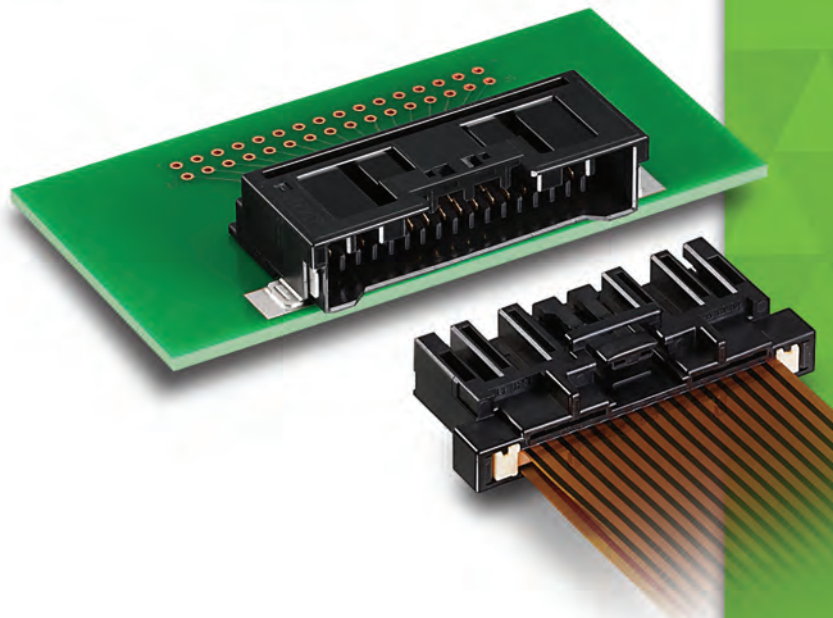




Automotive Connectors

Advanced technology
for next generation
vehicle challenges



HRS HIROSE
ELECTRIC
AMERICAS

CONNECTING THE FUTURE

A WORLD LEADER INTERCONNECT TECHNOLOGY

Hirose provides innovative, cutting-edge solutions for your interconnect requirements. We specialize in the design, development & manufacturing of high-performance interconnect solutions supporting the automotive, consumer, medical, and industrial markets. With over 80 years experience, Hirose has established itself as a growing technology leader.

Positioned on the forefront of interconnect technology, Hirose works closely with its customers to develop innovations in miniaturization, high speed data transmission, signal integrity and robust mechanical design.

Hirose is a growing \$1.2 billion company, with over 4,500 employees worldwide. Top-tier engineers design high-quality, precision connectors. Customer support is provided through all stages of development.

HIROSE AUTOMOTIVE

Hirose is a key international supplier in the automotive industry manufacturing rugged, reliable connectors to meet the needs of diverse automotive requirements. Our world-class engineering capabilities combined with cost-effective operations enables us to provide our customers with high-value automotive interconnect solutions and services.

By partnering with customers early in the design stage, we provide optimum products, expertise & world-class solutions:

- ▶ Advanced Products
- ▶ High Performance
- ▶ Quality Management – continuous monitoring and evaluations within our manufacturing process

APPLICATIONS

Your products demand quality, and Hirose connectors provide the manufacturing precision, durability, and design intelligence that allows you to increase efficiency during installation, decrease costs, and improve your overall operations.

With expertise in infotainment, ECU, and lighting, Hirose provides wide selection of connectors for navigation systems, LED, HID, instrument clusters, antennas, and inverter/ battery management. Continually on the forefront of emerging technologies, Hirose's connectors are designed for use in contemporary products such as hybrid/electric vehicles.

AUTOMOTIVE APPLICATIONS

Instrument Cluster • Infotainment • Antenna • Battery/Inverter • ADAS • LiDAR • Lighting



