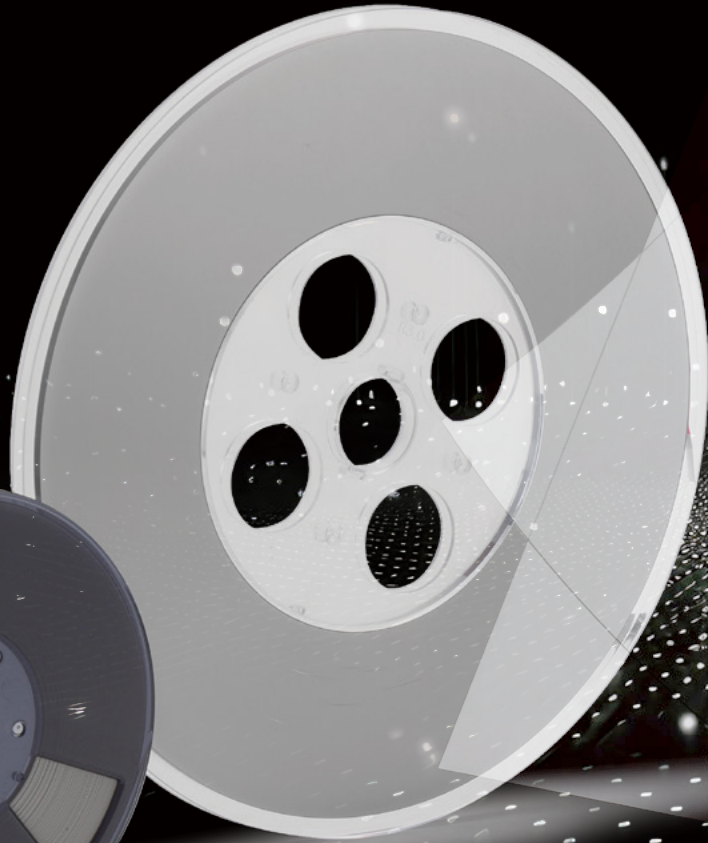



DEXERIALS PRODUCTS

Product Guide





Value Matters

**Unprecedented innovation,
unprecedented value.**

At Dexerials, we have always been at the forefront of developing and supplying functional materials by integrating our proprietary technologies. Our products find applications across a broad range of industries, from electronics to automotive and photonics.

By further refining the technologies we have cultivated over many years, we will continue to create new products, and contribute to maximizing the value of our customers' products.

Open a New Building at the Headquarters and Tochigi Technology Center

A Facility for Communication with Stakeholders

In March 2023, the Reception Hall was completed within the Headquarters and Tochigi Technology Center site for the purpose of facilitating communications with our stakeholders, including customers, shareholders/investors, the local community, and employees. The facility is also used as a forum for communication with a variety of stakeholders, including domestic and international customers, students participating in seminars and internships, and the local chamber of commerce.





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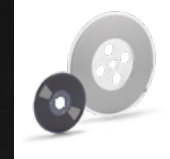
This booklet covers the features and characteristics of some of our most distinctive products. For more information about our products, visit our website.
<https://www.dexerials.jp/en/products/>



Bonding Materials

**Anisotropic
Conductive Film (ACF)**
[For displays]

▶ P05



**Anisotropic
Conductive Film (ACF)**
[Other applications]

▶ P07



**Low-D_x/D_t
bonding sheet**
[Double coated tapes]

▶ P09



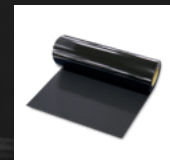
**Thermosetting tapes
for FPC**
[Double coated tapes]

▶ P10



**Conductive adhesive
single-coated tape
for shielding**
[Single coated tapes]

▶ P11



**Smart precision
adhesive (SA series)**
[Adhesive]

▶ P13



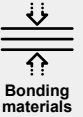
**Anisotropic
Conductive Paste (ACP)**
[Adhesive]

▶ P14



Anisotropic Conductive Film (ACF)

[For displays]



ACF is a film-type adhesive with conductive particles uniformly dispersed in a resin, enabling electrical conduction and insulation between bonded components.



Sony Chemical, our predecessor, first marketed this product in 1977. Today, ACF is an essential circuit connecting material in almost all digital equipment with displays such as smartphones, tablet PCs, and high-definition TV sets.

Enables interconnection with a minimum wiring space of 10 μm for an even smaller pitch.

Particle-arrayed Anisotropic Conductive Film (ACF)

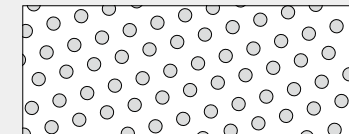
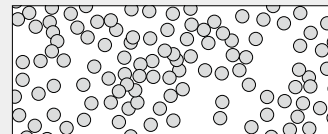
ArrayFIX[®]

We achieve stable particle trapping by arraying conductive particles at the designed location. Particle-arrayed ACF employs a newly developed resin with suppressed fluidity to keep the particles from moving around during the bonding process, reducing the risk of short circuits compared with conventional ACF. Trapping a stable number of particles can produce highly reliable electric interconnections, securing good conductivity.

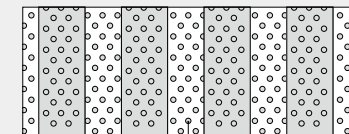
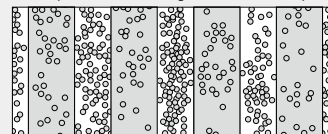
Conventional ACF (particle dispersed type)	
Particle diameter	3.2 μm
Particle area density	60 kpcs/mm ²

Particle-arrayed type ACF	
Particle diameter	3.2 μm
Particle area density	12 kpcs/mm ²

How conductive particles are dispersed in ACF (Illustration)



Appearance of areas bonded with ACF (observed from the glass substrate side)



Terminal

Space between terminals

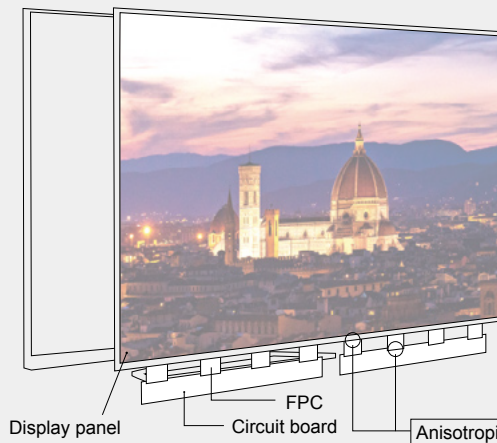
Bond mark
(mark of captured conductive particle)

Applications

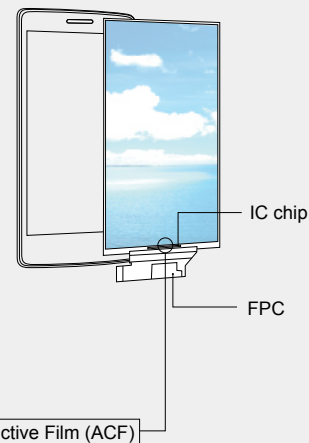
- Connection between parts/circuit boards and display panels for items such as TV sets and signage monitors



Large-sized displays



Small and medium-sized displays

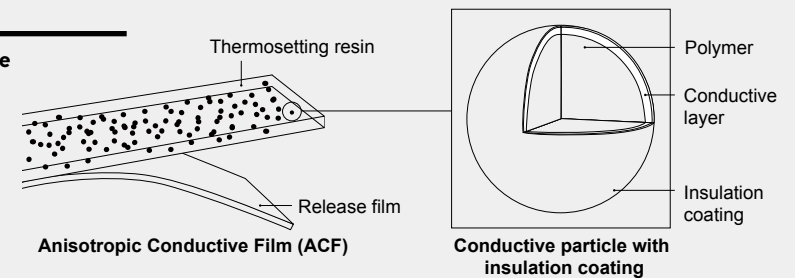


Mechanism

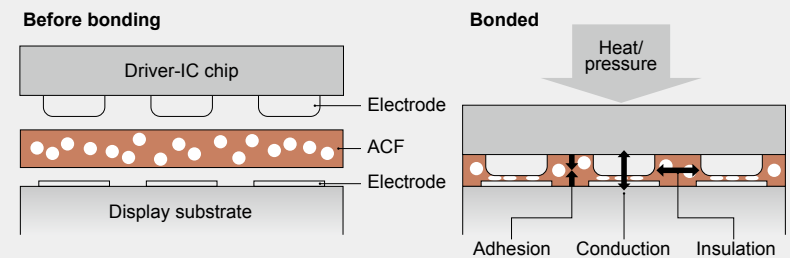
IC chips controlling output images have to be electrically connected to the display section to display images on a screen, forming many electronic circuits. ACF connects these parts.

ACF features conductive particles distributed through a thermosetting resin binder—heating and pressurizing cause opposite terminals to face each other to sandwich conductive particles and form electrical circuits. Insulation is simultaneously secured between adjacent terminals. In this way, you can electrically connect, insulate, and bond many terminals, circuits, and substrates at the same time.

