

3M

Solutions for Medical Devices

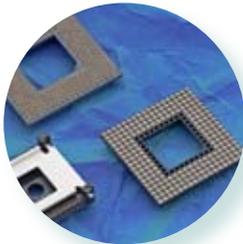


Technology and talent for proven medical device solutions

3M is helping medical device manufacturers worldwide meet the high demands of the health care industry. Our technological capabilities, engineering expertise, and wide range of products are focused to provide you with innovative solutions for devices of all sizes. From wearable or handheld devices to large equipment, 3M can help you improve the performance and appearance of your products.

Interconnects

Device to Board Connectors



3M™ Device to Board Products include IC end use products (chip carrier sockets as well as DIP, PGA and SIP sockets) and memory card products (headers for PCMCIA, CompactFlash™, and other memory cards) as well as sockets for dual inline memory modules [DIMM]).

Backplane Interconnects



3M offers a broad range of backplane connectors in industry standard configurations and application specific products. The backplane product line is very flexible; please contact your 3M sales representative to see how 3M can customize the product for your application.

Wiremount Connectors



3M invented insulation displacement contact (IDC) technology and remains a leader today in high reliability wire mounted interconnects with wire to board sockets, plugs, PCB, card edge, and DIP connectors. 3M is also a leader in industry standard connectors for control systems, including Mini Clamp and Link connectors for the CC-link standard.



Boardmount Connectors



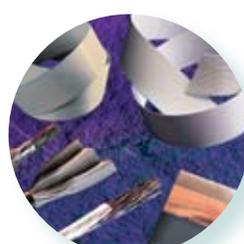
3M™ Boardmount Connectors are designed to meet the needs of high reliability applications. Special features include metal roll pin latches, 30 microinches gold plating, and ribbon contacts for fine pitch stacking. Whether you need a custom height board stack in .100" or 2mm pitch, or are more space constrained and need solutions in .050", 1.0mm, .8mm, or .5mm, come to 3M for your board stacking requirements.

Input/Output Connectors



The 3M™ Mini Delta Ribbon (MDR) System is an ideal high-density I/O for medical devices. Due to its rugged, space-saving design, the MDR system is valued in patient monitoring systems, such as oximeters. It is compatible with a range of shielded cables and can be customized. Quick release latches enable rapid attach and detach. The new 3M™ Shrunken Delta Ribbon (SDR) system is ideal for space-premium applications.

Cables



3M™ Ribbon Cables for intra- and inter-cabinet use have closely controlled conductor pitch. 3M ribbon cables offer color-coding, extended flex-life, IDC mass-terminable twisted pairs or ground plane features. Jacketed cables may be round or flat, shielded or unshielded, mass-terminable ribbon or discrete wire. 3M's pleated foil shielded ribbon cable has superior transmission performance.

Copper Assemblies and Accessories



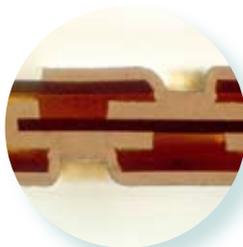
3M offers copper assembly solutions and accessories to drive high frequency signals, fit in tight spaces and solve shielding and signal integrity challenges. We offer assemblies with performance from 1 MHz and 2 ns rise times and up to 6 GHz and 100 ps rise times with matched single ended or balanced impedance. Available in standard or customized cable assemblies.

RoHS Compliance*

3M is committed to RoHS compliance while maintaining our flexibility to work with customers who have exemptions or have special reliability needs. Contact 3M to discuss how we can help you meet your RoHS needs.