ANTENNA



GT36 Series



GT21 Series



AUTONOMOUS DRIVING



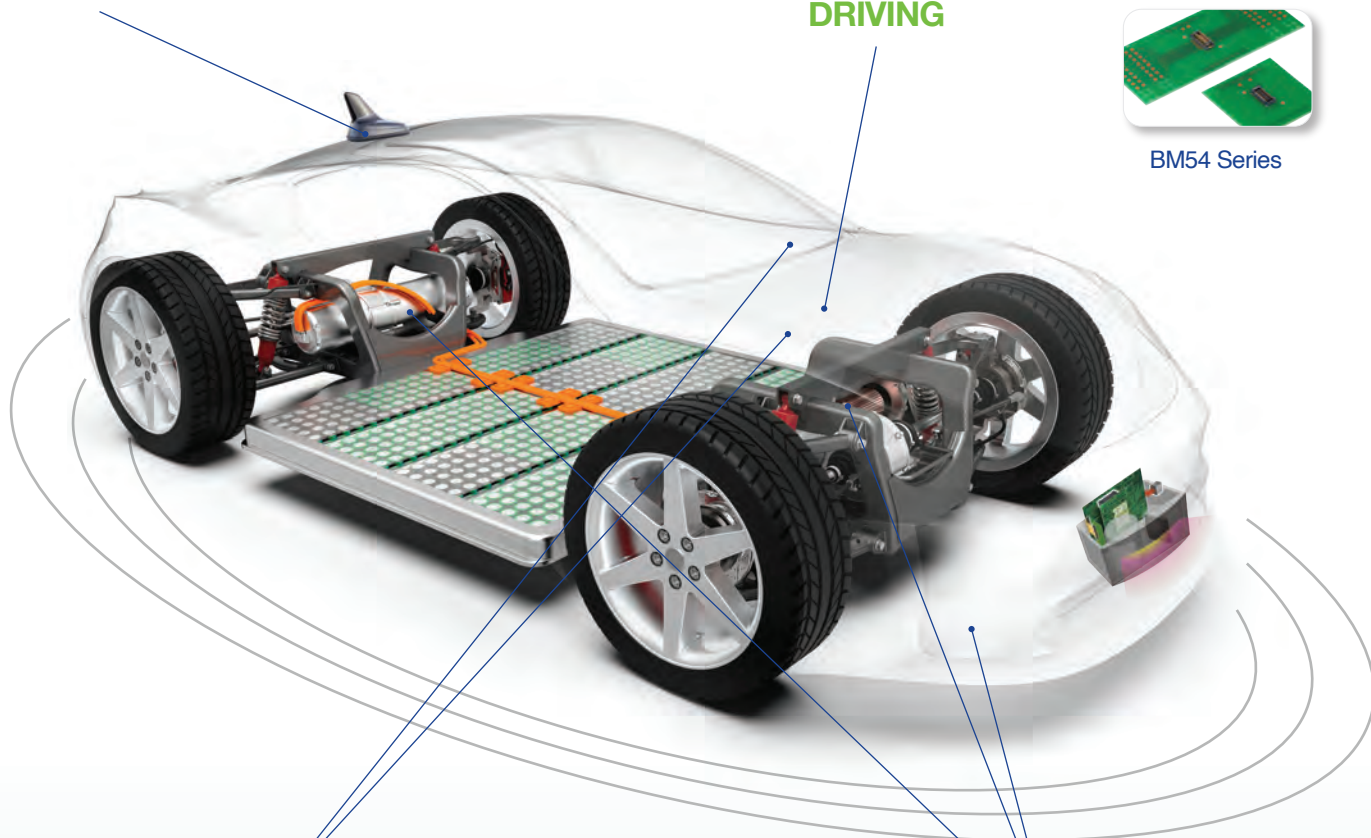
DF40T Series



FX23 Series



BM54 Series



INFOTAINMENT & CLUSTER



POWERTRAIN, BATTERY MANAGEMENT, LIGHTING



GT25H2 Series



FH52K Series



FH69 Series



ZG05HV Series



ZH05 Series



ZE05 Series



ZE064W Series



GT43 Series



FH63S/FH67 Series



FH75 Series



TF70 Series



HVH-280 Series



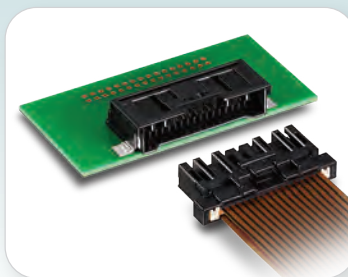
FX26 Series



ZE05 Series

- Oper. Temp. -40C to +125C
- 20-22 AWG
- 5A(Mono-pole) / 2A(Full pins used)
- 250V AC
- 30 Durability (mating cycles)

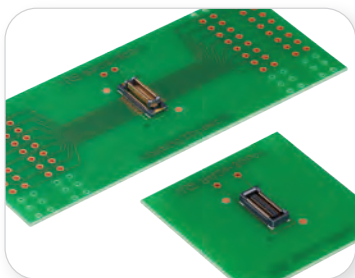
High vibration resistance. 0.5mm terminal, 2mm pitch.



