

Mitsumi

Connectors

For Car



MITSUMI ELECTRIC CO.,LTD.

<http://www.mitsumi.co.jp>

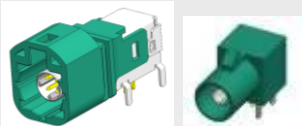
MITSUMI

汽车连接器之间, 有连接器, 适用于电源或低速通信, (包括防水型),
高速传输连接器的图像信号或数据传输,
同轴天线连接到外面的汽车交流电源, 对应于高电流, 和内连接的FPC连接器/BtoB。

① 连接器



② Data transmission (数据传输, 天线系列)



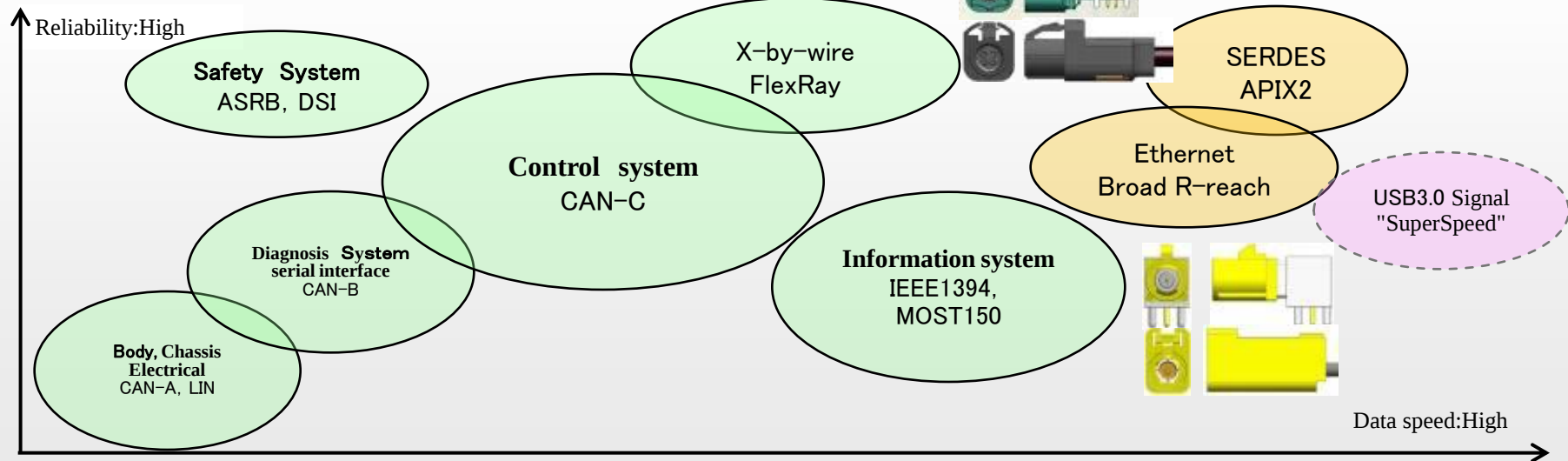
③ Power supply



④ Connection of devices (FPC, BtoB)