Product structure

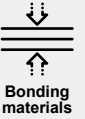


Connection structure

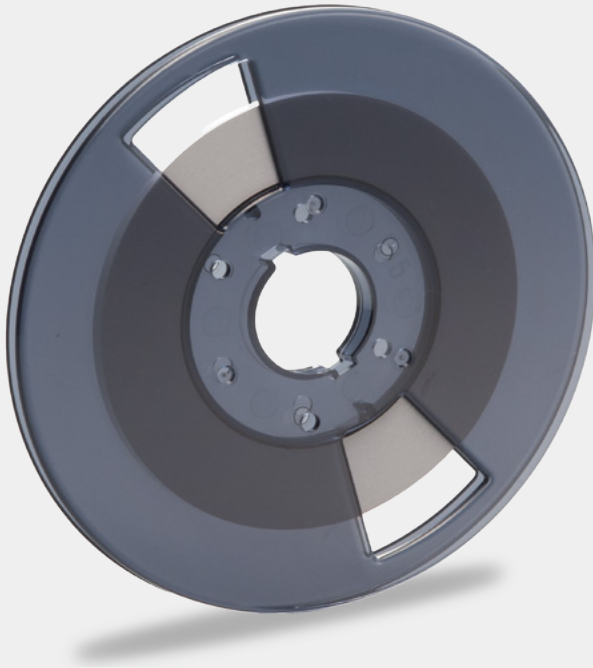


Anisotropic Conductive Film (ACF)

[Other applications]



ACF is a film adhesive with uniformly dispersed conductive particles in a resin, enabling electrical conduction and insulation between bonded components.

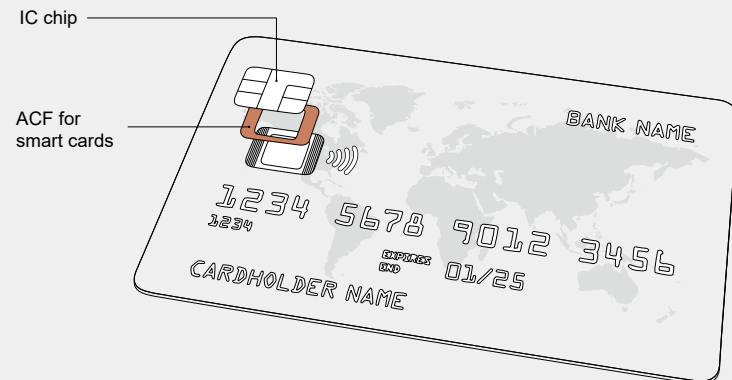


Parts such as mechanical connectors are not needed for connection using ACF, which provides extremely thin and small connecting sections. Compared with soldering used to mount parts, ACF can perform connection at a lower temperature. For this reason, it is suitable for bonding materials with low heat resistance, such as plastic substrates and films.

Embedding IC modules in contact/contactless smart cards such as credit cards

Anisotropic Conductive Film (ACF) for smart cards

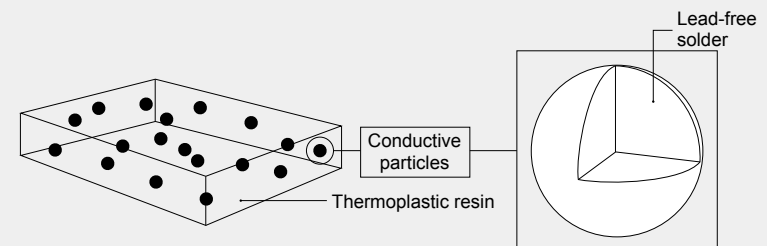
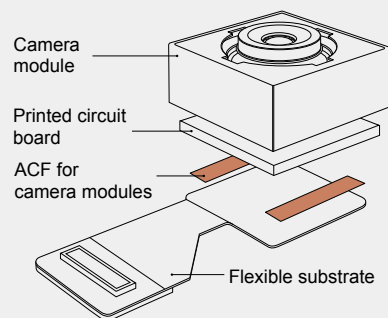
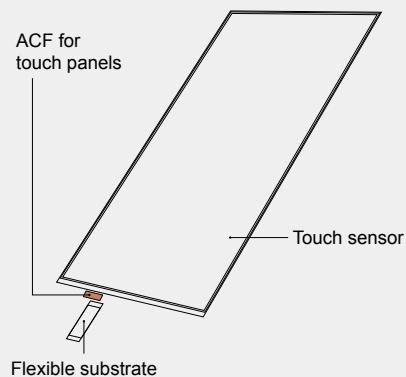
Most smart cards, such as credit cards, are made of plastics with low heat resistance, such as polycarbonate (PC). Capable of embedding IC modules at a low temperature, ACF is especially suited to assembling the latest smart cards, such as dual-interface modules and fingerprint sensors.



Contact/contactless smart card

Applications

- Connection between touch panel components, small camera modules, circuit boards (replacing soldering and connectors), and contact/contactless smart cards



Schematic diagram of ACF for smart cards

Example cross-section of a conductive particle

Features

The bonding mechanism is the same as that of ACF for displays. The resins and particles used have features optimized for each application.

ACF for touch panels:

specifically developed adhesive resin and particles secure stable conductivity and bonding performance for the objects that make up touch panels, such as glass plates, plastic films, and FPCs.

ACF for camera modules:

“Pre-cut ACF” that can be machined according to the shapes to be connected. It is especially good for connecting circuit boards and sensor modules under rapid innovation.

ACF for alternative to connectors and solder connection:

Large particles ensure high connection reliability. It is suitable for connection between a rigid substrate and a film, as well as between films. A type that can be stored at room temperature is also available.

ACF for contact/contactless smart cards:

Being compatible with equipment for manufacturing cards, ACF enables soldering at a low temperature.

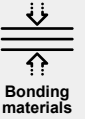
Low- D_k/D_f bonding sheet

[Double coated tapes]

Having excellent low dielectric properties (low dielectric constant, low dielectric loss tangent), this thermosetting bonding sheet is best for bonding layers of high-speed transmission circuit boards.

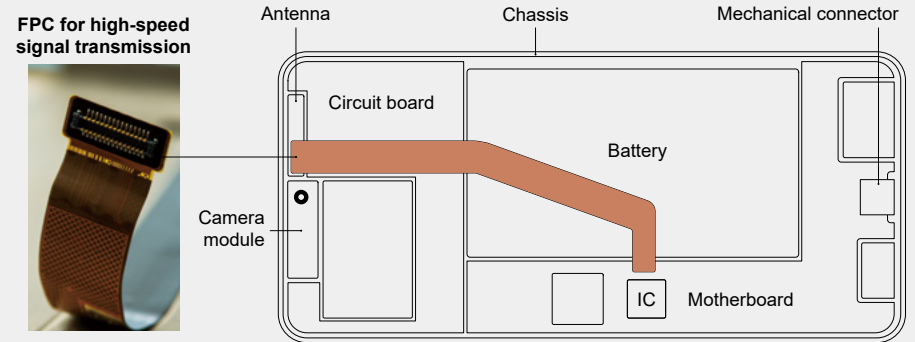


This low dielectric bonding sheet is an interlayer bonding material used in high-speed transmission circuit boards installed in equipment that supports high-speed data transmission, such as 5G communication. It has a low dielectric constant and a low dielectric loss tangent. It exhibits a sufficient bonding force for low surface roughness copper wiring used for transmission lines and LCP (liquid crystal polymer). LCP is widely used as a base material for high-speed transmission FPC and is known to be difficult to adhere to.



Applications

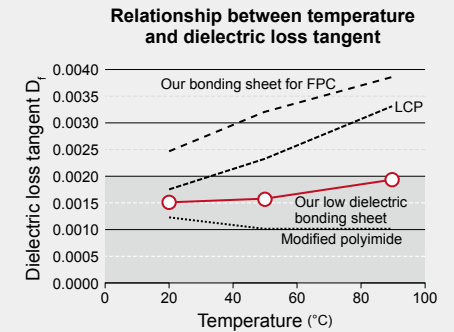
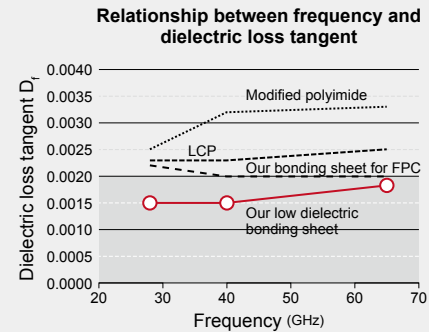
- High-speed transmission FPC used for high-speed data transmission equipment such as 5G smartphones.
- Relay circuit boards that connect high-speed transmission I/F circuit boards typified by USB 3.2



Component layout in a smartphone (schematic diagram)

Features

- It provides stable dielectric properties (dielectric constant, dielectric loss tangent) over wide wavelength and temperature ranges.
- It has good adhesiveness and heat resistance for use with LCP (liquid crystal polymer) as the base material of high-speed transmission FPC, and modified PI (modified polyimide)
- It has good adhesiveness to low surface roughness copper circuits that suppress the skin effect unique to high frequencies.