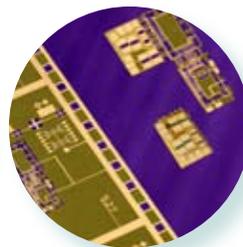
Flexible Circuits & Rigid Substrates

Multilayer Flexible Circuits (>3 metal layers)



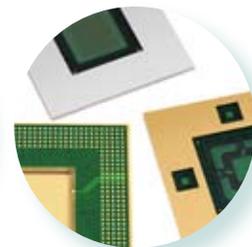
Advanced interconnect solutions for applications requiring increased functionality in a small space, such as cardiac rhythm management devices, hearing aids, ultrasound probes, CT scanners, x-ray detectors and MRI systems. Using advanced via formation, photolithography and registration techniques, 3M provides foldable high density flexible and rigidized substrates having excellent via integrity. Special requirements such as thin copper and custom 3-D features can also be provided.

1-2 Metal Layer Flexible Circuits



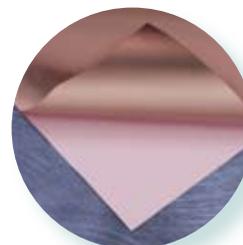
3M's expertise in materials science helps our electronics customers to maintain their competitive edge. We draw on our vast and unique mix of capabilities to assist you to produce the best interconnect solution for your needs. 3M is a truly global flexible circuit provider, offering complete evaluation, design and application engineering services worldwide.

Multilayer Rigid Substrates (>2 metal layers)



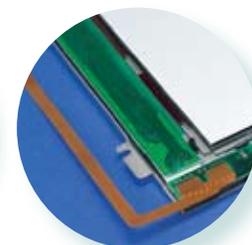
3M provides among the highest density organic substrates available for ASIC, ASSP and MPU applications. 3M multilayer packaging provides exceptional electrical performance for multiple high-speed signal lines with data rates from 622 Mbps through 40 Gbps.

Embedded Capacitor Material



3M™ Embedded Capacitor Material is an innovative laminate that lets designers and manufacturers of printed circuit boards achieve higher speeds while simplifying design tradeoffs. When used as "power" and "ground" layers in a multilayer PCB, this material effectively becomes a decoupling capacitor inside the board, enabling the elimination of many discrete surface-mount capacitors.

Anisotropic Conductive Films (ACF)



Get the job done faster, easier and more economically with ACF Interconnect Solutions from 3M. Our reliable, production-proven technologies can replace soldering and mechanical fasteners in many applications, helping to speed assembly time and save on space requirements.



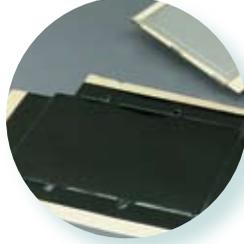
EMC Management

Foil and Fabric Shielding Tapes



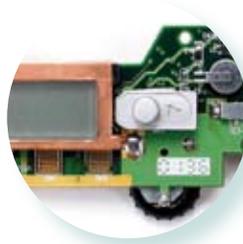
3M™ EMI Shielding Tapes are designed for applications requiring reliable point-to-point electrical contact, particularly EMI shielding, grounding and static charge draining.

EMI Shielding Sheets and Films



3M™ EMI Shielding Sheets and Films provide EMI and RFI shielding for electronic applications, particularly printed circuit boards. These products are lightweight, flexible and easily designed into a range of applications.

EMI Absorber Sheets



3M™ EMI Absorber Sheets AB-2000 Series consist of a thin, flexible backing made of silicone rubber and magnetic materials, with an acrylic pressure-sensitive adhesive.

Shielded Interconnects, Cables and Assemblies

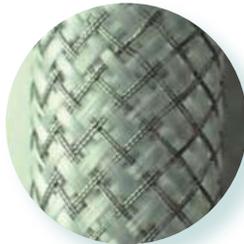


3M™ Shielded Cable and Interconnect Products can improve the safety and performance of your medical electronic equipment. We can help you meet industry standards, such as IEC or EN 60601.

EMI Gaskets and Conductive Cushions

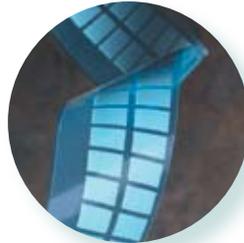
These products are typically used in applications requiring excellent electrical shielding and cushioning against mechanical shock.