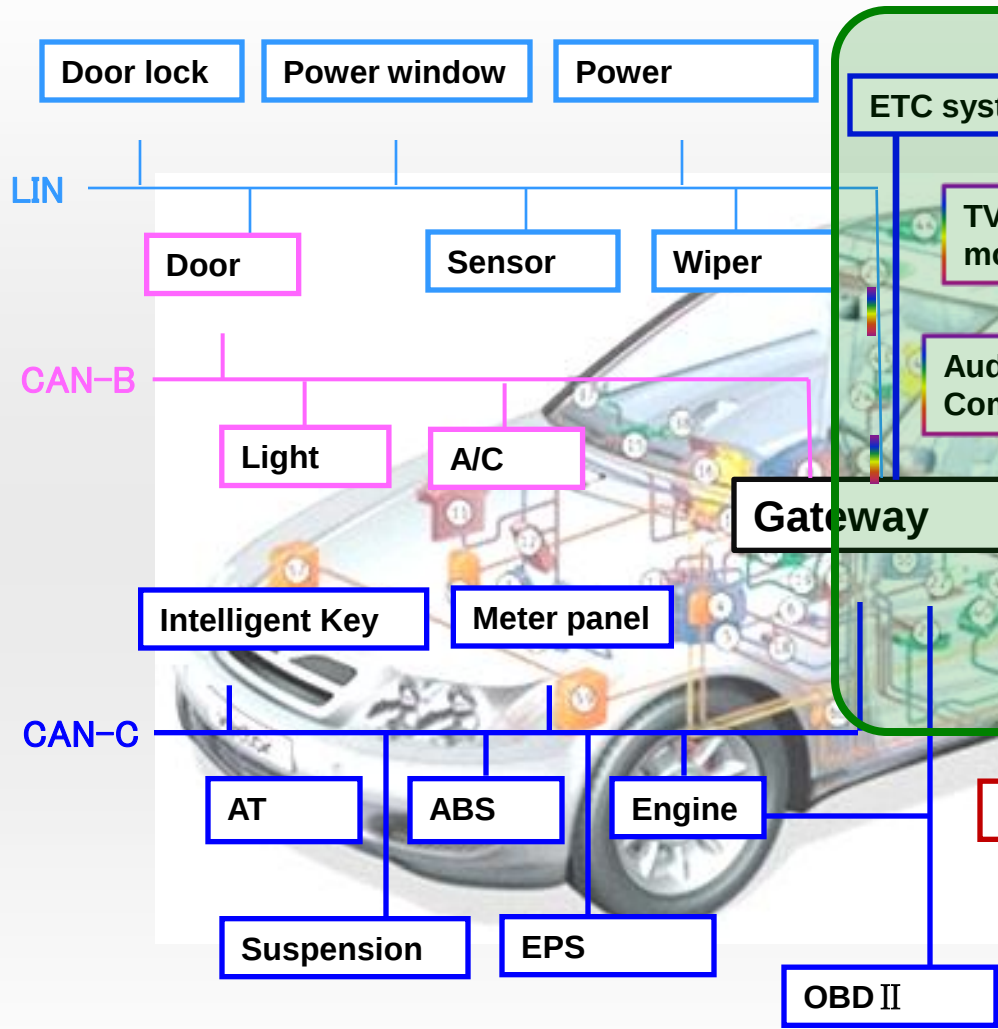
传输速度和可靠性



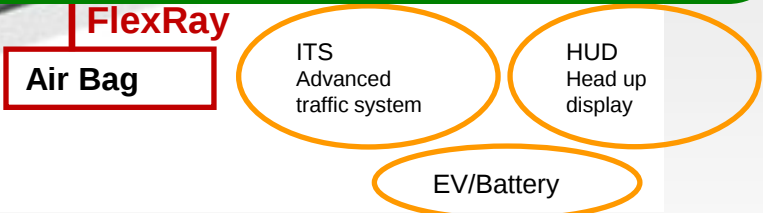
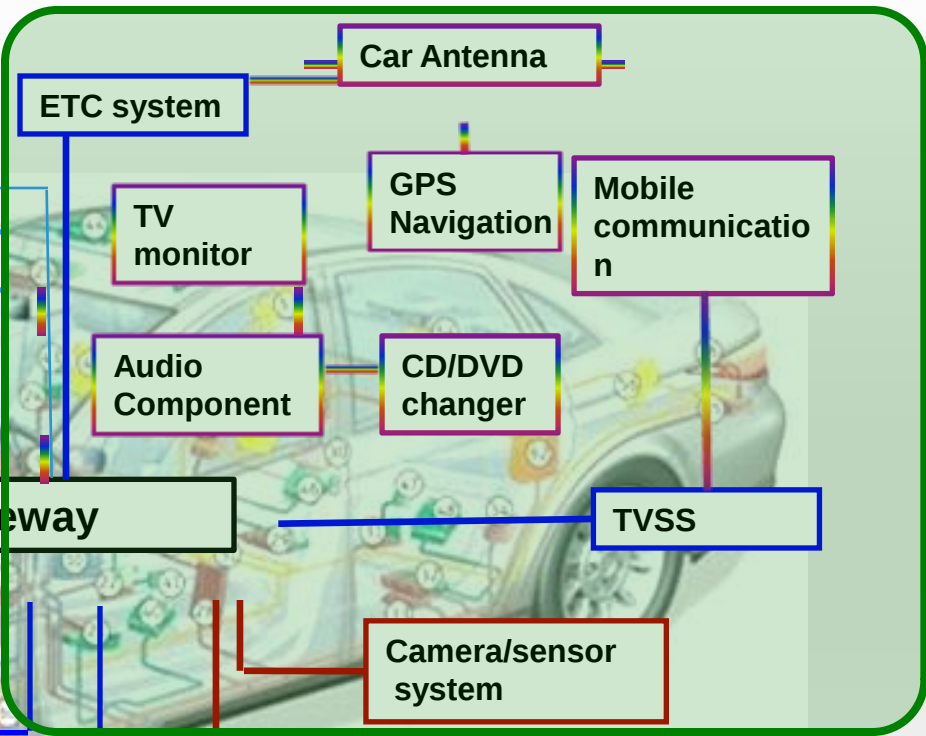
Comparison of signal network

