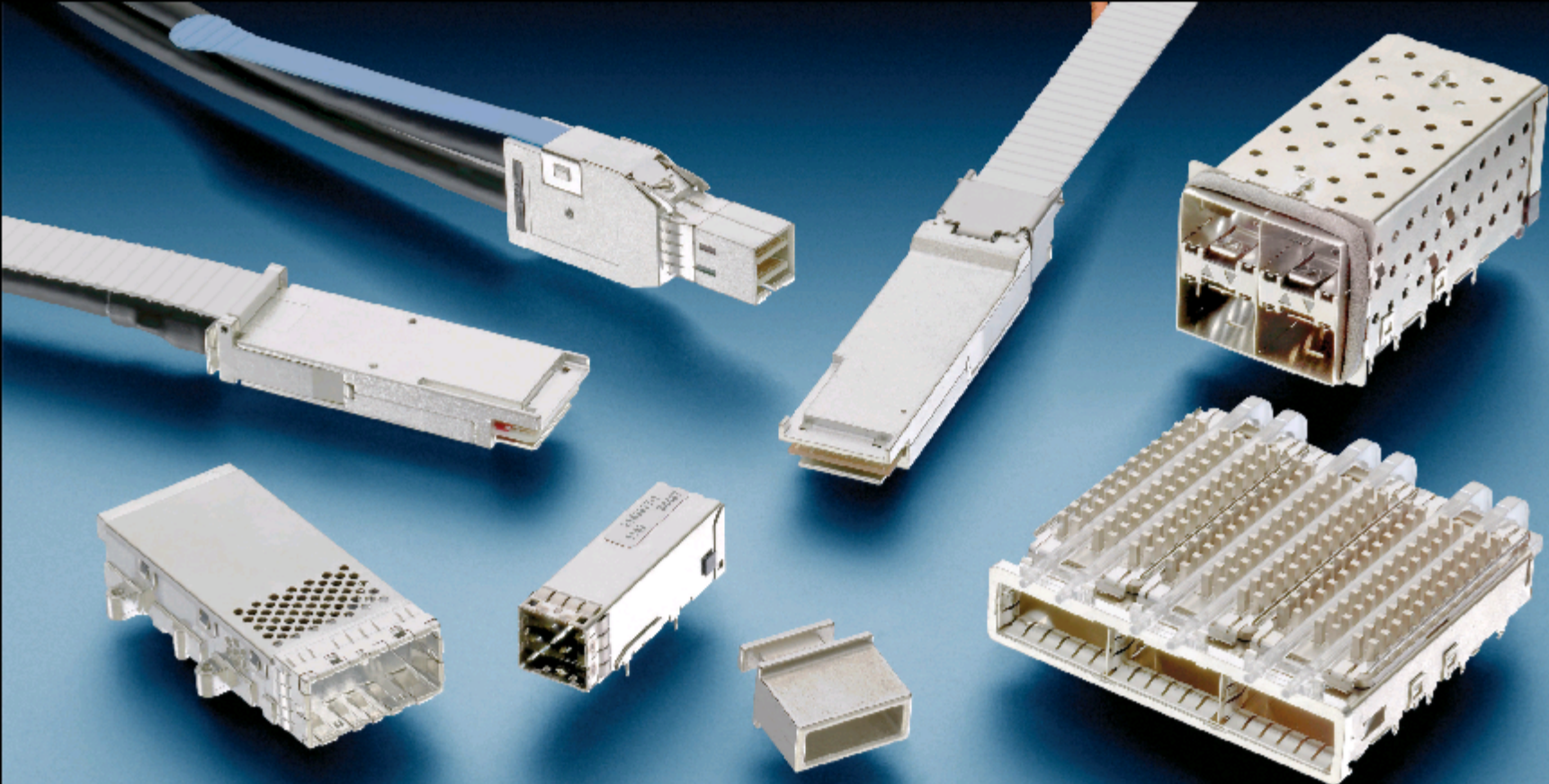




快速参考指南

HighSpeedInput / OutputSolutions

The pluggable I / O interface offers significant advantages as a high speed I / O interconnect. With a standard equipment I / O interface and the flexibility of pluggable modules come the options for fiber and copper links, and various data rates and protocols.

TE Connectivity (TE) has always been at the forefront of development of pluggable I / O standards. TE continues to be engaged in new pluggable interface standards to support the rapidly changing market needs for higher bandwidth, and remains at the forefront with the technical expertise required to deliver superior designs for signal integrity and EMI at higher 数据速率.