EMI Mesh and Sleeving



3M™ Electromagnetic Shielding Sleeves VA Series consist of sleeves braided with polyester fibers and polyester fibers over wound with tin-plated copper foil. 3M™ DS & FS Series Electromagnetic Shielding Sleeves consist of sleeves braided with glass fibers overwound with tin-plated copper foil.

Electrically Conductive Adhesive Transfer Tapes



3M™ Electrically Conductive Adhesive Transfer Tapes can eliminate screws and mechanical fasteners while allowing the use of lighter, more compact fabric and layered foil shielding materials. When attaching EMI shields and gaskets or grounding and bonding flexible circuits and PC boards, these tapes can improve product performance and reliability.

Static Protection

Permanent Flooring Systems



Conductive or static-dissipative tile flooring which effectively controls electrostatic discharge and reduces static damage throughout a facility when used with conductive footwear or heel grounding straps.

Static Test Systems



3M offers a complete selection of test equipment to verify the correct functioning of static control systems. These test products measure static voltages on objects and surfaces, verify air ionizer performance and test static control wrist straps and footwear.

ESD Workstation Solutions

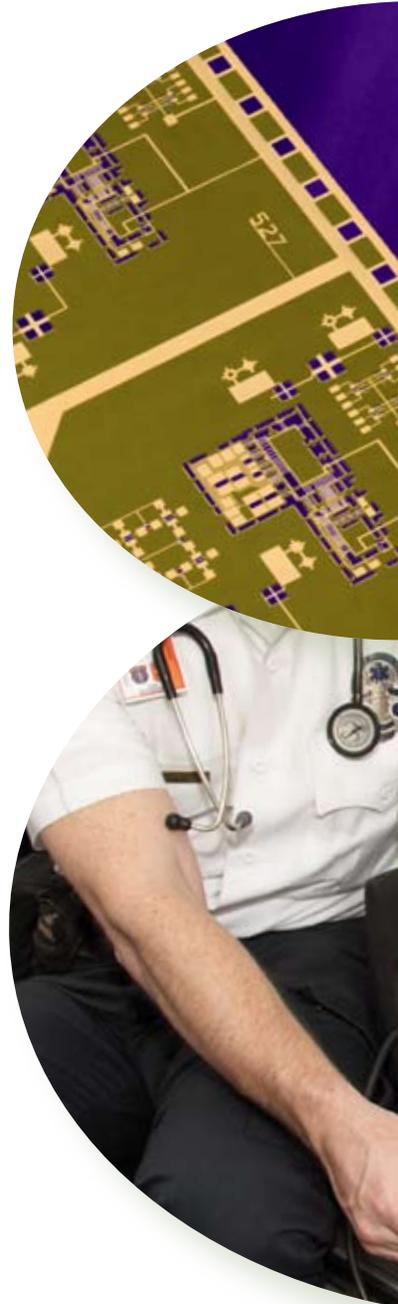


3M™ Electrostatic Discharge (ESD) Workstation Solutions can provide a safe environment for the handling and assembly of sensitive devices. These products drain static charge from personnel and limit the buildup of static charges on non-conductive materials.

Anti-Static Tapes

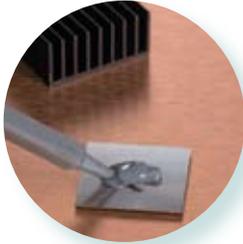


3M™ General Use/Anti-static Tapes, you can now enjoy the convenience of tape without fear of electrostatic damage to sensitive components.



Attaching, Bonding & Fastening

Thermal Interface Materials



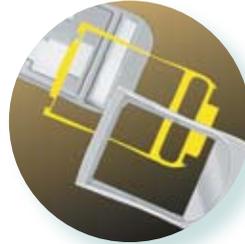
3M™ Thermal Interface Materials, which includes tapes, pads and epoxies, provide high thermal conductivity by focusing on the two areas that matter most: bulk conductivity and interface conductivity. They address a crucial problem with today's low-power electronic devices – the need to dissipate the sizable amounts of heat being generated.

