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ELEKTRONIK "PRODUKTE DES JAHRES 2020"



Interactive mirror

FEATURES

- Embedded PC with Android
- Full HD TFT display
- Built-in Bluetooth® 4.0 & WiFi®
- Optically bonding of mirror and display
- Capacitive multi-touch panel
- Comprehensive IP65 protection

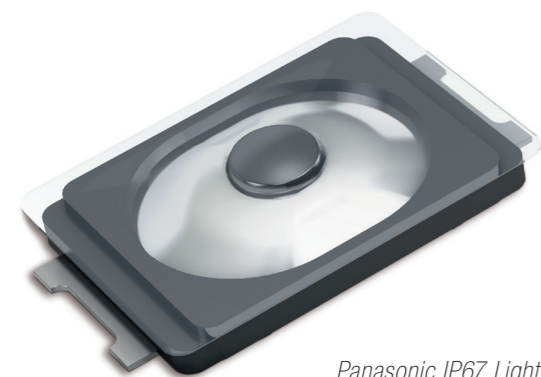
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IP67 TACTILE SWITCHES FOR WEARABLES

HAVE A LOOK

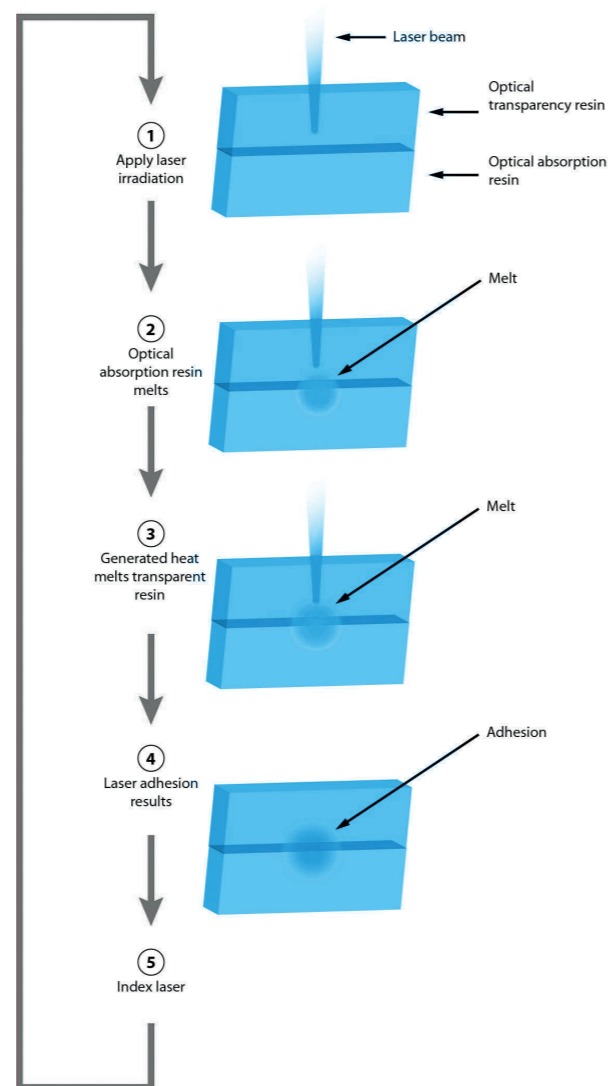
Wearables are naturally used our daily life. Smart technology is nearly invisibly integrated in to watches or earphones and we use it anywhere at any time, which means high requirements on the components. For light touch switches, Panasonic Industry can offer IP67 types by using a special laser welding technology.



Panasonic IP67 Light Touch Switch EVPAW series

Even in times of improving voice control, the advantage of electromechanical light touch switches like EVPAW type, is that the switch constitutes direct feedback for users and can withstand operating errors such as accidental knocks and bumps better, which is a compelling design feature for wearables e.g. in the sports market. Since users keep the devices in their hands, on their feet or on their heads, most wearables are exposed to sweat. The salt in the sweat presents the greatest threat to the maintenance-free usage of switches. For example, wearing a Bluetooth headset during work-out means that sweat drips down the cable directly into the mechanism which operates the volume control and the microphone. If it is not waterproof in accordance with the IP67 rating, sweat will get into the switch. After you have finished using the device, what remains is the salt from the sweat which can jam and destroy the switch.