特点和优点

- High speed I / O solution that supports higher data rates than traditional copper interfaces (eg RJ-45)
- Provides a standard interface at the equipment and allows customers to choose between transceiver modules and direct attach cable assemblies based on the application
- All cages are full metal shielded for grounding and EMI suppression
- Standards supported include Fibre Channel, 以太网, and InfiniBand, and SAS

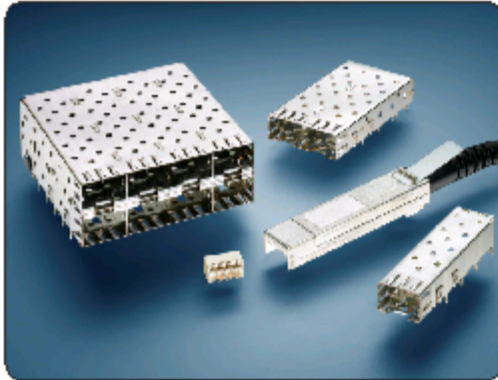
产品应用

- Cellular Infrastructure
- Access Routers / 开关
- High End Servers
- Medical Diagnostic Equipment
- Network Hubs

高速 I/O 解决方案

	SFP	SFP+	QSFP / QSFP+	CFP	X2	CXP	z系列
PT 连接器	1367073-X 1658197-1 1888247-X	1888247-X 2110759-1	1761987-9 2110819-1	788862-1 1367500-1	2057630-1	1367337-X 1658198-1	包括在 部件 2170088-2 1551920-2

SFP 产品



- Supports data rates up to 4Gb / 秒
- 20 position PT (Pluggable Transceiver) 连接器
- Single port, 联动, and stacked cages 可得到
- Standard and low profile options available for stacked ports

参考零件编号:

1367073-1
1658391-1
1489669-1

SFP+ 产品

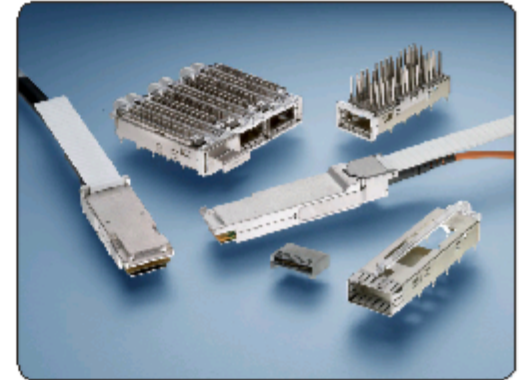


- Supports data rates up to 16Gb / 秒
- 20 position PT (Pluggable Transceiver) 连接器
- EMI spring gasket, 光导管, and heat sink options
- Connector and cable assembly are backward compatible with SFP

参考零件编号:

2110759-1
2007198-1
2007637-5

QSFP / QSFP+ 产品



- Supports data rates up to 40Gb / 秒 with 10 GB / 秒 per channel
- 四 channel package offering 3X the density of traditional SFP ports
- 38 Position EVERCLEAR SMT Connector
- 通 bezel and behind-bezel cage options available

参考零件编号:

1888968-1
1888674-1
1761987-9

XFP 产品

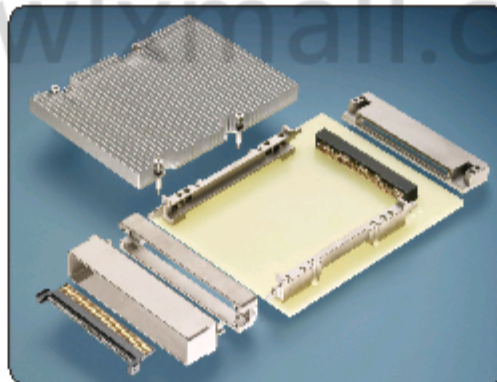


- Supports data rates up to 10Gb / 秒
- 30 Position SMT connector
- Gasket EMI containment features
- Patented riding heatsink for thermal 耗散

参考零件编号:

1489951-1
1489948-2
1888116-1

CFP 产品



- Designed for Ethernet “朗里奇”
- Supports data rates up to 100Gb / 秒 等 10GB / 秒 per channel
- 148 Position interconnect
- Excellent EMI shielding

参考零件编号:

2057631-1
2057630-1
2057592-2

X2 产品

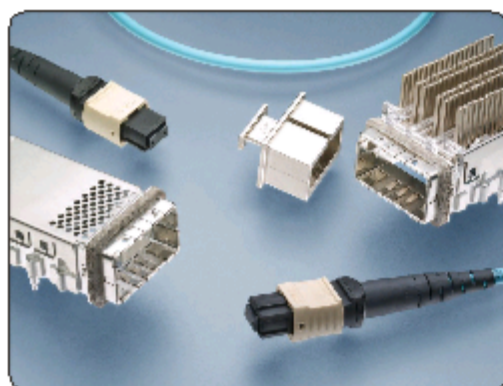


- Design for a 10Gb / 秒 solution (发送 4 channel of data at a rate of 3.125Gb / 秒 每)
- TE connector and guide rails accept X2 MSA compliant module
- XAUI Interface
- 70 Position PT connector