..... Modified polyimide - - - - LCP - . - . - . Our bonding sheet for FPC ———— Our low dielectric bonding sheet

Thermosetting tapes for FPC

[Double coated tapes]

Resistant to the high temperatures required for solder reflow, this adhesive sheet is suitable for bonding a flexible printed circuit (FPC) and a stiffener.



FPCs are circuit boards used in small, thin electronic devices such as smartphones and digital still cameras. Their flexibility makes them ideal for use in various shapes. However, since their joints with other components are subject to additional forces, FPCs need backing materials (stiffeners) bonded to them for reinforcement. Thermosetting tapes for FPCs are used for this purpose.



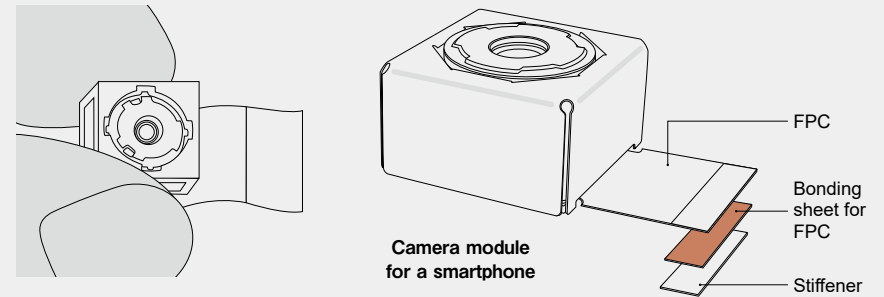
Bonding materials

Optical materials

Electronic components

Applications

- Bonding an FPC to a stiffener (backing material)



Features

Since thermosetting tapes for FPCs must have high heat resistance and adhesive strength, these products mainly incorporate epoxy curing technology. Dexerials has developed an original curing method for this sheet. This method features the following additional functions that take FPC manufacturing processes and mounted components into consideration to maintain high adhesion performance.

- High heat resistance required for solder reflow, and generating no defects such as blistering even when moisture is absorbed
- Short curing time (best for quick press)
- Long storage period at normal temperature (six months after production)

Type No.	Press bonding ^{*1}		Quick press and oven curing ^{*2}	
	After drying Reflow soldering ^{*3}	After moisture absorption Reflow soldering ^{*4}	After drying Reflow soldering ^{*3}	After moisture absorption Reflow soldering ^{*4}
D3450	No blistering	No blistering	No blistering	No blistering
D3451	No blistering	No blistering	No blistering	No blistering

*1 Press bonding Press conditions: 160°C, 60 min, 3 MPa

*2 Quick press and oven curing Quick press conditions: 160 to 180°C, 1 to 2 min, 1 to 2 MPa (Vacuum retention: 10 to 30 s), Oven curing conditions: 140°C, 60 min

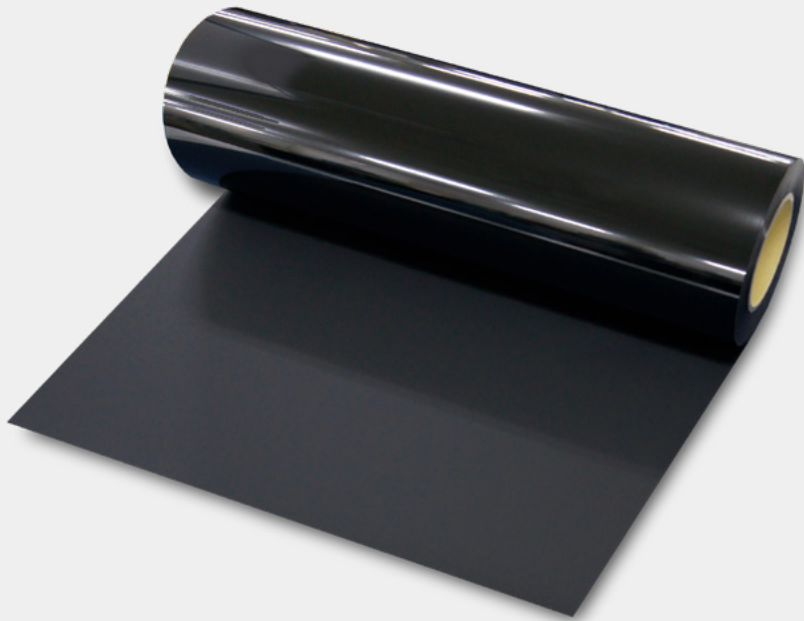
*3 Drying conditions/reflow conditions Dry: 100°C, 1 hr, Reflow: 260°C (peak temperature)

*4 Moisture absorbing conditions/reflow conditions Moisture absorption: 40°C/90%RH, 96 hr, Reflow: 260°C (peak temperature)

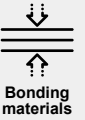
Conductive adhesive single-coated tape for shielding [↗](#)

[Single coated tapes]

Conductive adhesive tape to counteract electrical noise generated in electronic devices

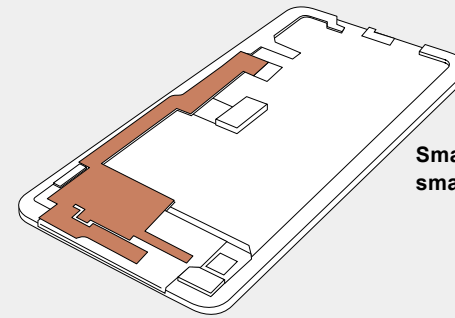


Since touch panels contain structures sensitive to noise and easily malfunction, they must be protected from noise, especially noise generated by adjacent displays. Our tape for shielding noise can also be used for thin displays with narrow bezels.

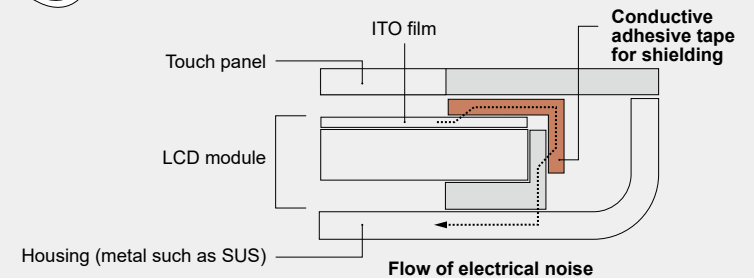


Applications

- Noise shielding inside electronic devices such as PCs and smartphones



Smartphone display module of a smartphone (illustration)



Cross-sectional diagram of a device equipped with a touch panel

Features

Rework is sometimes necessary during the display module assembly process. Our tape leaves little adhesive residue after removal, so there is less work for cleaning to assemble again.

- Excellent in adhesiveness; little adhesive residue after removal
- Its thinness makes it possible to fit on the edge shape of modules and design thin modules

Column

Dexerials Corporation was officially established in 2012, but its roots trace back over 60 years to 1962.

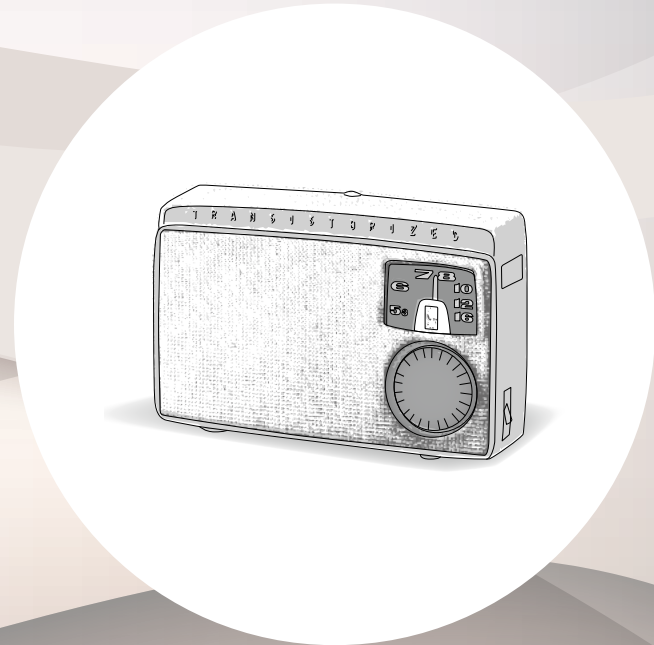
In 1955, Sony launched Japan's first transistor radio, the TR-55. To domesticate the production of adhesive copper foil used in printed circuit boards, a product developed by

1962.3

The Origin of **Dexerials**

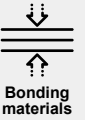
the U.S.-based company Rubber and Asbestos (R&A), Sony partnered with R&A through a technical assistance agreement. This partnership led to the creation of Sony Chemicals Corporation, a wholly-owned subsidiary of Sony, dedicated to manufacturing and selling copper foil products for circuits and industrial adhesives.