Laser Welding Process



IP67 TACTILE SWITCHES FOR WEARABLES

But not only sweat is a threat, also protection against undesirable water, damp, moisture and dust penetration, etc. must be guaranteed. Such requirements are specified, for example, by the IP67 protection rating for the housings of switches. An adhesively bonded silicone membrane is commonly used for this purpose, but silicone ages relatively quickly and also loses

its elasticity over time. In manufacturing its IP67 tactile switches, Panasonic uses a patented laser welding process in which the switch is sealed with a thin nylon film which is applied over the switch actuator. This safeguards the feel of the switch and protects it from developing any signs of wear, for a long life wearable usage.



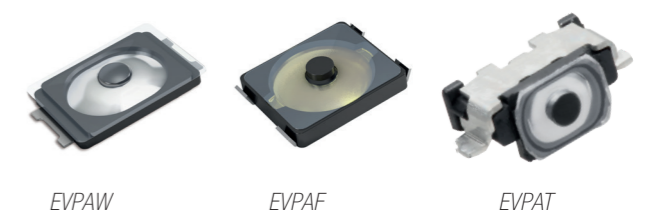
Light touch switches

For operation



Light touch switches

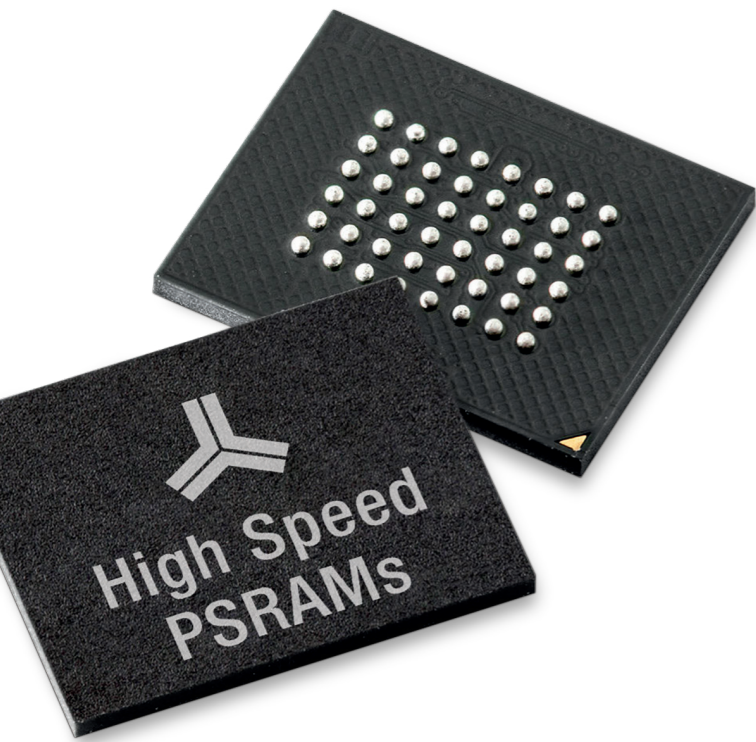
For power on and operation



NEW 8MB TO 128MB HIGH-SPEED CMOS PSRAMS

HAVE A LOOK

Alliance Memory introduces a new family of high-speed CMOS pseudo SRAMs (PSRAMs) with densities from 8 Mb to 128 Mb in FPBGA packages. Alliance Memory's high-speed CMOS PSRAMs combine the most desirable features of SRAMs and DRAMs to provide designers with easy-to-use, low-power, and cost-effective memory solutions.