Network	LIN	CAN	Flexray	ASRB	DSI	MOST 150	SERDES	(BroadR-Reach)	ETHER NET	APIX2	(USB3.0)
Speed (Max)	20kbps	1Mbps(CAN-C)	10Mbps		445kbps (DSI3)	150Mbps	2.975Gbps	100Mbps	1Gbps (ClassB)	3Gbps	5Gbps
Distance	40m(max)		24m(max)					100m	24m(max)	50m (max)	3m
Spec. ver.	LIN2.1 (2006)	CAN3.1	Ver. 3.0.1 (2009)	ASRB 2.0 (2004/09)	DSI3ver1.0 (2011/02)	Rev. 3.0 Errata 2			AVnu Alliance		USB3.0 Rev1.0
Consortium	LIN Consortium	CiA (CAN in Automation)		Safe-by-Wire Plus Consortium	DSI Consortium	MOST Cooperatin		OPEN Alliance SIG	AVnu Alliance	APIX2.0	USB.org
Future					DSI3 device (2013-)		Blu-ray disc Device (2013-)		International standardization (国際標準化へ)		

Main network of car



MITSUMI's specialty



Main Network

LIN, CAN-A
CAN-B
CAN-C
CAN-B, MOST

FlexRay, ASRB, DSI
(X-by Wire)
BroadR-Reach
APIX2

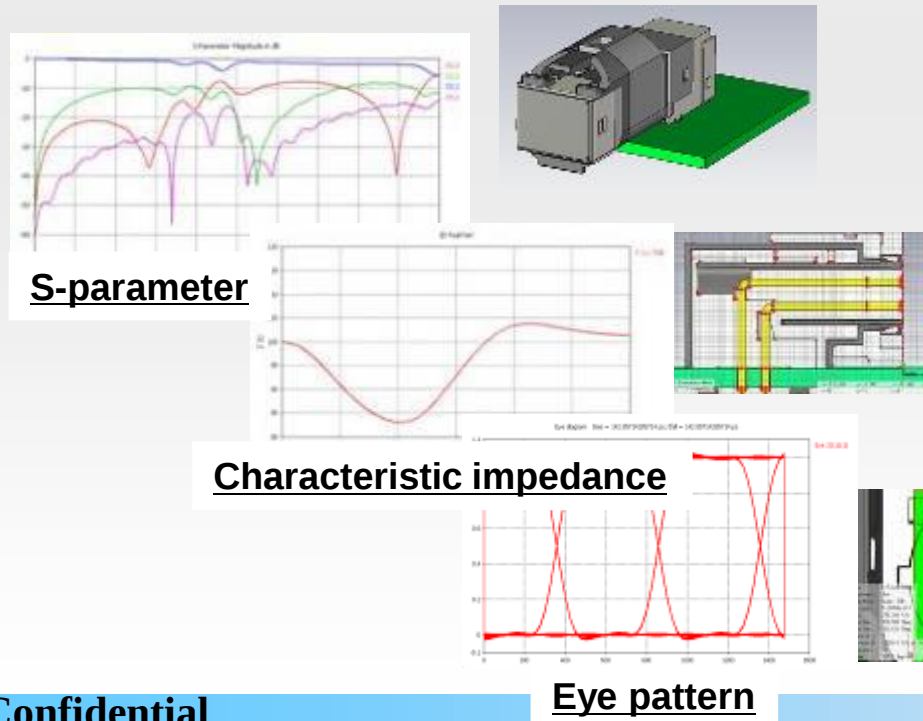
Mitsumi's technology for automotive connectors (High speed transmission)