Over the past six decades, we have provided unique materials, primarily in the electronics sector, and have expanded our business domains to include the automotive and optoelectronics industries.



Smart precision adhesive (SA series)

[Adhesive]



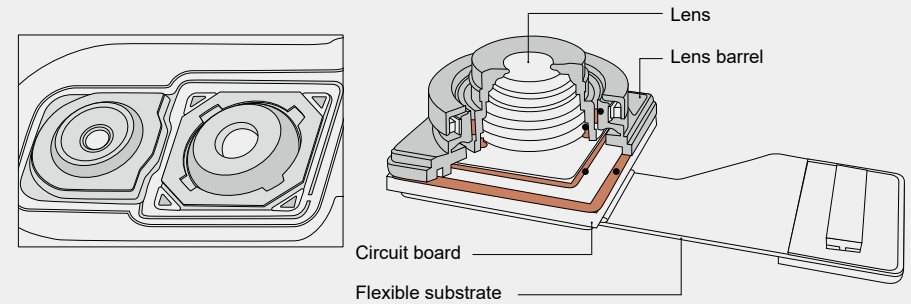
With fast curing at low temperatures and little shrinkage, this adhesive series is ideal for precisely fixing and bonding components.



Since the birth of compact discs (CDs), we have been developing adhesives for optical pickups. In that time, we have created advanced precision-bonding technologies to meet the diverse needs of our customers. The current SA series lineup encompasses adhesives with various curing systems such as UV-curing, thermo-curing, and UV- and thermo-curing.

Applications

- Camera modules such as those in smartphone cameras and automotive sensing cameras
- Optical pickup components of optical disc drives



Components (camera module in the example) bonded with precision bonding resin (SA series)

Lineup

<p>SA2000 series</p> <p>UV UV + Thermal Thermal</p> <p>High-precision fixing, Low-temperature curing, Fast curing</p>		<p>SA1000 series</p> <p>UV</p> <p>High-precision fixing, UV curing</p>
<p>SA4000 series</p> <p>UV UV + Thermal Thermal</p> <p>Thermal conduction</p>		<p>SA3000 series</p> <p>UV</p> <p>Moisture-proof coating</p>
<p>SA6000 series</p> <p>Thermal</p> <p>Encapsulation</p>		<p>SA5000 series</p> <p>Thermal</p> <p>Electrical conduction</p>

Anisotropic Conductive Paste (ACP)

[Adhesive]



Bonding materials

Optical materials

Electronic components

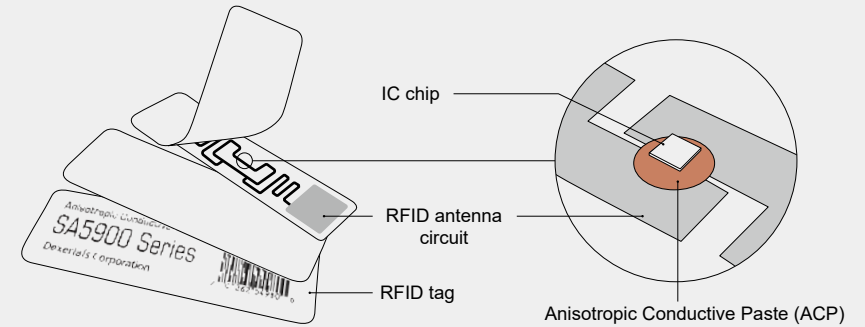
This liquid adhesive is a thermosetting resin with conductive particles dispersed in it, performing bonding, conduction, and insulation at the same time.



ACP is part of the SA series, which employs the thermo-curing system. This paste can quickly attach a component in a small space (or at a low temperature) and form an electric circuit. Connecting electronic parts on substrates with low heat resistance base films is best.

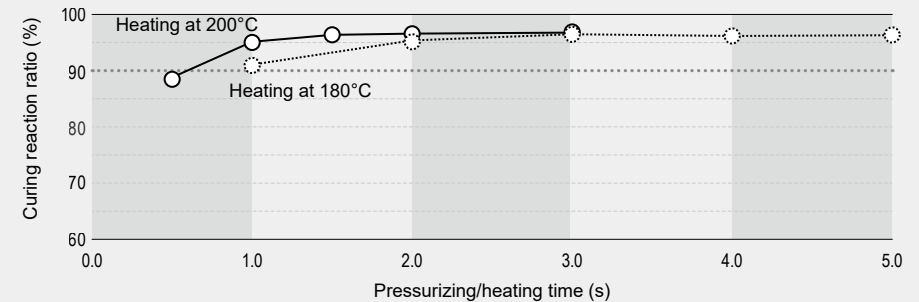
Applications

- Mounting electronic parts at a low temperature and in a short time, such as mounting IC chips on RFID tags



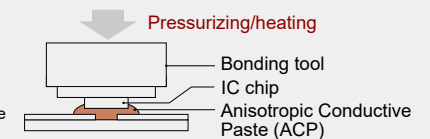
Features

- Quick curing (minimum one sec. at 200°C) and curing at a low temperature (minimum 15 sec. at 125°C)



Sample preparation conditions

Type No. : SA5920HN
 Chip size : 0.47 mm × 0.46 mm
 Pressurizing weight : 1.5 N
 Heating temperature : 200°C, 180°C * Temperature of adhesive



Sufficiently cured at 200°C in 1 s (180°C, 2 s) to exhibit adhesion conductivity

A silver laptop is open, displaying a vibrant, colorful ink splash background. The splash features bright yellow, orange, red, pink, purple, and blue colors. The text "Optical Materials" is overlaid on the screen in a white, sans-serif font. The word "Opti" is large and bold, with "cal" in a smaller font size to its right. Below "Opti" is a thick white horizontal line. "Materials" is positioned below "cal" and the line.

Opti^{cal} Materials

**Optical elastic resin
(SVR)**

▶ P17



**Optical elastic resin
(SVR)**

[Hybrid SVR] [Jettable SVR]

▶ P18



**Anti-reflection film
(AR)**

▶ P19



Anti-reflection film

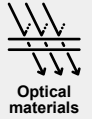
[Moth-eye type]

▶ P21



Optical elastic resin (SVR)

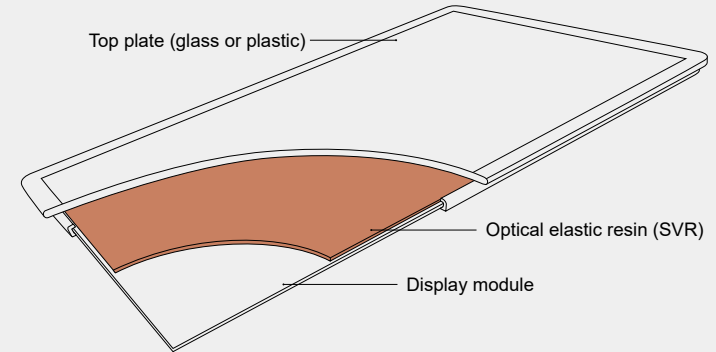
UV-curable elastic resin that fills air gaps between display top plates and the display modules of smartphones, tablet PCs, and laptop PCs



SVR®

This resin fills any clear space inside a display and becomes solid to minimize external light reflection and loss, improving screen visibility. At the same time, it strengthens the display unit by filling air gaps with resin, making thinner displays possible.

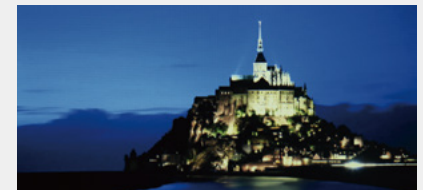
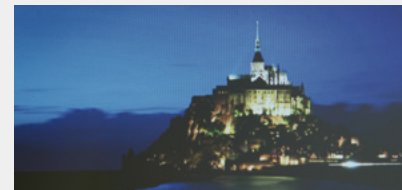
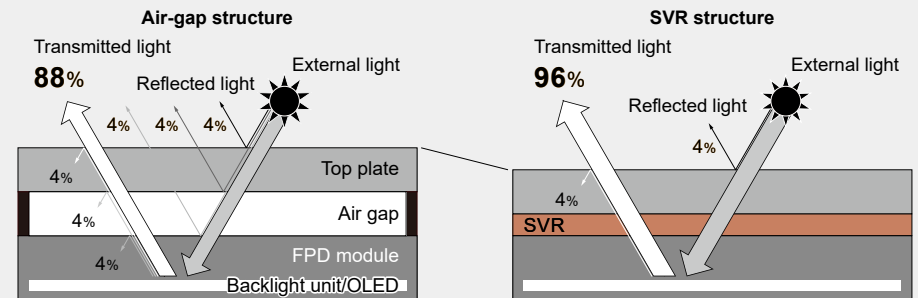
Mechanism



Features

Filling the air gap in a display with this resin eliminates refractive index boundaries to suppress unwanted light reflection inside the display unit. This improves the visibility and contrast of the display, because images on the display are output without interference from internal refraction or reflection.