Adhesive Transfer Tapes



3M™ Adhesive Transfer Tapes are available on a rotary die-cuttable paper liner for efficiency. These adhesives give you the adhesive power customers demand for die cut graphic attachment and many other high performance industrial applications.

Double Coated Tapes



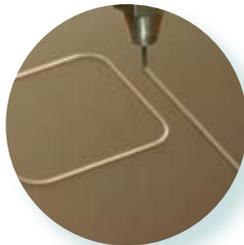
3M™ Double-Coated Tapes offer a winning combination of performance and productivity. They deliver the flexibility and easy-handling properties of an adhesive transfer tape with the stability and die-cutting capability of a double-coated tape.

3M™ VHB™ Tapes



For over 25 years, engineers have been specifying 3M™ VHB™ Tapes to permanently bond and seal many metals, plastics and other surfaces for increased productivity, high strength, long term durability and improved appearance.

Plastic Bonding Adhesive



Reduce costs, streamline assembly, and improve yield with 3M™ Plastic Bonding Adhesive 2665. Based on hot-melt, moisture-curing adhesive technology, it delivers a long open time for easy assembly of parts requiring a thin bond line.

Liquid Epoxy Adhesives



Today's sophisticated electronics manufacturing and assembly applications require reliable bonds and seals. 3M™ Liquid Epoxy Adhesives, including 3M™ Scotch-Weld™ Epoxies and 3M™ Jet-melt™ Adhesives, deliver the performance and cost efficiencies you need for a broad spectrum of applications.

Light Cure Adhesives



Create an adhesive bond instantaneously with 3M™ Light Cure Adhesive. This high viscosity adhesive usually cures in less than 10 seconds, forming a flexible bond, reducing processing times for many applications.

3M™ Scotchmate™ Reclosable Fasteners



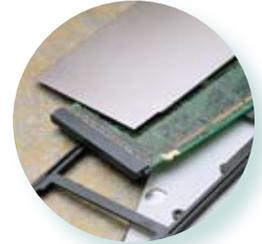
When your product calls for thousands of easy openings and closings, 3M™ Scotchmate™ Reclosable Fasteners pull through for you. Tiny, stiff hooks mesh with pliable loops for quick secure fastening. In addition, Scotchmate reclosable fasteners are available backed with 3M adhesive or as plain backed product.

3M™ Dual Lock™ Reclosable Fasteners



Hundreds of mushroom-shaped stems interlock with one another forming a "positive" lock with excellent tensile strength results so you can replace unsightly mechanical fasteners in many applications. 3M™ Dual Lock™ Reclosable Fasteners can be opened and closed hundreds of times.

Bonding Films



3M™ Bonding Films offer the benefits of a film adhesive with the reworkability of a hot melt adhesive. Bonding films can bond in seconds, allow for a controlled uniform thickness and can be die cut to precise intricate shapes.



Note: 3M adhesives, tapes, and fasteners are not intended for use in implantable devices or applications where the 3M product will be in contact with fluids being introduced into the body or where respirable air/gas will pass over the exposed 3M product.

Optical Imaging & Display

Vikuiti™ Display Enhancement



3M's Vikuiti™ Films found inside LCD TVs, notebook computers, cell phones, PDAs and many other electronic devices, help increase the brightness of the screens, making images easier to see in different lighting conditions.

Touch Systems



Comprehensive portfolio of touch screen and touch screen monitor products. As a premier solutions provider to the world's best known device manufacturers and systems integrators, 3M products are supported by a world-class engineering organization and over 20 years of R&D and manufacturing expertise.