1.高速传输技术

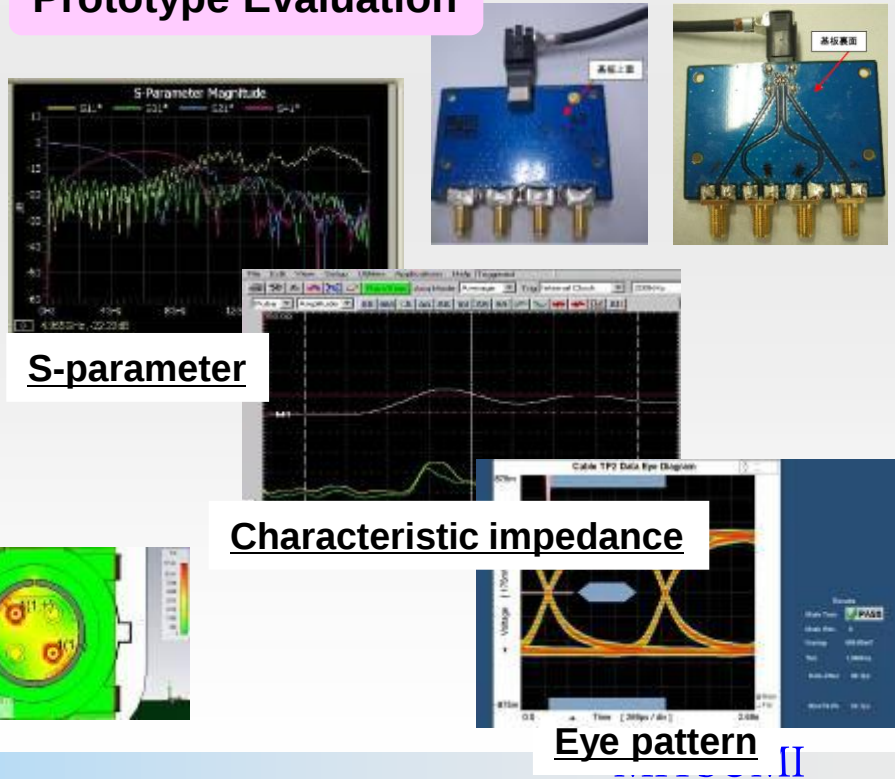
我们可以评估通过仿真数据10G传输.

- 设计评价技术的模拟
(特性阻抗, S参数, 眼模式)
- 与外部组织的测量, 如防噪声的检查, 同时进行.

Simulation with 3D model



Prototype Evaluation



Mitsumi's technology for automotive connectors (Wire processing)