Internal structures of different displays



Optical elastic resin (SVR) [↗](#)

[Hybrid SVR] [Jettable SVR]



Bonding materials

Optical materials

Electronic components

We propose resin coating methods and resins according to the functions and shapes of displays.

Applications

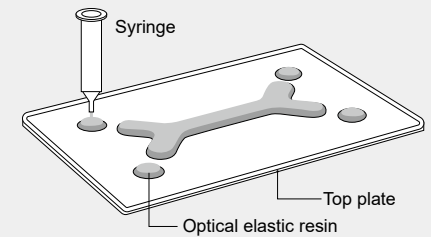
- Displays of smartphones, tablet PCs, and laptop PCs
- Automotive displays such as center information displays (CID) and car navigation displays
- Displays for smartwatches and wearable devices



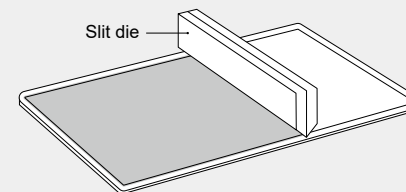
Coating method and shape

Coating method	Product	Pattern
Dispense coating:	SVR series	General-purpose method using a dispenser
Slit coating:	Hybrid SVR (HSVR) series	Efficient coating method, while limited to square shapes
Inkjet coating:	Jettable SVR (jSVR) series	Latest method that can deal with arbitrary designs

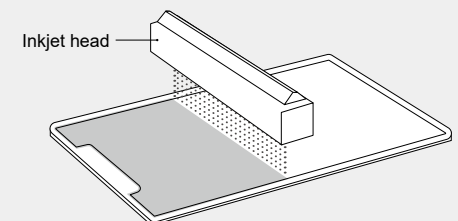
Dispense coating



Slit coating

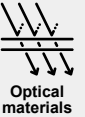


Inkjet coating



Anti-reflection film (AR)

Anti-reflection film with low reflectivity and abrasion resistance for displays

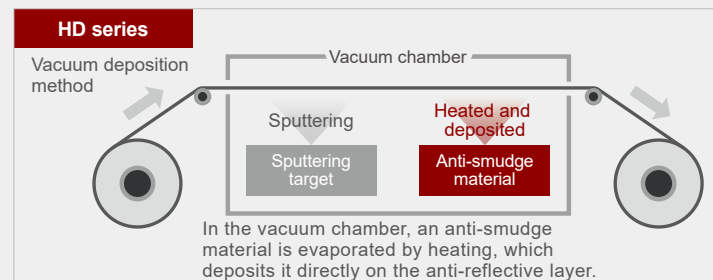
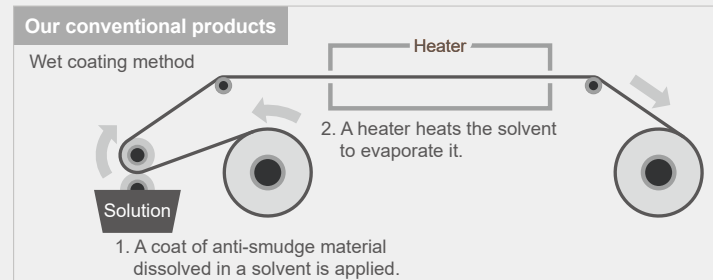


This film suppresses the reflection of external light on the display surface to maintain image contrast and secure visibility. Dexerials' manufacturing technology (sputtering) ensures the exceptionally low reflectivity of the film.

The HD series has been launched. Its outermost surface is 40 times or more durable than conventional products.

The anti-smudge layer at the outermost surface is formed by vacuum deposition.

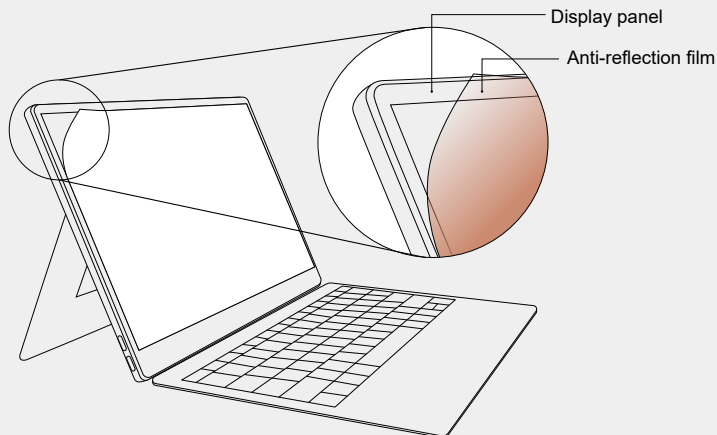
The conventional product has used the wet coating method to form the anti-smudge layer. With this method, an anti-smudge material dissolved in a solvent is coated, and the solvent is dried with a heater to form an anti-smudge layer. The HD series uses vacuum deposition, evaporating an anti-smudge material and depositing directly on the base anti-reflection layer. This method creates a slippery anti-smudge layer with higher durability and lower friction.





Applications

- PC monitors
- Mobile devices such as laptop PCs and tablet PCs
- Automotive displays such as car navigation devices

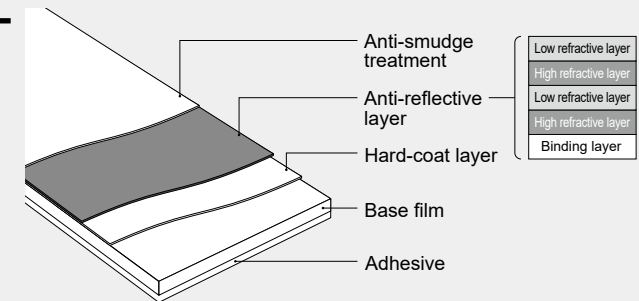


Mechanism

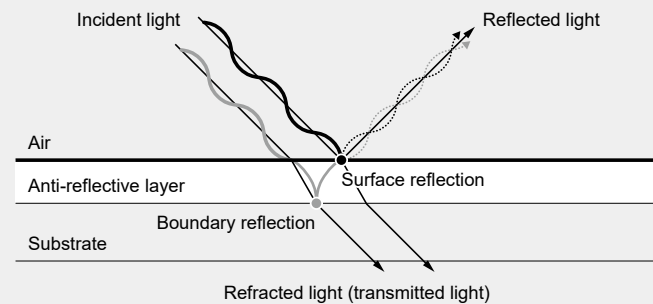
Part of the incident light is reflected at the interface between two substances with different refractive indices. Preventing reflection is not easy because there is always an interface between air and a display surface.

Multiple ultra-thin layers with different refractive indices are laminated in our anti-reflection films. These layers are meticulously designed so that the multiple reflections cancel each other out, resulting in precision-engineered layers that deliver outstanding anti-reflection performance.

Product structure



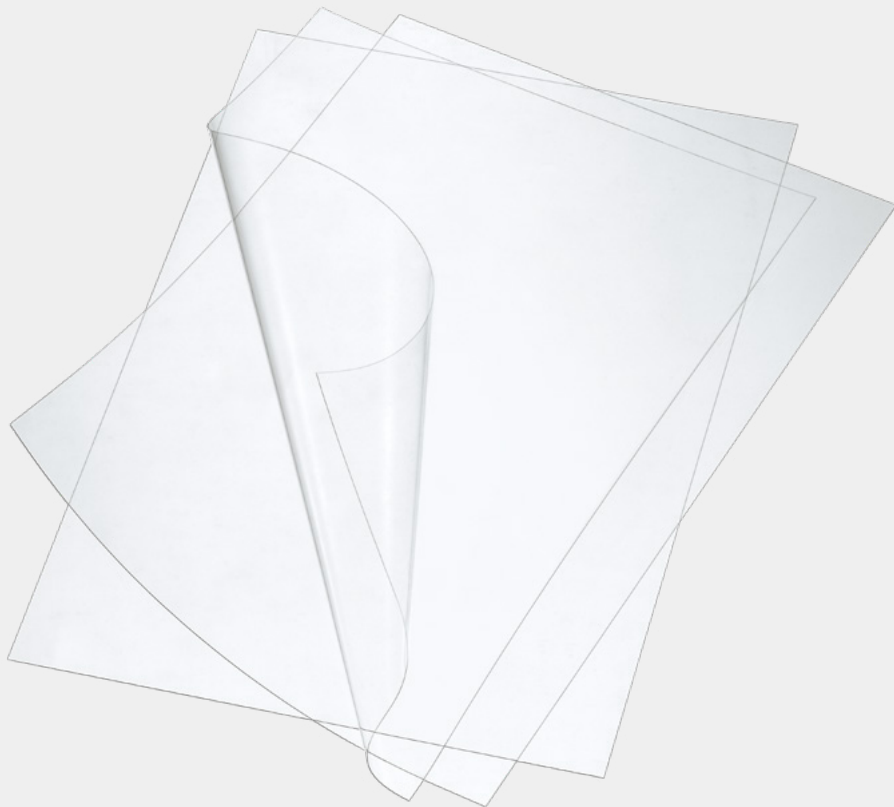
Schematic diagram of cancelling out reflected light using boundary reflection



Anti-reflection film [↗](#)

[Moth-eye type]

Anti-reflection film with a nanometer-scale moth-eye structure formed on a film surface



It features extremely low external light reflectivity and high transparency compared with conventional films. In fact, it is so transparent that it is barely noticeable at all. In contrast to other AR films that use optical interference, the color of reflected light is almost completely unaffected by the viewing angle.