FEATURES

- Wide range of densities available:
 - 8 Mb, 16 Mb, and 32 Mb devices featuring interfaces compatible with asynchronous type SRAM
 - 64 Mb and 128 Mb CellularRAM PSRAMs featuring a multiplexed address / data bus for greater bandwidth
- Offered in 7.0 x 1.0 mm 48-ball FPBGA and 4.0 x 4.0 x 1.0 mm 49-ball FPBGA packages
- Support asynchronous and burst operation
- Feature read or write burst lengths of 4, 8, 16, or 32 words, or continuous burst
- Available in industrial temperature ranges of -30 °C to +85 °C and -40 °C to +85 °C
- Fast access speeds of 70 ns
- Operate from a single power supply of 1.7 V to 1.95 V or 2.6 V to 3.3 V
- Power-saving features
 - Auto temperature-compensated self-refresh (ATCSR)
 - Partial array self-refresh (PASR)
 - Deep power down (DPD) mode

APPLICATIONS

- Wireless
- Automotive
- Networking
- Industrial applications

NEW 8Mb TO 128Mb HIGH-SPEED CMOS PSRAMS

P / N	DENSITY	ORGANIZATION	VCC	PACKAGE	TEMPERATURE RANGE
AS1C512K16PL-70BIN	8 Mb	512 kb x 16	1.7 V to 1.95 V (1.8 V)	48 FPBGA	-30 °C to +85 °C
AS1C512K16PL-70BINTR	8 Mb	512 kb x 16	1.7 V to 1.95 V (1.8 V)	48 FPBGA	-30 °C to +85 °C
AS1C512K16P-70BIN	8 Mb	512 kb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-30 °C to +85 °C
AS1C512K16P-70BINTR	8 Mb	512 kb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-30 °C to +85 °C

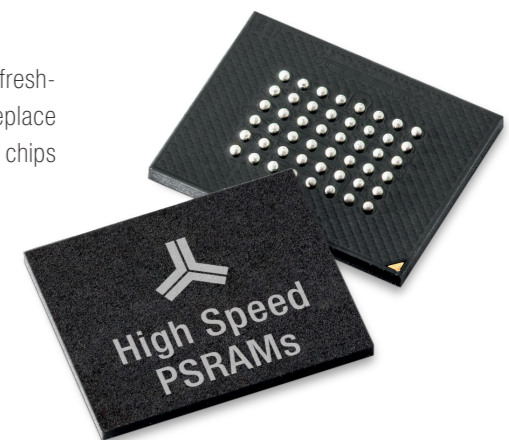
AS1C1M16PL-70BIN	16 Mb	1 Mb x 16	1.7 V to 1.95 V (1.8 V)	48 FPBGA	-40 °C ~ +85 °C
AS1C1M16PL-70BINTR	16 Mb	1 Mb x 16	1.7 V to 1.95 V (1.8 V)	48 FPBGA	-40 °C ~ +85 °C
AS1C1M16P-70BIN	16 Mb	1 Mb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-40 °C ~ +85 °C
AS1C1M16P-70BINTR	16 Mb	1 Mb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-40 °C ~ +85 °C

AS1C2M16P-70BIN	32 Mb	2 Mb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-40 °C ~ +85 °C
AS1C2M16P-70BINTR	32 Mb	2 Mb x 16	2.6 V to 3.3 V (3V)	48 FPBGA	-40 °C ~ +85 °C

AS1C4M16PL-70BIN	64 Mb	4 Mb x 16	1.7 V to 1.95 V (1.8 V)	49 FPBGA	-30 °C to +85 °C
AS1C4M16PL-70BINTR	64 Mb	4 Mb x 16	1.7 V to 1.95 V (1.8 V)	49 FPBGA	-30 °C to +85 °C

AS1C8M16PL-70BIN	128 Mb	8 Mb x 16	1.7 V to 1.95 V (1.8 V)	49 FPBGA	-30 °C to +85 °C
AS1C8M16PL-70BINTR	128 Mb	8 Mb x 16	1.7 V to 1.95 V (1.8 V)	49 FPBGA	-30 °C to +85 °C

Featuring high-density DRAM cores with SRAM interfaces and on-chip refresh circuits for refresh-free operation, the devices provide the high bandwidth and the low power necessary to replace SRAMs in portable electronics such as mobile phones and PDAs, or to serve as companion chips to burst NOR Flash applications.



SMD VIBRATION MOTOR... SMALLER, STRONGER AND BETTER WITH BAOLONG

SMD SURFACE MOUNT VIBRATION MOTORS HAVE THREE MAIN ADVANTAGES.