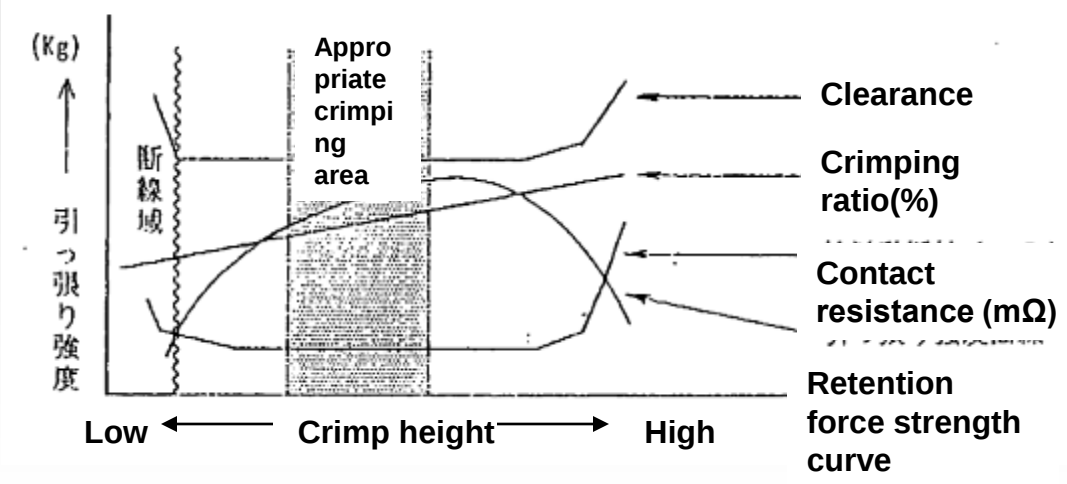
2. 线材加工技术

线束加工经验

压接接触设计, 加工技术

- 卷曲的评价
(压接强度, 截面EVAL., 环境评价等。)
- 压接接触设计
最适合筒尺寸和压接芯线比
- 压接技术, 满足汽车标准

卷曲高度关系图, 保持力和阻力



Contact pin crimping



Cross section of crimping Core wire



Covered crimping core wire

Mitsumi's technology for automotive connectors (Detach & Power)

- 7 -

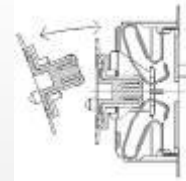
3. Detach connector(断开接头)

装置使面板脱离方式公差变大。

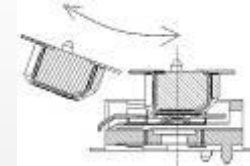
我们的连接器可以通过交配吸收部分滑移。

(X, Y, 和Z轴滑吸收机制)

