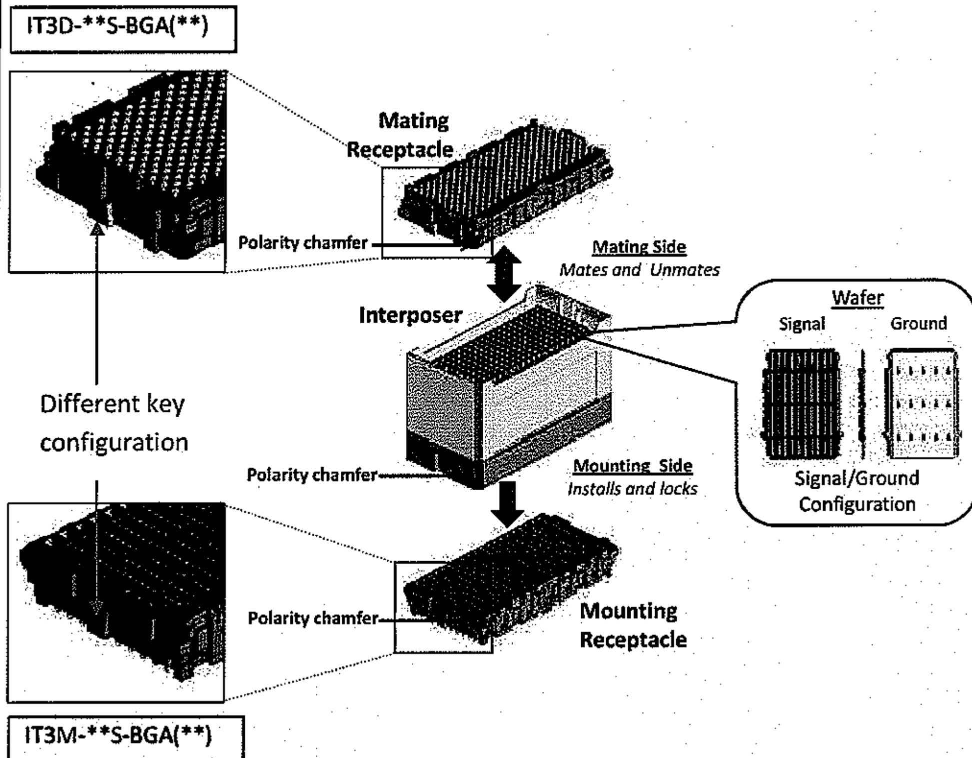
Section 2 General Information

*Hirose's **IT3** connector system is designed to provide modular high-speed differential, single-ended and power connections between two parallel boards. The interconnection to the PWBs utilizes process-friendly Ball Grid Array receptacles, while the stacking height of 15 to 40mm is set by an impedance-controlled interposer that is added at the system level.*

*The **IT3** connector system consists of two receptacles and one interposer. The receptacles have low profiles and open bodies. The BGA balls are mounted on compliant pins and are set on a staggered grid of 1.5 and 1.75 mm pitch. Both the mating and mounting receptacles' footprints are compatible with popular mezzanine connectors. Receptacles are available in tin-lead and lead-free configurations, and can be used in no-clean or water-wash assembly processes.*

The interposer is an assembly consisting of individual wafers, each carrying 10 signal and 9 ground connections. The interposer is mounted to the receptacles and locked in with mechanical latches to create highly reliable and stable mechanical and electrical connections.



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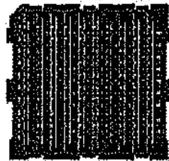
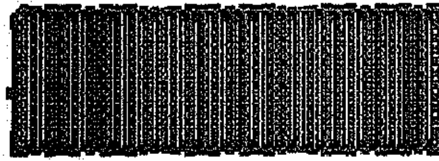
2.1 Component Weights

Mating Receptacle

IT3 D-100S-BGA



IT3 D-300S-BGA



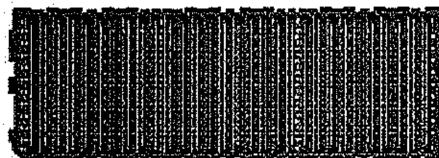
Contact Positions	Part Number	Solder Ball Material	Weight
100 (100 signals/90 grounds)	IT3D-100S-BGA(37)	Pb-free (SAC305) solder	2.5 g
	IT3D-100S-BGA(57)	Eutectic SnPb solder	
200 (200 signals/180 grounds)	IT3D-200S-BGA(37)	Pb-free (SAC305) solder	4.7 g
	IT3D-200S-BGA(57)	Eutectic SnPb solder	
300 (300 signals/270 grounds)	IT3D-300S-BGA(37)	Pb-free (SAC305) solder	9.0 g
	IT3D-300S-BGA(57)	Eutectic SnPb solder	