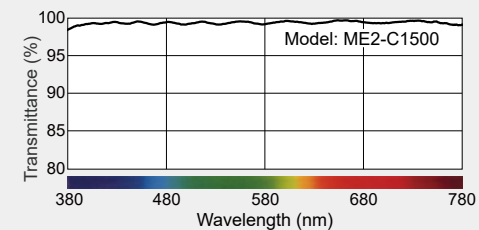
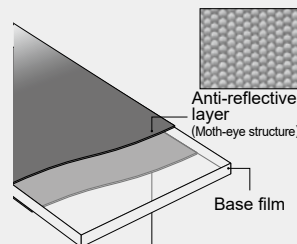
Medical eye-shield film having a moth-eye structure formed on both sides

DxShield [↗](#)

Created using our anti-reflection moth-eye film technology, DxShield has an anti-reflection function and high transparency required as a medical eye shield.

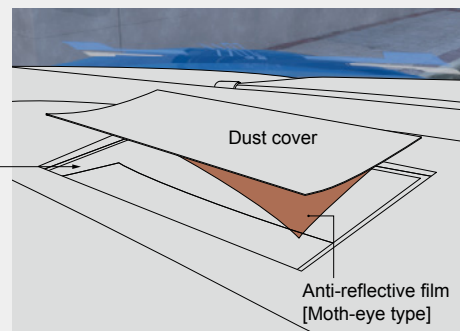
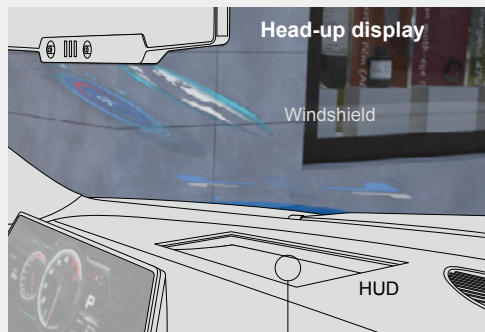
Features:

- A film with the moth-eye structure on both sides helps perform high transparency and low reflectivity (total light transmittance: 98% or more).
- High transparency and low reflectivity over a wide wavelength range, providing a clear and natural field of view
- The fine moth-eye structure is made of a hydrophilic resin, which suppresses exhaled air from fogging the film.



Applications

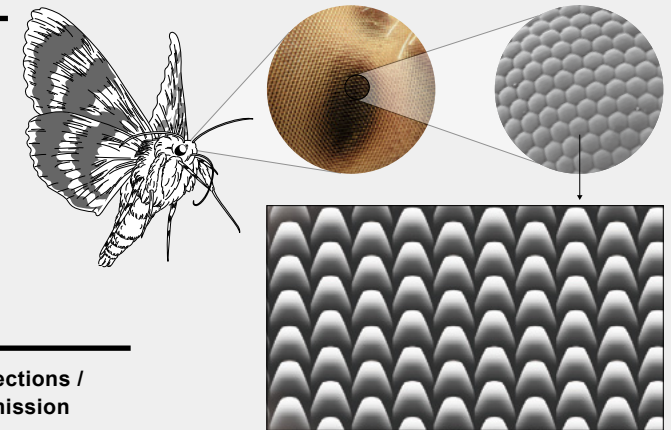
- Automotive displays such as car navigation devices
- Automotive head-up displays



Mechanism

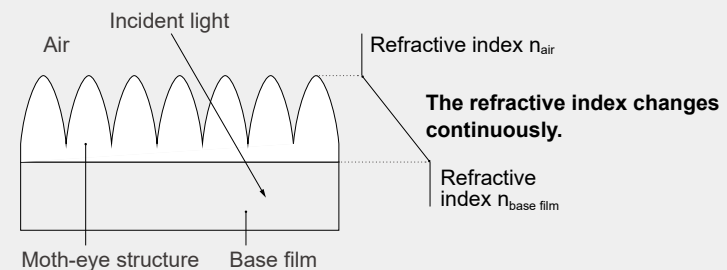
The term “moth-eye” comes from its structure appearance, which looks like a moth’s eye. A moth’s eye has nanoscale roughness on its surface, which eliminates the reflection of moonlight to make the moth indistinguishable from its surrounding darkness to protect itself from predators and allows the faint moonlight to pass through so the moth can move around at night. Our moth-eye anti-reflection film takes advantage of the moth-eye structure to achieve extremely low reflectivity yet with high transparency.

What is moth-eye?



Principle of reducing reflections / illustration of light transmission

Illustration of cross-section of a film





Electronic Components

**Surface mounted
type fuse**

▶ P25



Optical devices

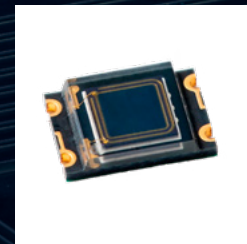
[Inorganic waveplate]
[Inorganic polarizer]
[Inorganic diffuser]

▶ P27



**Optical
semiconductor**

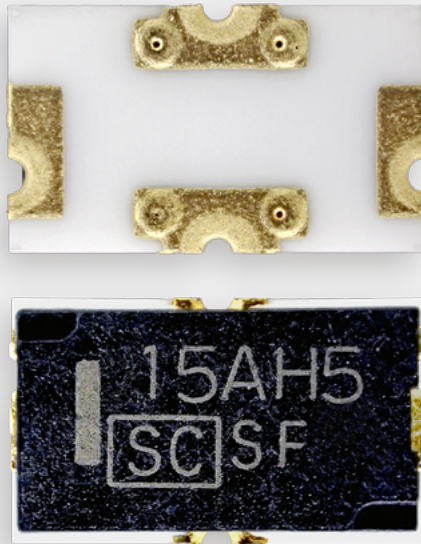
▶ P29



Surface mounted type fuse



Two types of fuses (SCP and PCP) are available. In particular, the SCP is a small and thin fuse protection element specialized for the secondary protection of Li-ion batteries.



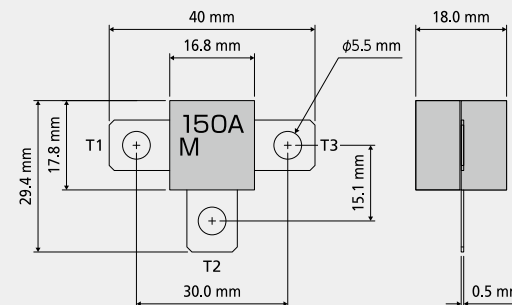
SCP is a fuse that protects equipment from two failure modes (overcurrent and overcharge) specific to lithium-ion batteries. On the other hand, PCP only specializes in overcurrent protection and has a larger rated current in the same small package as SCP.

As SCP, the screw-mounted type for protection from the large rated current of 150 A is also available.

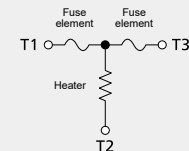
SFM-50150

In general, the higher the voltage, the larger the impact on the device is from arc discharge that occurs when a Li-ion battery suffers from overcurrent, which makes it difficult to shut down the circuit with a fuse element. The product structure is optimized for the SFM-50150 to achieve a rated current of 150 A. It suppresses arc discharge, which often obstructs shutting down circuits of high-voltage products, to make it possible to shut off high voltages and large currents.

This product is a completely Pb-free SCP that can be mounted with screws, which also contributes to reducing environmental load.