ZK1 Series

- Compact and Light Weight
- Simplified Assembly for Size and Weight Reduction
- Withstands High Heat and Vibration in a Compact Design
- Robust Center Locking Design
- Designed for Electric Shock Prevention

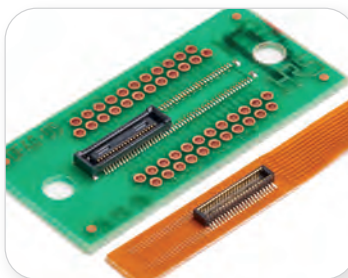
High Heat and Vibration Resistance, 2mm Pitch, FPC-to-Board, Automotive Connector, Enhanced Dust Resistance with Two-Point Contact



BM54 Series

- Oper. Temp. -55C to +125C
- 3.0mm Stacking Height
- 3.8mm Width
- Floating Range ± 0.4 mm
- Supports PCI-ex Gen4 (16Gbps) and MIPI D-PHY Ver.2.1

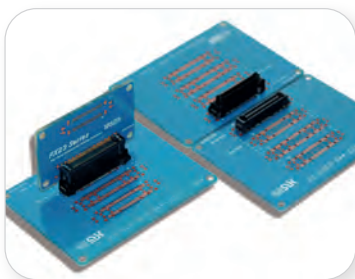
Small Floating Board-to-Board Connector, 125°C Heat Resistance, For Automotive Applications



DF40T Series

- Oper. Temp. -55C to +125C
- 0.3A max rated current
- 30V AC
- 10 Durability (mating cycles)
- 1.5, 2.0, 2.5, 3.0, 3.5, 4.0 Height

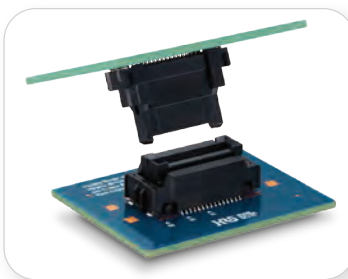
Supports PCIe Gen.4, 16Gbps transmission



FX23(L) Series

- Pitch: 0.5mm
- 0.5A (signal), 3A (power4 pin) max rated current
- 50V AC (Signal)
- 200V AC (Power)
- Stacking height (mm) 8, 10, 12, 15, 20, 25, 30

SMT, Floating structure vertical & stacking can be the same in most conversations, supports 16Gbps PCIe gen4 high speed transmission



FX26 Series

- Oper. Temp. -40C to +140C
- 0.5A max rated current
- 125V AC/DC

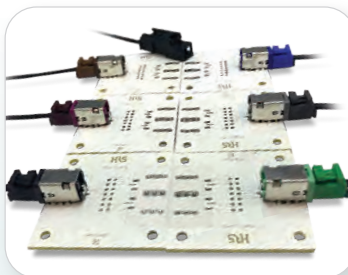
Floating Range ± 0.7 mm(X and Y), Effective mating length ± 0.75 mm(Z), Vibration Absorption Design, Heat Resistance



GT32 Series

- Oper. Temp. -40C to +105C
- 24-28 AWG
- 1A max rated current
- 30V AC
- 30 Durability (mating cycles)

Pin-in-paste reflow method, 2-point contact, Panel mounting screw optional



GT43 Series

- Oper. Temp. -40C to +105C
- 1A max rated current
- 50V DC
- 30 Durability (mating cycles)

Small-sized, space-saving design, Low Noise, 6 keying varieties High frequency transmission for video: 3GHz



FH63S Series

- Oper. Temp. -55C to +125C
- 2.8mm Height
- 0.5A max rated current
- 50V AC
- 10 Durability (mating cycles)

Bottom contact, Satisfies severe automotive requirements, One action lock, Supports USB 3.0 Gen1, Embedded Display Port 1.3, HDMI 1.4a, V-by-One HS, Halogen-free (IEC61249-2-21)



HVH-280 Series

- Oper. Temp. -40C to +120C
- 12-14 AWG
- 30A max rated current
- 600V AC
- 30 Durability (mating cycles)

Clear "click feeling" to prevent incomplete insertion. Retainer on harness side to secure terminal insertion (TPA, Secondary lock) Waterproof & Non Waterproof available

HIROSE AMERICAS, AUTOMOTIVE CONNECTORS, QUICK REFERENCE SHEET

*Reference only, review each of the part drawings for most accurate detailed information.