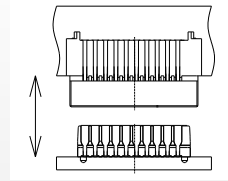
- 很多配套使用的变化
- 低接触压力的技术
- 抗冲击



Turn mating



Slide mating



Vertical mating



Detach connector mating direction

4. 电源插头

制造商要求原配件特殊规格，如高强度。

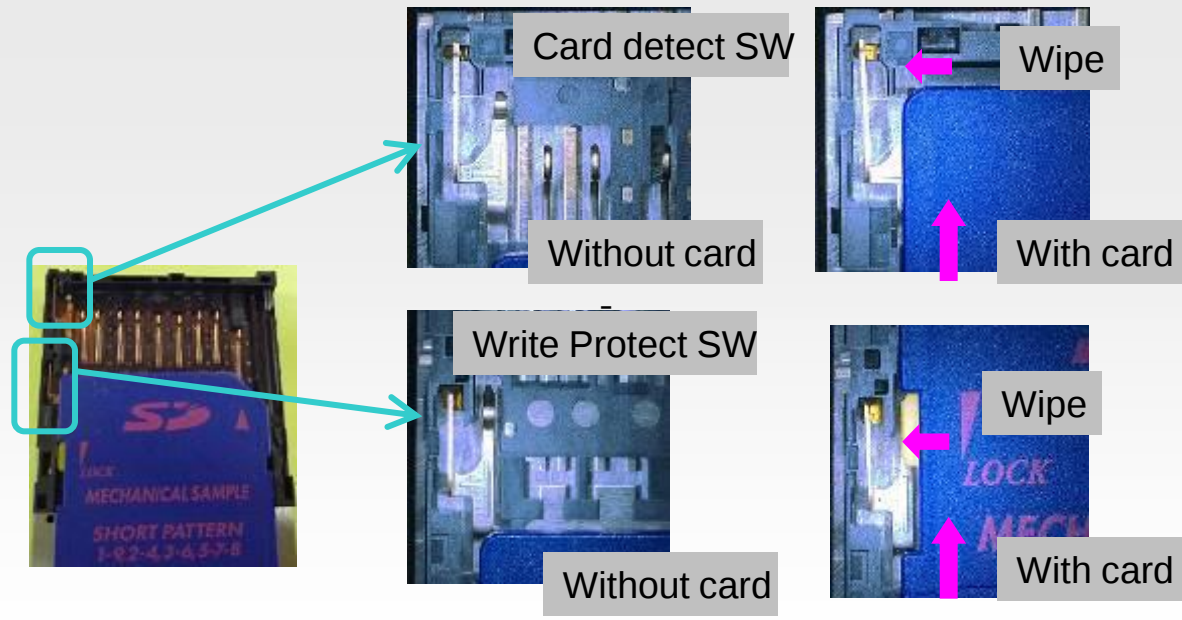
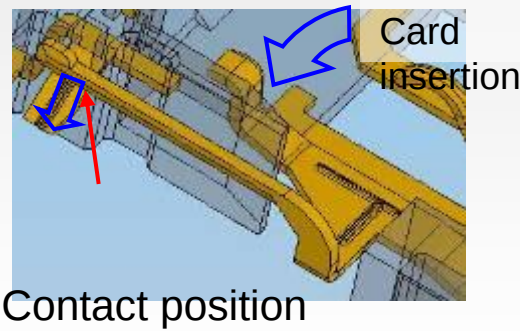
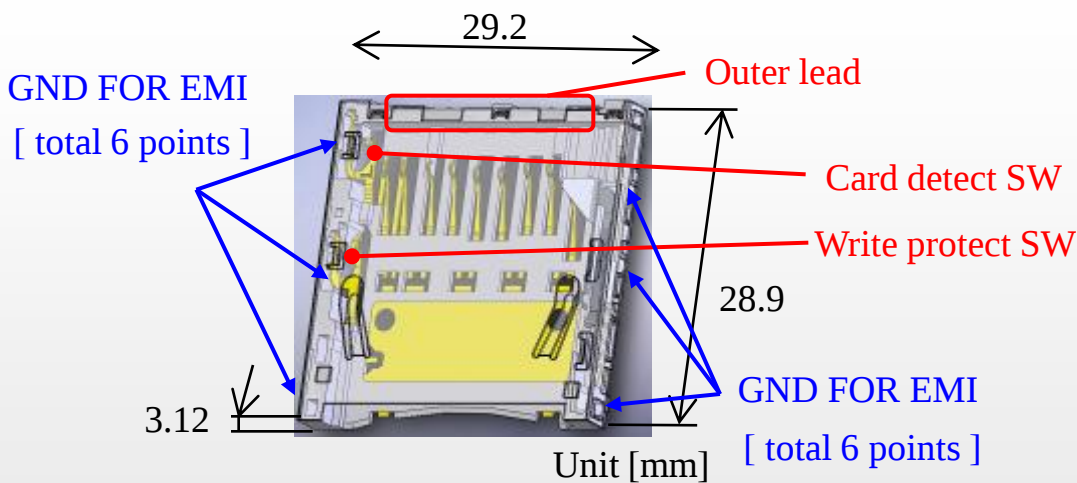
我们的管理提供有竞争力的价格和自己的价值规范高标准

- 降低初始成本的模具内制造
- 降低零件成本的内部零件制造

5. SD card connector

我们提供防错插卡式，防尘式卡连接器。

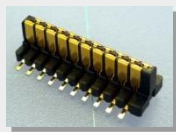
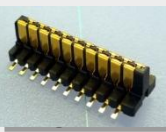
- 高精密加工技术的插入成型
- 高强度规范即卡插入不正确
- 冲击·耐振动(带锁机制)
- 防尘SW在卡检测区域
- GND与先进的屏蔽特性

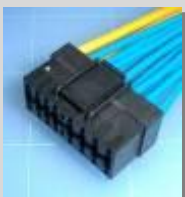


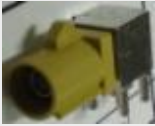
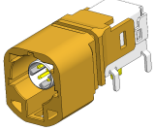
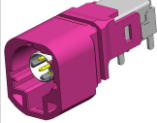
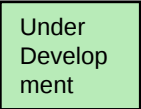
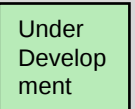