Optically Clear Adhesives



For an electronic display with accurate color and full display brightness, choose 3M™ Optically Clear Adhesives. These free-film isotropic adhesives are formulated for transparent applications where the greatest advantage is not being seen.

Reflector Tapes



3M has developed innovative adhesives for display subassembly. With high reflectance and thin profiles, these tapes have been designed to provide brightness enhancement for your LCD reflector tape bonding applications.

Cleaning & Coating



3M™ Novec™ Flux Remover

3M™ Novec™ Flux Remover effectively removes rosin solder fluxes, waxes and similar contaminants found in electronics manufacturing and repair. Based on proprietary 3M solvent technology; it is non-flammable, non-ozone depleting, and contains no HCFCs, HFCs, nPB or HAPs.

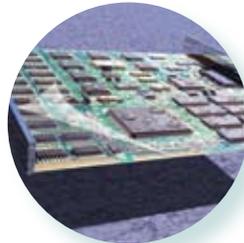
3M™ Novec™ Electronic Degreaser

3M™ Novec™ Electronic Degreaser effectively removes oils, greases and handling soils from electric motors, electrical equipment, precision devices and other electro-mechanical or sensitive devices. Based on proprietary 3M solvent technology; it is non-flammable, non-ozone depleting and contains no HCFCs, HFCs, nPB or HAPs.

3M™ Novec™ Contact Cleaner

3M™ Novec™ Contact Cleaner effectively removes light oils, greases, silicones, dust and particulates from sensitive electrical and electronic equipment. It is compatible with plastics, is non-flammable, non-ozone depleting and contains no HCFCs, HFCs, nPB or HAPs.

3M™ Novec™ Electronic Coatings



3M™ Novec™ Electronic Coatings are a fast, simple way to impart protection from water and prevent damage to sensitive electronics. These coatings dry to a thin, transparent film with excellent anti-wetting, anti-stiction, anti-migration and anti-corrosion properties.

3M™ Novec™ Engineered Fluids



3M™ Novec™ Engineered Fluids are designed to balance performance with favorable environmental properties and low toxicity. Available for a wide variety of applications, including cleaning, heat transfer, lubricant deposition. An excellent replacement for ozone depleting substances such as HCFC 141b.



Note: The user is responsible for evaluating and determining whether the 3M product is suitable and appropriate for a particular use and intended application, and complies with all applicable laws, regulations, standards, and guidance (e.g., letter dated February 12, 2002 of the Center for Devices and Radiological Health of the US Food and Drug Administration regarding 3M™ Performance Fluid PF-5070 and Fluids with Similar Properties) for such use and application.



Seal & Protect

Form-in-Place Gaskets



3M™ Form-in-Place Gasket FIPG 7103 B/A is a breakthrough, two-part system, ideal for sealing sensitive electronic boxes. This epoxy-based, silicone-free, elastomer material is designed for use on the device shell, serving as both a reusable gasket and contamination barrier. FIPG also provides excellent vibration and acoustic damping.

Membrane Switch Adhesives



3M™ Membrane Switch Adhesives are strong adhesives for long lasting switch performance. 3M has designed a line of membrane switch products that will prevail against the test of time, withstand stress of actuations and stay strong in a variety of environments over the life of the switch.

3M™ VHB™ Tapes



3M™ VHB™ Tapes resist high temperatures, cold, temperature cycling, UV light, moisture and solvents to seal and protect against environmental conditions.

Clean Seal Tapes



3M™ Clean Seal Tapes are ideal for the demanding requirements of hard disk drive and related electronics manufacturing. These innovative tapes provide exceptionally low outgassing, a high level of permanence and yet are cleanly removable from most substrates.

