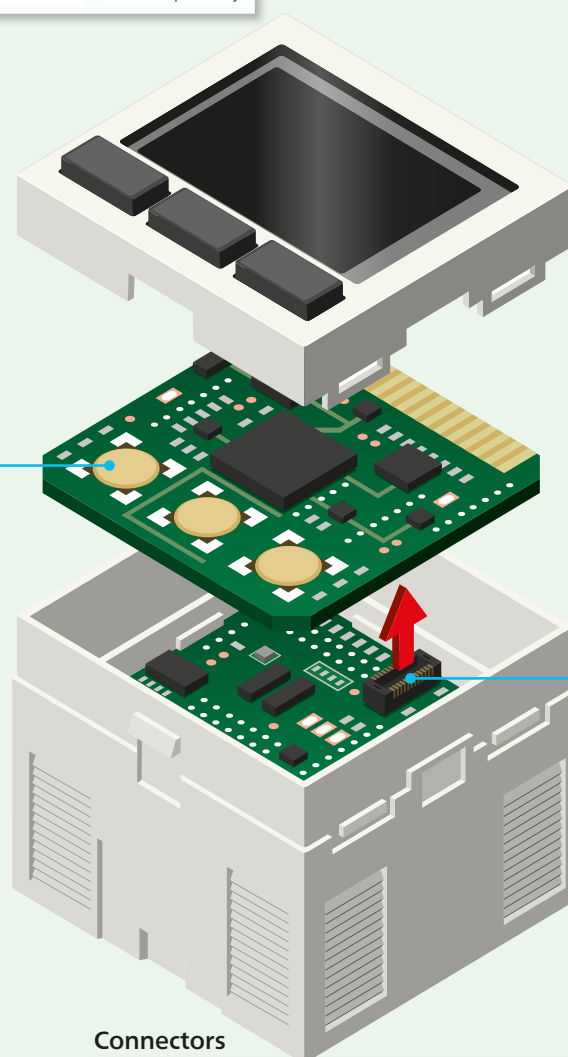
- Wide range of mated heights
- The effective mating length is long

Pressure sensor

Tactile Switches

For operation

4.9 mm SMD EVQPL  • Low profile • Long operational life	4735 SMD EVQP2  • High operating force • Short, Middle push travel	6 mm Square Thin Type SMD EVQQ2  • Long operation life • Over travel	6 mm Square Middle Travel 2 terminals SMD EVPBD  • Sharp operability feeling • Silent operability
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Connectors

Board

Board-to-FPC Board-to-Board P4  • Wide range of mated heights • Increased design flexibility	Board-to-FPC Board-to-Board P4S  • Space-saving • Increased design flexibility	Board-to-FPC Board-to-Board P4SP  • Capable of Max. 5A for power • Any terminal can be applied for power terminal	Board-to-FPC Board-to-Board P5KF  • Wide lineup for pin counts • Simple lock mechanism	Board-to-Board P5KS  • Wide range of mated heights • The effective mating length is long
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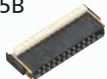
Blood glucose meter

Connectors

LCD

For FPC/FFC

Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC

Y5BW



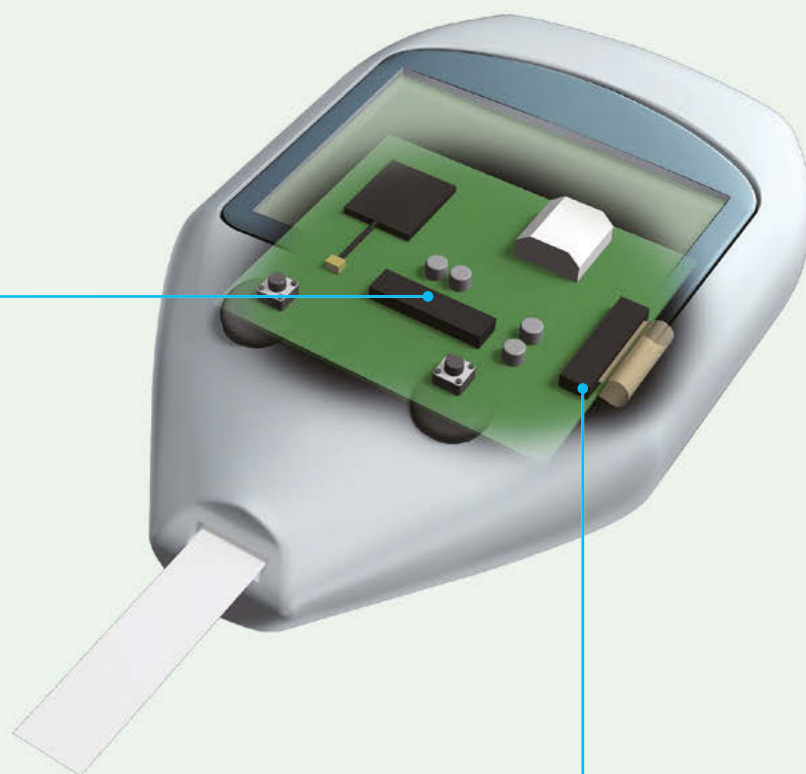
- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction



Connectors

Board

Board-to-FPC

F4S



- Space-saving
- Simple lock mechanism

For FPC

Y3B



- Slim type
- Double top and bottom contacts construction

Board-to-FPC

P4S



- Space-saving
- Increased design flexibility

Board-to-FPC

P4SP



- Capable of Max. 5A for power
- Any terminal can be applied for power terminal

Handheld terminal

Connectors

Board

Board-to-FPC F4S



- Space-saving
- Simple lock mechanism

Board-to-FPC Board-to-Board P4S



- Space-saving
- Increased design flexibility

Board-to-FPC Board-to-Board P4SP



- Capable of Max. 5A for power
- Any terminal can be applied for power terminal

Board-to-FPC Board-to-Board P5KF



- Wide lineup for pin counts
- Simple lock mechanism

Board-to-Board P5KS



- Wide range of mated heights
- The effective mating length is long

Connectors

LCD

Board-to-FPC A35P



- High current rating
- Space-saving

For FPC/FFC Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Tactile Switches

For operation

4.9 mm SMD EVQP1



- Low profile
- Long operational life

4735 SMD EVQP2



- High operating force
- Short, Middle push travel

6225 EM EVQP4

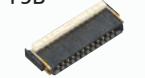


- Short/Middle push travel
- High soldering strength

Connectors

Board

For FPC/FFC Y5B



- Double top and bottom contacts construction
- Increased design flexibility

For FPC Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

Connectors

LCD

For FPC Y3B



- Slim type
- Double top and bottom contacts construction

For FPC Y5BW



- Double top and bottom contacts construction
- Increased design flexibility
- Higher FPC holding force

For FPC/FFC Y5B



- Double top and bottom contacts construction
- Increased design flexibility

Electric tool



Tactile Switches

For operation

6 mm Square Thin Type
SMD

EVQQ2



- Long operation life
- Over travel

6 mm Square Middle Travel
2 terminals SMD

EVPBD



- Sharp operability feeling
- Silent operability

8 mm Square Long Travel
SMD

EVQQ1



- High operating force
- Long push travel

Automotive device

Connectors

DRL / Rear lamp

Board-to-wire

CW1



- Low profile
- Ensures Vibration and heat resistance (125°C)

Board-to-FPC

CF1



- Ensures Vibration and heat resistance (125°C)

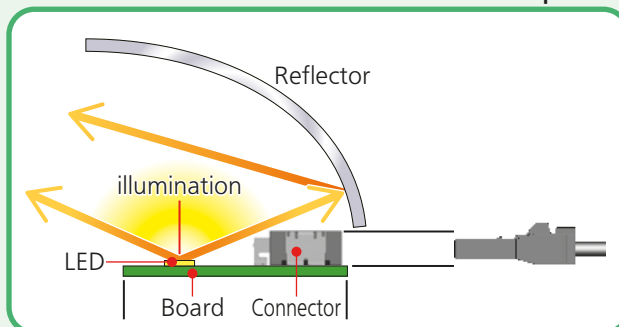
Board-to-FPC

CF2

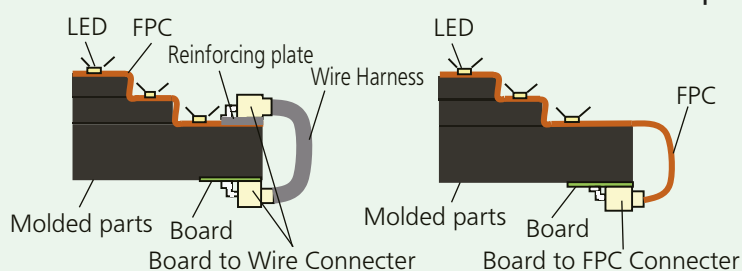


- Available for multiple pins
- Ensures Vibration and heat resistance (125°C)

LED module connection in head lamps



Connection of board and FPC in DRL/rear lamp



Connectors

BMS (Battery Management System)

Board-to-wire

CW1



- Low profile
- Ensures Vibration and heat resistance (125°C)

Board-to-FPC

CF1



- Ensures Vibration and heat resistance (125°C)

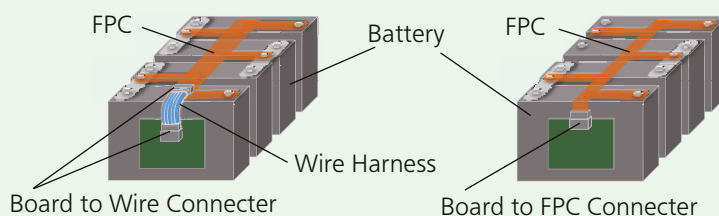
Board-to-FPC

CF2



- Available for multiple pins
- Ensures Vibration and heat resistance (125°C)

Connection of board and FPC in BMS (Battery Management System)



Application



Please refer to **"the latest product specifications"** when designing your product.

- Requests to customers:
<https://industrial.panasonic.com/ac/e/salespolicies/>

■Global Sales Network Information: industrial.panasonic.com/ac/e/salesnetwork

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