1. The small size of the motor saves space. The smallest size we can achieve is 3.7 x 2.7 x 9.5 mm. That's why many wearable devices prefer this type of motor.
2. The motor can be directly soldered to the PCB board, which is suitable for automated production. These SMD surface mount vibrator motors use high-temperature materials which can withstand 2 – 3 reflows.
3. The motor has excellent reliability and can generally work in an environment of -40 °C to 80 °C.

And the lifetime is also outstanding, which makes surface mount vibration motor also an excellent choice for the automobile industry.

BAOLONG SMD VIBRATION MOTORS



SMD VIBRATION MOTOR... SMALLER, STRONGER AND BETTER WITH BAOLONG



Vibration alerting for wearables devices

Vibration feedback for industrial control units

Vibration feedback for future multifunction steering wheels

FEATURES

- SMD
- Various sizes
- For different driving voltages (typically 1.3 or 3 VDC)
- Different rotation speed and vibration strength
- Expert advice & design-in support available

APPLICATIONS

- E-call generation of perceptible feedback (mechanical vibration)
- Portable phones and communication devices
- Silent alarm / security communication
- Industrial control units (haptic feedback confirmation)

	P / N	OPERATING VOLTAGE	MAX. RATED SPEED	MAX. RATED CURRENT	MIN. OPERATING TEMPERATURE	MAX. OPERATING TEMPERATURE
HAVE A LOOK	BLT-3211H	1.5V to 2.0V	16.000 rpm	80 mA	-40 °C	+85 °C
HAVE A LOOK	BLT-4311	2.3V to 3.2V	14.000 rpm	75 mA	-30 °C	+70 °C
HAVE A LOOK	BLT-4315B	2.1 V to 3.2V	8.500 rpm	130 mA	-30 °C	+70 °C
HAVE A LOOK	BLT-5513	1.3V to 1.6V	9.000 rpm	110 mA	-30 °C	+70 °C
HAVE A LOOK	BLT-5513CD6	2.5V to 3.4V	10.000 rpm	100 mA	-30 °C	+70 °C

SMI INC. – NEW, 4POLE TUNING FORK QUARTZ CRYSTAL

HAVE A
LOOK

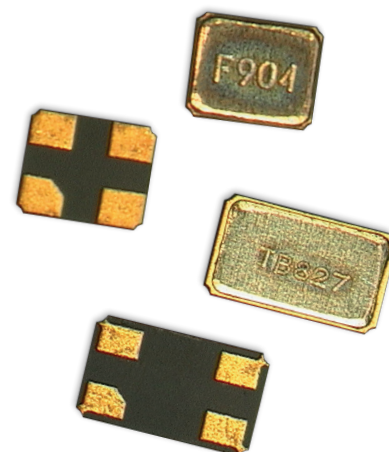
Designers and engineers have a strong desire to save space on PCBs. Therefore manufacturers have to miniaturize their components continuously. An external 32.768 kHz clock is an essential part of many electronic systems.

Besides driving the real-time clock, 32.768 kHz quartz crystals are widely used by various processor and peripheral subsystems. These can be found in a variety of applications such as smart card, metering, mobile phones, wearables and many more date and time information providing products.

Application-specific requirements in the kHz – oscillator design can be optimized by using the perfect quartz crystals. These refer to the accuracy, frequency tolerance over temperature range as well as ESR (Equivalent Series Resistance) in order to improve the safety factor in the start-up of the oscillation and can save current consumption within battery driven devices.

With the product families 121SMX(4P) and 212SMX(4P) SMI INC. announces two new 4pole type variations for 1.2x1.0 mm and 2.0x1.2 mm tuning fork crystals. These SMD quartz crystals are suitable for high density surface mounting and provide both – very small housing measurements and 4 poles. In addition they are compliant with EU RoHS standard and Pb-free.

The crystals are manufactured with most common load capacitance of 12.5 pF, 9.0 pF, 6.0 pF and 7.0 pF are also feasible.



FEATURES

- 4pole design on smallest housings (1.2x1.0 mm and 2.0x1.2 mm)
- High density surface mounting
- Lead-free / RoHS compliant
- Different load capacitance options

APPLICATIONS

- Smart card
- Mobile phone
- Wearable
- Modules
- Microcomputers

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