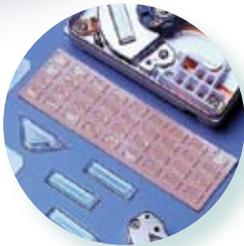
Protective Tapes



Get reliable temporary short protection against scratching, marring, chipping and abrasion. These polyethylene tapes adhere and conform to protect product surfaces during production, packaging, shipping and installation. Tack level varies depending on surface it needs to adhere to, including mirror-finish stainless, anodized aluminum, glass, equipment panels and screens. All remove cleanly once the product is in the hands of the end user.

Vibration & Sound Damping

Viscoelastic Damping Polymers



With many electronic applications, there are challenges involved with controlling vibration and isolating shock. 3M's viscoelastic polymer solutions are proven to reduce vibration in disk drives and other electronic components.

3M™ Bumpon™ Protective Products



3M™ Bumpon™ Protective Products can be used as feet, stops, spacers, and protectors for a wide variety of applications. Bumpon products are composed of a durable, resilient elastomer combined with an aggressive, high tack pressure sensitive adhesive.

Foil Damping Tapes



3M™ Damping Foil Tape helps damp vibrations on metal and plastic surfaces vibrating at their natural (resonant) frequency, consists of a pressure-sensitive viscoelastic polymer and aluminum foil constraining layer that effectively converts vibrational energy to negligible heat to reduce irritating noises and decrease wear and tear on parts.

Note: 3M adhesives, tapes, and fasteners are not intended for use in implantable devices or applications where the 3M product will be in contact with fluids being introduced into the body or where respirable air/gas will pass over the exposed 3M product.

Brand & Asset Protection

Tamper Indicating Labels



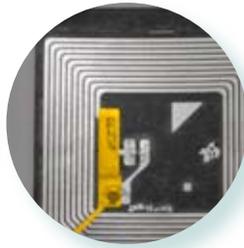
3M™ Tamper Indicating Products help ensure authenticity and detect altering. They are designed to fracture, delaminate or reveal a message or pattern when removal is attempted.

Performance Labels



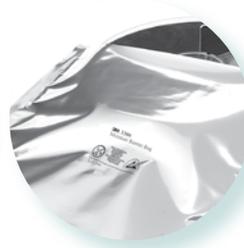
3M offers solutions for a wide range of challenging environments and manufacturing processes. Cost effective, high performance labels are available for identification, certification, bar coding, tracking, inventory and information applications.

RFID Tracking System



3M has broad experience in RFID tracking systems. The solutions include both materials and software to enable effective tracking and verification for a wide variety of applications.

Moisture Barrier Bags



The 3M™ Moisture Barrier Bags meet the demanding moisture protection needs of the electronics market. Utilizes a multi-layer, 3.6 mil film design that provides puncture and tear resistance, especially in the most critical seepage area - the seams. The bags provide high frequency protection and static shielding to protect sensitive parts.

Water Contact Indicator Tapes



3M™ Water Contact Indicator Tapes are designed to provide evidence of water damage during shipment, or for use in validating consumer warranty claims. These tapes are specially engineered to ignore false indicators such as high humidity and high temperatures, turning color only when their edges are contacted by liquid water.

Secure Identification Labels



If you're looking for a truly effective way to secure your products, 3M offers a full portfolio of security solutions. Products include proprietary overt, covert and forensic authentication technologies.

Note: 3M policy does not allow 3M to knowingly sample, support, or supply 3M products to any customer that intends to incorporate a 3M product into medical devices for implantation into living humans or into food, drugs, nutraceuticals, dietary supplements, or cosmetics unless the supply arrangement has received prior review and approval of 3M. 3M reserves the right not to supply 3M products in connection with such applications. Please consult with your 3M sales representative for additional information.

*"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (byweight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based on information provided by third party suppliers to 3M.

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3M products are not intended for use in implantable devices or where the product would be in contact with fluids being introduced into the body or where respirable air/gas would pass over exposed product.



3M Electronics

6801 River Place Blvd.
Austin, TX 78726-9000
www.3M.com/electronics



Recycled Paper
40% Pre-consumer waste paper
10% Post-consumer waste paper

Litho in USA.

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