

# DISPOSABLE CONNECTORS

*Interconnect solutions for disposable medical device designs*



## THREE SUPERIOR CONTACT TECHNOLOGIES

### EDGE CARD

- ▶ Mates to PCB
- ▶ PCB on disposable side provides connection at no additional cost
- ▶ Fine gauge wires can be mass-terminated to PCB

### SPRING PROBE

- ▶ Mates to PCB or discrete target
- ▶ Extremely high density
- ▶ Allows for self correction of target misalignment

### HYPERTAC® HYPERBOLOID

- ▶ Mates to low cost pin header
- ▶ Ultimate signal integrity and power contact capabilities
- ▶ Up to 100,000 mating cycles

## REDUCED TOTAL SYSTEM COST

- ▶ Lower cost options on the disposable side
- ▶ Active mating contacts on reusable side maintain reliability
- ▶ Termination costs minimized to reduce assembly labor

## CUSTOM CONNECTOR AND CABLE ASSEMBLY DESIGN CAPABILITIES

- ▶ Disposable connector can be designed to fit catheter handle styles
- ▶ Reusable connector mates to a variety of disposable contact types
- ▶ Electronics may be incorporated into either disposable or reusable connector
- ▶ Designed to meet customer's ergonomic requirements
- ▶ Minimized tooling costs by using existing connector housings
- ▶ Custom cable assemblies can be incorporated as part of interconnect system

# TECHNOLOGIES

## EDGE CARD

Low cost disposable receptacle/reusable plug  
 Mass terminate catheter wires directly to PCB  
 Component design ensures easy assembly  
 Increased assembly labor efficiency  
 Utilizes straight PCBs  
 Customizable and scalable  
 High density



## SPRING PROBE

Suited for blind mate and fine pitch applications  
 Z-Axis compliance  
 Disposable contacts can be discrete targets or pads on PCB  
 Shock & vibration resistance  
 Low contact resistance  
 Self corrects for x, y, z, rotational and angular misalignment  
 Extremely high density



## HYPERTAC®

Superior signal integrity  
 Industry leading mating cycles  
 Minimal contact resistance  
 High current rating  
 Immune to shock and vibration  
 Low insertion/extraction forces  
 Self-clean wiping action  
 High density



## COMPARISON OF SMITHS CONNECTORS' DISPOSABLE INTERCONNECT SOLUTIONS

CONTACT TYPE	EDGE CARD	SPRING PROBE	HYPERTAC® HYPERBOLOID
<b>Mechanical Characteristics</b>			
Average insertion force	3.2 oz (contact only)	1.6 oz	0.36 to 1.92 oz (1.14 oz avg)
Average extraction force	4.2 oz (contact only)	Negative force	0.30 to 1.60 oz (0.95 oz avg)
<b>Electrical Characteristics</b>			
Current rating (each)	1.0A	3.0A	1.0A
Current resistance	<40 mΩ	<40 mΩ	<8 mΩ
<b>Contact Characteristics</b>			
Termination method			
- reusable	PCB	Crimp, Solder	Crimp, Solder
- disposable	PCB	Crimp, Solder, PCB	PCB
Cycle life (reusable)	800 cycles	10,000 cycles	100,000 cycles
Pitch	1.2mm - 2 row/staggered	1mm	1.57mm
Sterilization	EtO, Gamma, Autoclave, Sterrad®	TBD	EtO, Gamma, Autoclave, Sterrad®

smiths connectors