Series	Type	Contacts (Pins)	Pitch (mm)	Height (mm)	Temp Range (°C)	Current (A/pin)	Voltage (V AC)	Speed (Gbps)	Features
2-30 Board to Wire & Wire to Wire Connectors									
GT25H2	B to W	8, 12, 16, 20, 24, 32, 40	2.2	13.0 (GT25H2-8DP-2.2H)	-40 to 105	3	250	-	Wide variation
GT50	B to W	2, 4, 6, 8, 12, 16	1.0	5.27, 5.97	-40 to 125	2, 4 - 2A 6, 8, 12, 16 - 1.5A	60	-	Contributes to space-saving & weight reduction, Stabilizer reduces contact wear & enables high vibration resistance Robust design for cable routing that resists disconnecting
HVH-280 (Water Proof)	W to W	2	9.5	25.74	-40 to 120	30	600	-	Water proof, CPA, HVIL
ZE05	B to W	2, 4, 5, 8, 12, 16, 20, 24	2	8.34 (ZE05-2P-2H)	-40 to 125	2	60	-	0.5 terminal, Severe Vibration Resistance
ZE064W	W to W	8, 14, 24	2.2	25.5	-40 to 125	2	60	-	Water proof, Severe vibration resistance
ZK1	FPC to Board	32	2	9.66, 10.58	-40 to 125	1	50	-	Two-point contact, Easy operation & Robust mechanical structure
Coax Connectors									
GT5	B to W, W to W	1, 2, 4	n/a	13.9 (GT5-1P-DS)	-40 to 105	1	250	2GHz	One step crimp, Wide Variation GPS, DTV, AM/FM radio etc
GT13	B to W, W to W	1, 2, 4	n/a	12.35 (GT13S-1PP-DS)	-40 to 105	1	125	1GHz	One step crimp, Wide Variation AM/FM etc
GT16, GT16C, GT16G	B to W, W to W	1	n/a	10.0 (GT16D-1P-H)	-40 to 105	1	250	3, 6GHz	One step crimp, 3GHz, 6GHz Satellite radio, Bluetooth, DSRC, Wi-Fi etc
GT21	B to W, W to W	1, 2, 3, 4	n/a	10.0 (GT21-1P-DS)	-40 to 105	1	250	2.5GHz	One step crimp, Wide Variation GPS, DTV, AM/FM radio, etc
GT36(A, S)	B to W	1, 4	6	16.3	-40 to 105	1	50	2.5, 3, 6GHz	Compact design GPS, DTV, TEL, Bluetooth, DSRC, Wi-Fi, etc
GT43	B to W, W to W	1	n/a	10.6	-40 to 105	1	50	3GHz	For video transmission, One step crimp, noise prevention
U.FL, U.FL(A)	B to W	1	n/a	1.9	-40 to 85	n/a	n/a	18GHz	Low profile, Space saving, For internal wiring
High Speed Connectors									
GT17(V)	B to W, W to W	6, 8, 10	2	15.7 (GT17V-6DP-DS(70))	-40 to 105	3	250	1	USB2.0, IEEE1394, LVDS, GVIF
GT17H, GT17HN	B to W, W to W	4, 16	2	7.2 (GT17H-4P-2H)	-40 to 105	1	250	1	Low profile, Wide variation, passes USB2.0, IEEE 1394, LVDS, and GVIF specs
GT32(F)	B to W, W to W	4, 10, 19	0.75, 1.5	11.2 (GT32-4DP-1.5H)	-40 to 105	1	30	2GHz	USB 2.0 Gen1(10pin), HDMI1.4(19pin), Pin-in-paste reflow
FPC Connectors									
FH40	FPC	10, 20, 24, 30, 40, 45, 50, 60, 64, 80	0.5	5.8	-40 to 105	0.5	50	-	Vertical
FH41	FPC	15, 20, 28, 30, 31, 40, 50, 60, 68	0.5	2.5	-40 to 105	0.5	50	1	Shielded, Compatible with FH48, V-by-One HS, Horizontal
FH48	FPC	20, 21, 30, 31, 40, 50, 68	0.5	6.68	-40 to 105	0.5	50	1	Shielded, Compatible with FH41, V-by-One HS, Vertical
FH52K	FPC	6, 8, 10, 12, 15, 18, 20, 22, 24, 25, 26, 30, 32, 34, 40, 45, 50, 68, 80	0.5	2	-40 to 125	0.5-1	50	-	Long metal fittings
FH55	FPC	10, 22, 31, 40	0.4, 0.5	1.5	-55 to 105	0.5 (0.5mm pitch) or 0.4 (0.4mm pitch)	50 (0.5mm pitch) or 40 (0.4mm pitch)	16	High speed, Impedance, Matches with USB4 gen2, PCIe gen4, HDMI 1.4a, Port 1.3 Series ATA gen3
FH63S	FPC	10, 20, 30, 40	0.5	2.8	-55 to 125	0.5	50	8.1-10.2	One action lock, Bottom contact, 2-point contact, Horizontal, eDP1.3, HDMI 1.4a, USB 3.0 Gen1, V-by-One HS
FH65	FPC	8, 10, 34	0.5	1.2	-40 to 125	0.5	50	-	Space Saving, Low Profile
FH67	FPC	10, 20, 30, 40, 50	0.5	5.2	-55 to 125	0.5	50	2.5	One action lock, 2-point contact, Vertical
FH75/75M	FPC	10, 40, 60, 68 (100 - 75M)	0.4-0.5	2	-40 to 125	0.5	40-50	1.5	2-point contact
Board to Board Connectors									
BM54	B to B (Floating)	20, 30, 40	0.4	3, 3.5, 4.0, 4.5	-55 C to 125	0.3	50	-	PCI-ex Gen4 (16Gbps), MIPI D-PHY Ver.2.1 (4.5Gbps), Floating Range X & Y Directions: Floating Range ±0.4mm
DF12N	B to B	10, 14, 20, 30, 32, 36, 40, 50, 60, 80	0.5	3, 3.5, 4, 5	-55 to 105	0.3	50	5	Wide variations of stacking height
DF17	B to B	20, 26, 30, 40, 50, 60, 70, 80	0.5	4, 5, 5.5, 6, 6.5, 7, 8	-35 to 85	0.3	50	-	Wide variations of stacking height, robust
DF40T/GT/F	B to B	10, 20, 30, 34, 40, 50, 60, 120 (30 - DF40F)	1.5-7 3.5-6.0(F)	1.5, 2, 2.5, 3, 3.5, 4	-55 to 125	0.3	30	16	PCI Express 4.0
DF40GT	B to B	10	0.4	1.5	-55 to 125	0.3	30	16	PCI Express 4.0, Shielded
DF40GL	B to B	44	0.4	1.5	-55 to 105	0.35	30	16	Positive lock, Shielded, Shock resistant
FX23(L)	B to B (Floating)	8, 9, 10, 11, 12, 14, 15, 19, 20, 21, 23, 25, 30, 40, 60, 80, 100, 120	0.5	8, 10, 12, 15, 20, 25, 30	-55 to 105	0.5 (Signal) 3 (Power)	200	16	Floating range ±0.6 for XY, High speed
FX26	B to B (Floating)	15, 18, 20, 23, 25	1	12, 15, 17, 18, 20, 23, 25	-40 to 140	0.5	125	-	Floating Range ±0.7 for XY, Vibration Absorption Design
USB Type-C									
CX	B to W	16, 24	0.5	3.14-3.66	-40 to 105	1.25	48	20	USB Type C, Wide Variety