** Receptacle will accept any available stacking height*

Mounting Receptacle

IT3 M-100S-BGA

IT3 M-300S-BGA



Contact Positions	Part Number	Solder Ball Material	Weight
100 (100 signals/90 grounds)	IT3M-100S-BGA(37)	Pb-free (SAC305) solder	2.5 g
	IT3M-100S-BGA(57)	Eutectic SnPb solder	
200 (200 signals/180 grounds)	IT3M-200S-BGA(37)	Pb-free (SAC305) solder	4.7 g
	IT3M-200S-BGA(57)	Eutectic SnPb solder	
300 (300 signals/270 grounds)	IT3M-300S-BGA(37)	Pb-free (SAC305) solder	9.1 g
	IT3M-300S-BGA(57)	Eutectic SnPb solder	

** Receptacle will accept any available stacking height*

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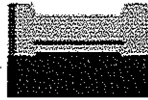
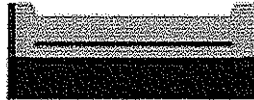
Interposer

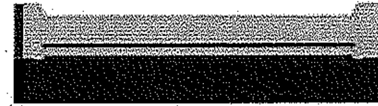
IT3-100P-17H



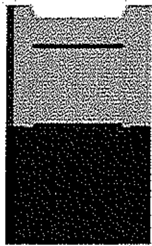
IT3-200P-17H



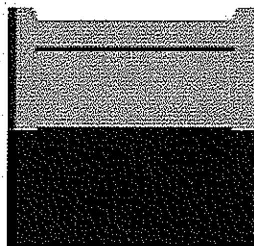
IT3-300P-17H



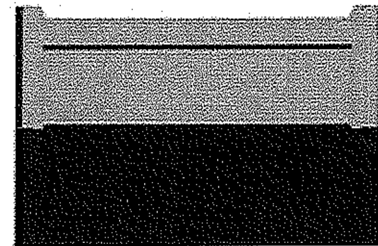
IT3-100P-40H



IT3-200P-40H



IT3-300P-40H



Stacking Height	Contact Positions					
	100 pos. (100 signals)		200 pos. (200 signals)		300 pos. (300 signals)	
	Part Number	Weight	Part Number	Weight	Part Number	Weight
17 mm	IT3-100P-17H	6.5 g	IT3-200P-17H	10.8 g	IT3-300P-17H	15.1 g
20 mm	IT3-100P-20H	8.5 g	IT3-200P-20H	14.7 g	IT3-300P-20H	20.8 g
22 mm	IT3-100P-22H	9.9 g	IT3-200P-22H	17.3 g	IT3-300P-22H	24.6 g
25 mm	IT3-100P-25H	12.0 g	IT3-200P-25H	21.1 g	IT3-300P-25H	30.3 g
26 mm	IT3-100P-26H	12.7 g	IT3-200P-26H	22.4 g	IT3-300P-26H	32.2 g
28 mm	IT3-100P-28H	14.0 g	IT3-200P-28H	25.0 g	IT3-300P-28H	36.0 g
30 mm	IT3-100P-30H	15.4 g	IT3-200P-30H	27.6 g	IT3-300P-30H	39.8 g
32 mm	IT3-100P-32H	16.8 g	IT3-200P-32H	30.2 g	IT3-300P-32H	43.6 g
38 mm	IT3-100P-38H	20.5 g	IT3-200P-38H	38.9 g	IT3-300P-38H	55.8 g
40 mm	IT3-100P-40H	22.3 g	IT3-200P-40H	40.6 g	IT3-300P-40H	58.8 g

** Components listed in gray letters are under development*

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2.2

Part Number Designation

Receptacle	Interposer
IT3xx - xxx S – BGA xx (xx)	IT3xx - xxx P – xxH xx (xx)
(1)(2) (3) (4) (5) (6) (7)	(1)(8) (3) (4) (9) (6) (10)

(1) Series name: *IT3*

No further designation

(2) Receptacle Type

IT3D-xxxS-BGA: Mating Receptacle
IT3Dx-xxxS-BGA: Mating Receptacle (customized)
IT3M-xxxS-BGA : Mounting Receptacle
IT3Mx-xxxS-BGA: Mounting Receptacle (customized)

(3) Contact Positions

100, 200, 300

(4) Connector

S : Socket
P : Plug

(5) BGA: Ball Grid Array

No further designation

(6) Package Specification

blank: Standard
xx: Customized

(7) Material and Plating Specification of Receptacle

(37): Pb-free Solder: Sn (96.5) Ag (3.0) Cu (0.5)
Contact area: Gold(0.76 μm)+Ni(1.5 μm)
(57): Eutectic Solder: Sn (63) Pb (37)
Contact Area: Gold(0.76 μm)+Ni(1.5 μm)

(8) Interposer type

blank: Standard
xx: Customized

(9) Stacking Height (mm)

17, 20, 22, 25, 26, 28, 30, 32, 38, 40

(10) Plating Specification of Interposer

(03): Contact Area: Gold(0.76 μm)+Ni(1.5 μm)

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