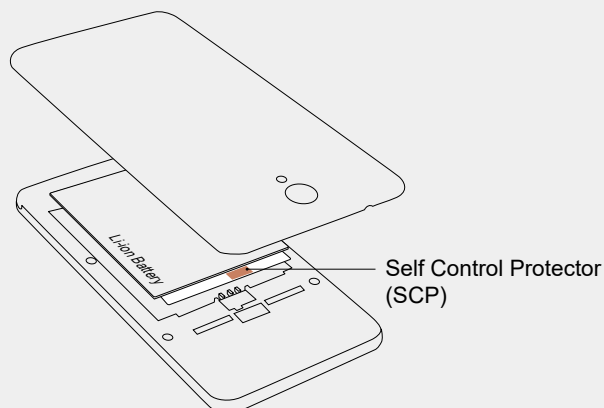
(Equivalent circuit)



Applications

Secondary protection of Li-ion batteries

- Mobile devices such as smartphones, tablet PCs, and laptop PCs
- Cordless electric tools, cordless home appliances, and electric motorcycles



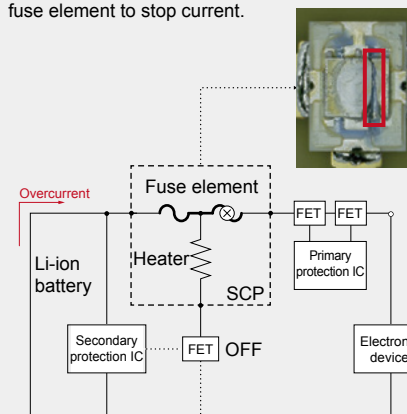
Mechanism

Li-ion batteries are small/lightweight, high-performance power sources. However, they differ from other types of batteries in that they may cause smoke/fire accidents due to overcharging. For this reason, their battery management system (BMS), which controls charge/discharge, needs to prevent overcurrent as usual and overcharging.

Our SCP is a fuse installed in this BMS. When a battery is overcharged, a large current passes through an internal heater and generates heat, which melts the fuse element placed directly above the heater. An external short-circuit (overcurrent) produces Joule heat to melt a fuse element, just like a common fuse. In both cases, it improves safety by physically isolating the battery from the circuit.

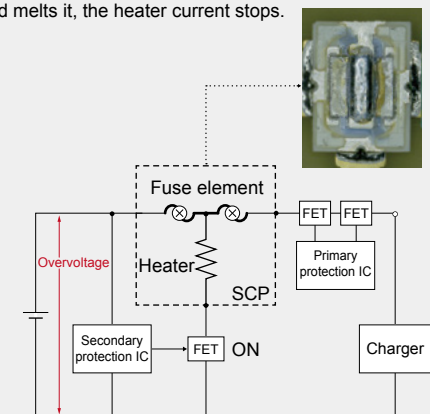
Example of overcurrent protection

An overcurrent melts the fuse element to stop current.



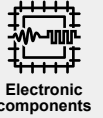
Example of overcharge (overvoltage) protection

As soon as the heater heats the fuse element and melts it, the heater current stops.



Optical devices [↗](#)

[Inorganic waveplate] [Inorganic polarizer] [Inorganic diffuser]



Optical devices that support high-brightness projection



Our optical devices use a nanoscale process technology to form high-quality optical control structures on the substrate surface. By taking advantage of the properties of these materials, these devices offer high heat resistance, light resistance, and durability, contributing to higher brightness and contrast in optical equipment such as projectors.

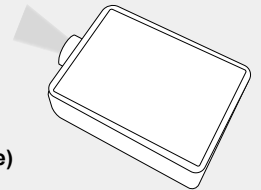
Applications

- High-brightness projectors, such as 3LCD projectors
- Large projectors for projection mapping

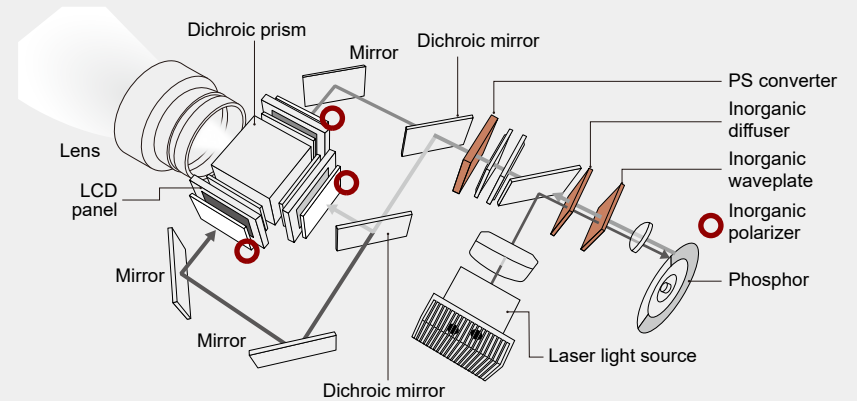


The figure below illustrates an application in an optical device, a 3LCD projector.

3LCD projector (external appearance illustration)



Optical component layout inside a 3LCD projector (example)





Inorganic waveplate

Features

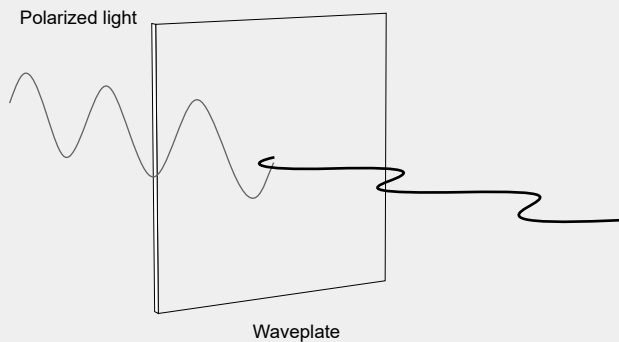
The precision thin multilayer forming technology ensures high transparency and conversion efficiency.

Compared with a common inorganic waveplate (quartz type), this optical device has a much thinner functional layer at about 1/10 the thickness and a small angular dependence.



Function

Changes the polarization of incident light



Inorganic polarizer

Features

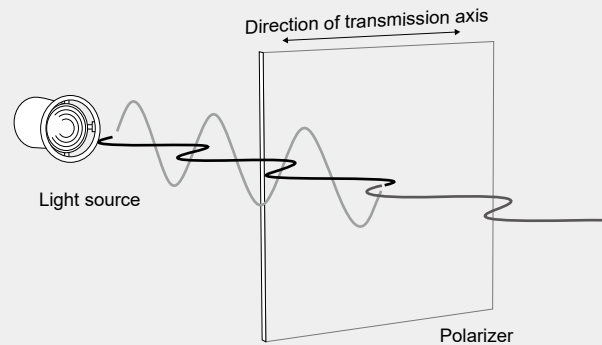
High transmissivity and contrast make it also excellent in light resistance and longevity compared to organic polarizers.

Compared to general organic polarizers, it has better heat resistance. We also offer high heat-resistant products that cover the recent trend of high intensity.



Function

Transmits only linear polarization along the transmission axis

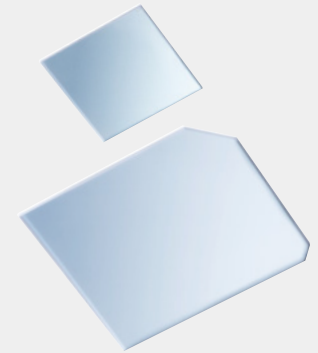


Inorganic diffuser

Features

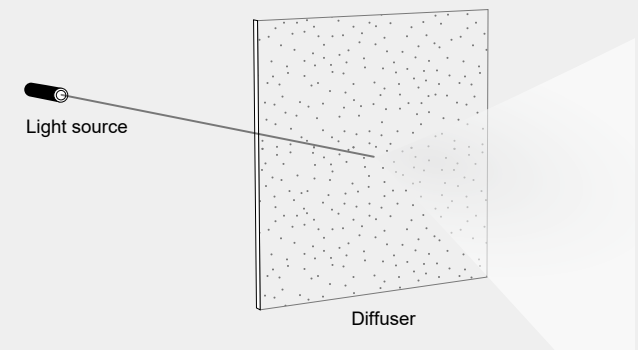
Converts a point light source with a high energy density to a more ideal plane light source

This inorganic device features finely formed microlens structures on a glass substrate to disperse/distribute light in a plane. Our advanced lens design and microfabrication technologies can customize the light distribution property.



Function

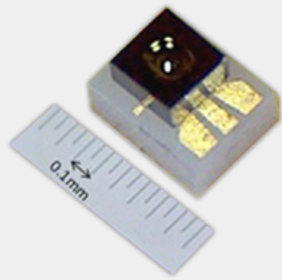
Increasing illumination range



Optical semiconductor

High-speed photodiode for optical communication

High-speed photodiodes for optical communication essential to the innovation of mobile communication systems and optical networks



High-speed photodiode
KPDEH16L-CC1D



Optical receiver module
KPDX10G-H34S



Dexerials offers various types of high-speed photodiodes for 400 Gbps or faster optical transceivers suitable for 5G communication.

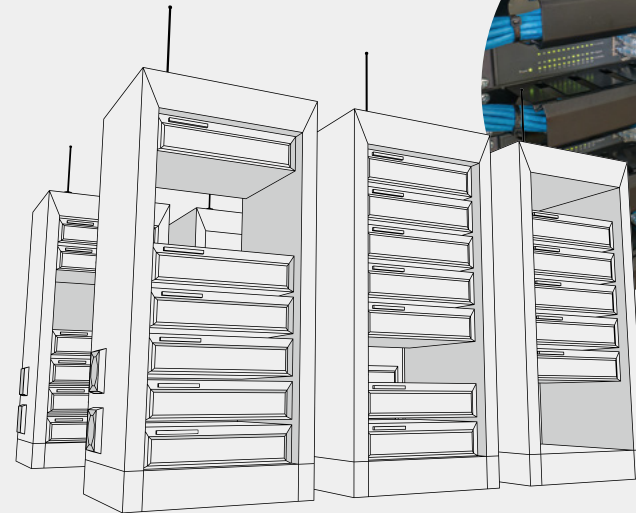
We also offer optical receiver modules (PD-TIA, APD-TIA products) with transimpedance amplifiers (TIAs), which can make the best use of photodiodes.