For additional information please go to <https://info.hirose.com/lidar>

Specifications herein are subject to change without notice. Contact Hirose for latest specifications, drawings, or availabilities.

■■■■CONNECTING THE FUTURE

AUTOMOTIVE INNOVATION



HRS HIROSE
ELECTRIC
AMERICAS

HIROSE ELECTRIC AMERICAS

Headquarters Chicago
2001 Butterfield Road, Suite 1900,
Downers Grove, IL 60515
P: 630.282.6700 • F: 630.963.0507



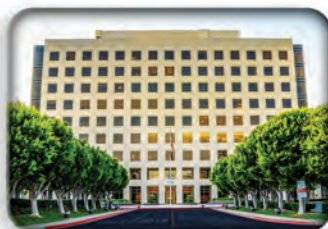
San Jose Office
2841 Junction Ave, Suite 200,
San Jose, CA 95134, USA
P: 408.253.9640



Detroit Office
17197 Laurel Park Dr., Suite 253,
Livonia, MI 48152, USA
P: 734.542.9963



Boston Office
40 Shattuck Rd, Suite 215,
Andover, MA 01810, USA
P: 978.662.5255



Southern CA Office
7700 Irvine Center Drive, Suite 670,
Irvine, CA, 92618
P: 949.317.0562



Dallas Office
5550 Granite Parkway, Suite 255,
Plano, TX 75024, USA
P: 734.542.9963



Seattle Office
15809 Bear Creek Parkway, Suite 120,
Redmond, WA 98052
P: 206.379-8567



RoHS - We are committed to the development and manufacture of world-class products without sacrificing the health of people & the environment. Hirose manufactures products that are compliant with RoHS directives.



Tampa Office
1646 W Snow Avenue, Suite 281
Tampa, FL 33606
P: 857.270.8662



Scan the QR code for a
digital brochure and
additional information on
Automotive Connectors

Visit us at...