参考零件编号:

1367337-1
1367608-1
1367710-1

CXP产品



- Designed for Ethernet "short reach"
- Supports 150Gb/s solutions with 12 channels of 12.5Gb/s DATA
- Includes both EMI spring and an EMI shield
- Set position integrated connector

参考零件编号:

2149701-1
2149152-1
2149731-1

Mini-SAS和Mini-SAS HD产品



- 多 lane 解决方案设计以支持 6Gb/s 和 12Gb/s 数据速率
- Meet the SAS 2.0 and SAS 2.1 规格; 迷你 SAS HD products have been proposed for the SAS 3.0 规范
- 迷你 SAS products support both internal and external solutions
- Reduced size of the Mini-SAS HD system provides additional space for system designers
- 迷你 SAS HD is a one-piece assembly featuring a cage and integrated connector

参考零件编号:

1888321-2
1761987-7
2149375-1

z系列产品



- Next generation high speed I/O pluggable products designed to support 25+ Gbps 的数据速率
- zSFP+ and zQSFP+ products support InfiniBand and Fibre Channel applications
- Enhanced EMI protection and high levels of heat dissipation
- Exhibit superior signal integrity along with mechanical and electrical 性能

参考零件编号:

1551920-1
1551892-1
2170164-5

高速电缆组件

SFP + 铜缆组件

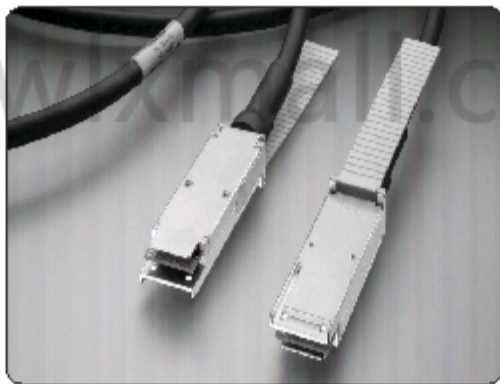


- MSASFF-8431 compliant
- Supports serial data rates up to 10Gbps
- Enhanced EMI suppression
- 24AWG through 30AWG cable available
- Uses MADISON CABLE brand twin axial bulk cable
- Passive and active assemblies

参考零件编号:

2127931
2127932
2127934

QSFP + 铜缆组件



- MS A compliant
- Supports data rates up to 10Gbps per 渠道
- Low cost alternative to fiber optic 组件
- 26AWG through 30AWG cable available
- Uses MADISON CABLE brand twin axial bulk cable
- QSFP + to SFP + 盈亏 out assembly

参考零件编号:

2053638
2053453

小型SAS电缆组件



- SFF-8088 and SAS 2.0 compliant
- Support trained and untrained systems
- Up to 6Gbps data rate
- Universal key and standard key slots
- 24, 28 and 30AWG MADISON CABLE brand bulk cable

参考零件号码:

1-2127833-4

Mini-SAS高清电缆组件



- SFF-8644andSAS2.1compliant
- Broadbanddesignforboth6Gbps (SAS2.1) and12Gbps (SAS3.0)
- Improvedcablelatchdesign
- Scalable4xand8xcableplug 配置
- 26,28and30AWGMADISONCABLE brandbulk cable

参考零件号码：
2202503-1

光纤



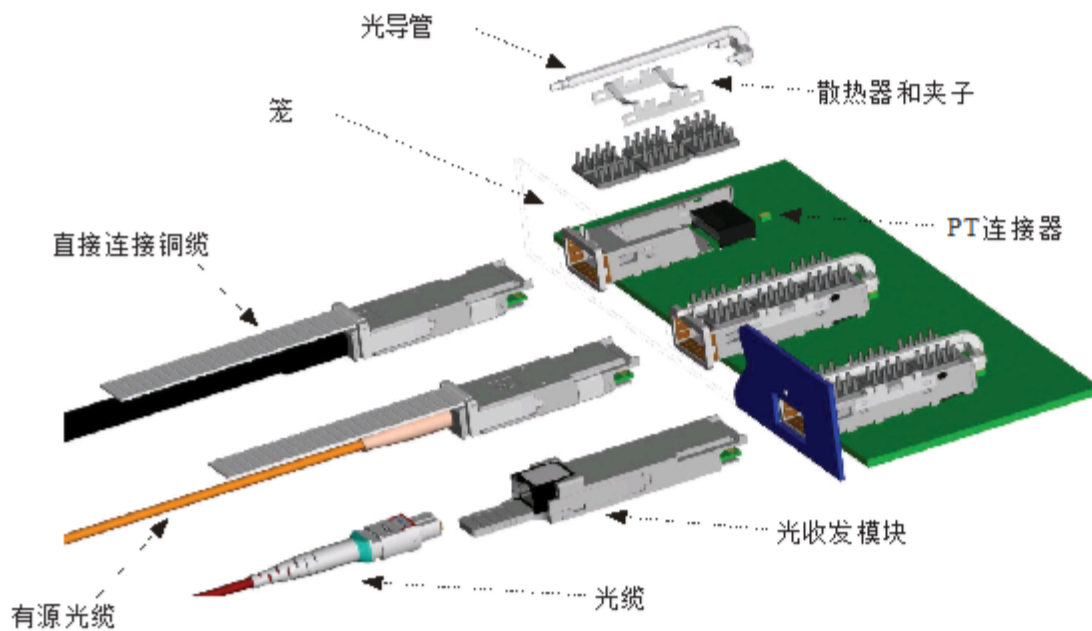
- 异步，internallyACcoupled inputsandoutputs
- Lightweightandtightbendradius
- Passivelycooleddesign-lowthermal resistanceatpathfromchipto connectorshell
- Small13.0mmdiametercable
- Utilizedinapplicationsover15meters