In an optical network, this photodiode can be used in roles other than optical receivers such as optical switches for monitoring.

We are developing higher performance products looking beyond 5G.

Applications

- High-speed photodiodes for 400 Gbps or faster optical transceivers suitable for 5G communications
- Optical receiver
- Monitoring application such as optical switches



Data center

Features

- **Ultra-high-speed response**
- **High reliability**
- **Low noise**

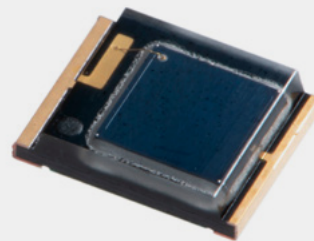


LED and photodiode for FA

LEDs and photodiodes that contribute to visualization of the factory automation (FA) environment



Resin molded visual light LED
KED661M31



Si photodiode
KPD30S



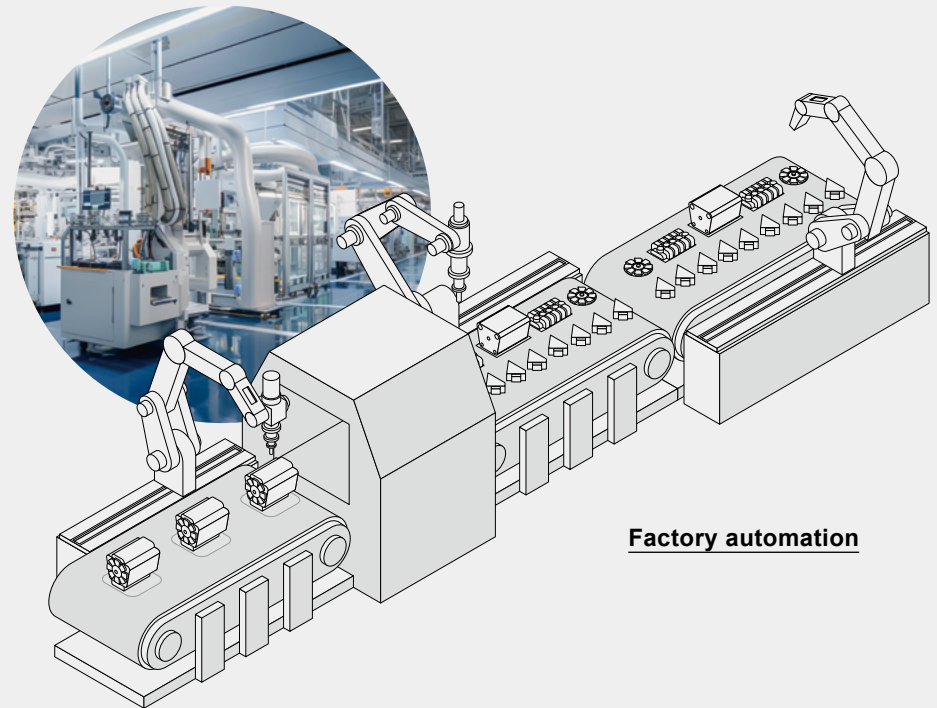
In the field of optical sensing, many high sensitivity products with wide dynamic ranges are used for detecting devices such as smoke detectors and object detectors.

FA components include photoelectric sensors and optical encoders, which contain LEDs and photodiodes specialized for the specific function.

Dexerials offers LEDs featuring high directionality and parallelism, and point light sources based on optical semiconductor and optical technologies, as well as their corresponding photodiodes.

Applications

- Optical switches, optical encoders, optical detectors
- Sensors and industrial control equipment



Factory automation

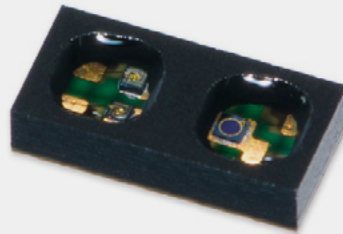
Features

- Rich package lineup including TO-CAN type, resin mold type, and surface-mounted (SMD) type
- High reliability
- Adapted to lead-free soldering

Optical semiconductor

SWIR reflection sensor for medical equipment and health care

Light sources for medical equipment and health care, and reflection sensors for detectors



SWIR reflection sensor
KPR1416DS6

The absorbance measurement method is an analysis method used in many different kinds of analyzers including medical equipment.

Spectroscopic analysis measures the decrease in light intensity caused by the absorption, reflection, and scattering of light irradiated on an object.

Measurement of absorbance often requires the detection of very faint light.

Dexerials contributes to the best data capturing by offering 14 types of small, thin SWIR reflection sensors. At just 4.2 x 2.0 x 0.9 mm (L x W x H) in size, they can be used for measuring the absorbance of light with wavelengths from 1300 to 1650 nm.

Applications

- Sensing and analyzing various components and sensing various materials
- Universal photoelectric sensors and proximity sensors



Pulse oximeter



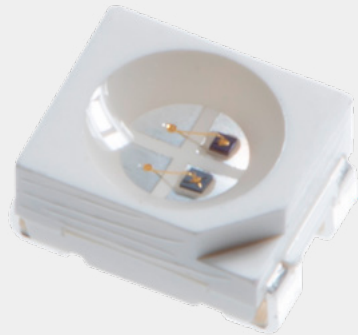
Features

- Reflective sensor using two wavelengths of SWIR
- Small SMD package

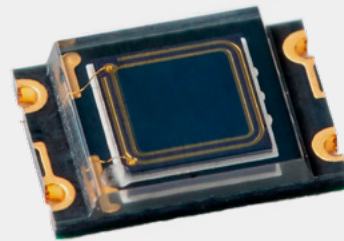


Dual wavelength LEDs and photodiodes for analyzers and measuring instruments

Dual wavelength LEDs and photodiodes for medical equipment and detectors such as gas detectors



Dual wavelength LED
KED691DS3



Dual wavelength photodiode
KPMC29

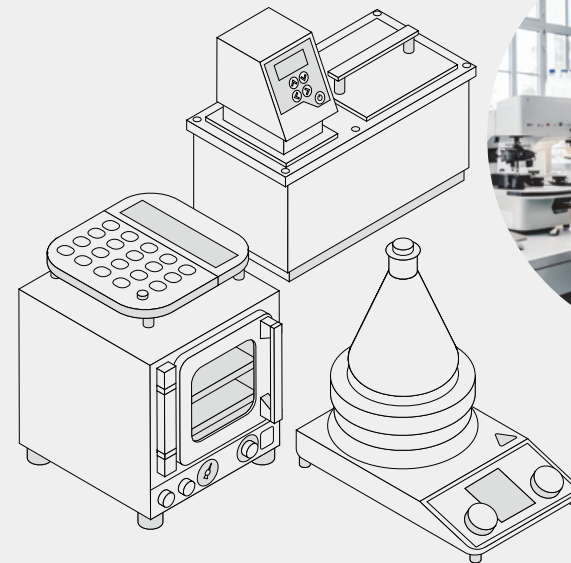


For analyses using specific wavelengths such as gas and water quality analyzers, using dual wavelength LEDs and photodiodes enables a single instrument to perform absorbance characteristic analysis over a wide range of wavelengths.

The KPMC29 is the smallest photodiode in the industry, in which silicon and indium-gallium-arsenide photodetectors are aligned on the same optical axis. They are sensitive to wavelengths from 400 to 1700 nm. By using a small package, the KPMC29 is expected to be used in the healthcare field such as wearable activity trackers and medical field such as biological monitoring devices including pulse oximeters.

Applications

- Spectrophotometers and radiation thermometers
- Medical equipment and healthcare equipment
- Fiber optic testing equipment (FOTE)



Analytical instruments

Features

- Using two wavelengths covers a wide sensitive wavelength range
- Small surface-mounted type package
- Adapted to lead-free soldering

TECH TIMES

Technical information media for engineers

Dexerials Corporation, an advanced materials manufacturer, offers Tech Times, a media that provides engineers with basic knowledge and solutions regarding materials and manufacturing technologies, including but not limited to bonding, adhesion, and optical design.

<https://techtimes.dexerials.jp/en/>



The screenshot shows the Dexerials Tech Times website. The header includes the Dexerials logo and navigation tabs for TECH TIMES, Bonding Products, Optical Products, Electronic Components, Elemental Technologies, About this website, and Contact Us. The main content area features a grid of article cards, each with a 'NEW' tag, a title, a date, and a category. The right sidebar contains a search bar and a 'KEYWORD' section with various tags and their counts.

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