Coupling Pitch	No. of Contacts	PC Board Mount		Cable Assembly				Others
		DIP	SMT	Straight	Right out	Left out	Junction	
1mm	34pin		 CAM-H74		 IAM-H73			
	30pin	 CAM-G62B (GND-DIP type)	 CAM-G62	 IAM-F30	 IAM-G63C	 IAM-F33	 IAM-G89	
	26pin	 CAM-G19	 CAM-E52	 IAM-G20	 IAM-E53		 IAM-G21	
	10pin	 CAM-E54B	 CAM-E54		 IAM-E55		 IAM-F19	
1.25mm	13/15pin		 CAM-D84		 IAM-D82	 IAM-D83		
	8pin		 CAM-D91	 IAM-D90				

Coupling Pitch	No. of Contacts	PC Board Mount		Cable Assembly				Others
		DIP	SMT	Straight	Right out	Left out	Junction	
2mm	20pin	 CAM-B31		 IAM-B63		 IAM-B30		
	20pin	 CAM-C27	 CAM-C68	 IAM-C26	 IAM-D01	 IAM-D02	 IAM-C48	
	20pin	 CAM-C12		 IAM-C11		 IAM-C84		
	16pin	 CAM-A62		 IAM-A61	 IAM-A26	 IAM-B12	 IAM-A79	
	8/10/12 pin	 CAM-B60		 IAM-B59	 IAM-D55	 IAM-D54		 IAM-D06 (Upper out)
	4-8pin	 CRM-A18		 IRM-A19	 IRM-A17		 IRM-A20	 IRM-A78 (Upper out)

Type	Plug/ Receptacle	No. of Contacts						
		14pin~19pin		20pin~46pin				
Turn fitting	Plug	 CAM-G73(14p)	 CAM-C73(16p)	 CAM-C73B(20p)	 H71B(20p)	 CAM-H71(24p)		
	Rec.	 CAM-G74(14p)	 CAM-C74(16p)	 CAM-C74B(20p)	 H72B(20p)	 CAM-H72(24p)		
Turn slide	Plug	 CAM-G79(16p)	 CAM-F96(17p)					
	Rec.	 CAM-G80(16p)	 CAM-F97(17p)					
Standard	Plug	 CAM-B67(15p)		 CAM-H89(20p)	 H89B(20p)		 CAM-J09(32p)	 CAM-J81(46p)
	Rec.	 CAM-B68(15p)		 CAM-H90B(20p)	 CAM-J52(20p)		 CAM-J10(32p)	 CAM-J82(46p)

Type	Loading	No. of Contacts					
		16pin					20pin
Standard	Pc Board Mount						
	Cable Assembly						
Standard with fuse	Pc Board Mount						
	Cable Assembly						
		CAM-B21	CAM-C75	CAM-E76			CAM-F38
		ZM-B22	CCM-C76	CCM-E77			CCM-F39
		CAM-B51			CAM-G57	CAM-J05	
		CCM-B52			CCM-G58	ZM-J06	

ITEM	Plug					Jack			
	Straight	Angle			Remark	Straight	Angle		Remark
FAKRA					All Color				STRAGHT
					MOLD type				
					Low height Single 低背				
					Vertical/Angle Single/Double 垂直/角形 2个				
HSC					Normal/ Reverse			IAM-J15L IAM-J15L	UP LEFT
					Low height Normal/ Reverse				DOWN RIGHT STRAGHT

ITEM	Normal		Reverse		Remarks
	Stand on (0mm)	Stand off	Stand on (0mm)	Stand off	
SD Card For Automobile	 CIM-H81N		 CIM-H81R		Automotive
	 CIM-J27N		Suitable for car applications		Automotive
SD Card	 CIM-J44N	 CIM-J35N(1.5mm)	 CIM-J58R	 CIM-J57R(1.8mm)	Commercial
Micro SD Card	 CIM-H75N2		 CIM-H52R		Commercial
	 CIM-J38N				Commercial
Micro-SIM Card	 CIM-J78				Commercial

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