

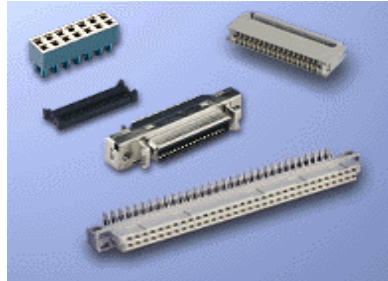


3M Interconnect Solutions

**Application Requirements for Interconnect in Medical,
Network Communications & Machine Vision**

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3M Electronics**

Interconnect Solutions for Electronic Applications



Board to Board and Wire to Board Connector Families

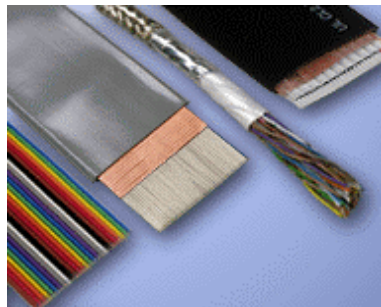


3M™ MetPak™ HSHM Backplane Solutions

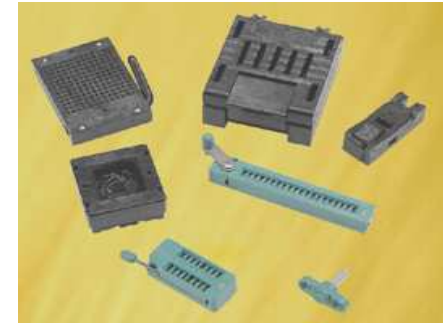
Connectors & Cable Assemblies



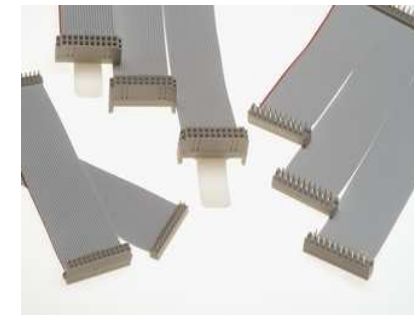
High Speed Assemblies



Cable



3M™ Textool™ Test and Burn-In Sockets



Molded Flat Ribbon Cable Assemblies



3M Technology Platforms for Electronics

Ad Adhesives								Rf Reclosable Fasteners	
Ab Abrasives	Dd Drug Delivery						Mr Micro-replication	Pe Predictive Engineering & Modeling	Rp Radiation Processing
Ac Acoustics	Dm Display Materials						Nm Nonwoven Materials	Pm Polymer Melt Processing	Sm Specialty Materials
As Application Software	Do Dental & Orthodontic Materials	Fi Films	Fs Filtration, Separation, Purification	Ir Immune Response Modifiers	Md Medical Data Mgmt	Mi Microbial Detection & Control	Pc Precision Coating	Po Porous Materials & Membranes	Su Surface Modification
Ce Ceramics	Ep Electronic Packaging	Fl Fluoro-materials	Im Imaging	Is Integrated Systems Design	Me Metal Matrix Composites	Mo Molding	Pd Particle & Dispersion Processing	Pr Process Design & Control	Wo Wound Mgmt
Cp Chemical Power Sources	Fc Flexible Converting & Packaging	Fo Fiber Optics	Ip Inks & Pigments	Lm Light Mgmt					



Application Requirements

- Performance =
 - Data Transmission Speed
 - Reliable and Durable
 - Space Saving
 - Easy Connection and Repair



Medical



- **System designers value**
 - Reliability/Durability
 - Ease of Use
- **IEC 606101-1-2:2001 effective since November 1, 2004 has driven designers to use shielded I/O**
- **Growth segments**
 - Diagnostic Imaging (CT, EBT, MRI, PET, X-Ray)
 - Higher resolution scanners → More pins/inch, high speed (1Gbps+)
 - Portable Devices (eg insulin monitors, hearing aids)
 - Smaller devices, premium on reliability → EMI Shielding / Fine pitch board stacking interconnects



Network Communications

- **System designers value**

- Reliability
- High Density
- Ease of installation

- **Rebound in capex driving growth**

- Local Loop (xDSL, PON/FTTx)
 - Speed/Cost of provisioning → Ease of installation, cable management
- Wireless (2/2.5G → 3G: GSM → EDGE → UMTS, CDMA → EV-DO → WCDMA)
 - Increasing bandwidth, EMC → Performance, EMI shielding





Machine Vision

- **System designers value**
 - Reliability
 - Ruggedness
 - Industry Standards
- **Rebound in manufacturing capex driving growth**
 - **Controls (CNC)**
 - Networking standalone units, high resolution touch panel user interfaces → Industry standard interconnects (CC-Link, LVDS)
 - **Machine Vision (in-line QA and inspection)**
 - Smaller cameras, longer distances → High density I/O in Camera Link and new Mini Camera Link standards





RoHS

- **Scramble for compliance by July 1, 2006**
 - Major OEMs and distributors actively scrubbing BOMs
 - NEDA's Worksheet assisting distributors and suppliers
 - Laggard OEMs may not be able to buy parts as old part numbers are phased out
 - US and Asia has some way to go to compliance
 - Europe making good progress
- **Interconnect suppliers at forefront of the compliance challenge**
 - Re-engineering products to eliminate tin/lead solder tails
 - Working with users on soldering practices



Price & Service

- **Finding a balance between ‘Cost Down’ and ‘Service’**
 - Speed of response during R&D and prototyping
 - Responsiveness to scale-up during volume manufacturing
 - Support wherever the customer is
- **Impact of rising basic commodity prices and RoHS**
 - Cooperation within the supply chain
- **Channel partners help end-users ride out swings and mitigate price effects**



Summary

Helping Customers Achieve Their Technology Roadmap

- *Innovative* solutions
 - Reliable
 - Durable
 - Space Saving
 - Easy to Install and Repair
 - Cost Effective