参考零件号码：
2123287-1

高速I / O接口标准												
标准	数 据 率	可插拔接口										
		XFP	X2	SFP	SFP+	zSFP+	QSFP / QSFP+	zQSFP+	CFP	C X P	迷你 SAS	迷你 SAS HD
光纤通道	1G			X	X	X						
	2G			X	X	X						
	4G			X	X	X						
	8G				X	X						
	16 G *				X	X	X					
	32G					X	X					
	64G						X					
以太网网络	1G			X								
	10G	X	X		X		X	X				
	2.5 G *					X		X				
	40G						X	X	X			
	100克							X	X	X		
InfiniBand的	2.5G											
	5G											
	10G											
	14 G *						X	X				
	26 G *						X					
	100克							X		X		
S A S	3G										X	
	6G						X				X	X
	12G											X
TE电缆 可用性	铜			X	X		X				X	X
	纤维					Ø	X	Ø	Ø	Ø		Ø

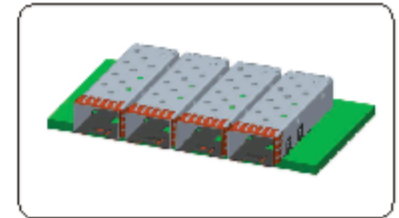
* Datarateperlane
O = ProposedadditiontotheFiberOpticoffering

高速I/O接口的组件

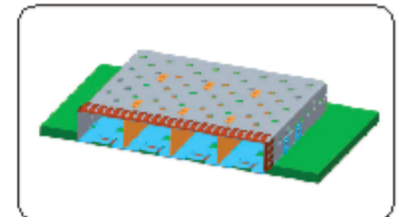


典型的笼子端口配置

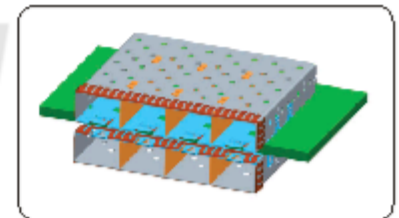
单一端口



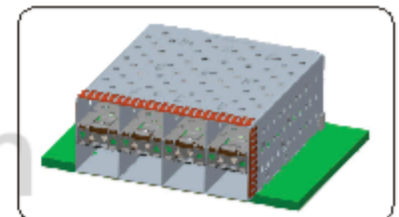
联动



肚皮到肚皮

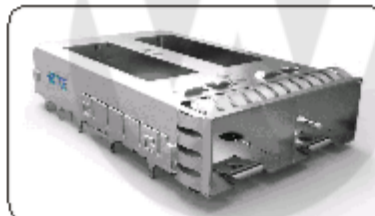


叠放



特征

EMI弹簧



- 更低的花费
- Less force applied to bezel

EMI垫片

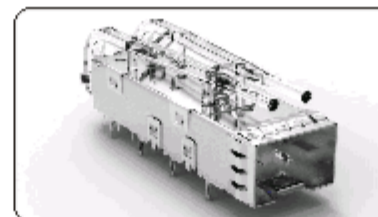


- Tighter tolerances between board edge and bezel are needed
- Shielding slightly better in single row cage designs
- Less susceptible to damage

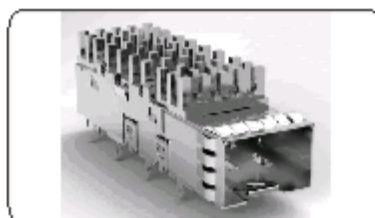
饰品

光导管应用：TE provides surface mounted LED bulbs on the PCB that carry light signal through the light pipe clipped onto the cage to the face plate. Light pipes are available in standard, 低轮廓, reduced length or square.

光管



散热片



用于散热管理的散热器技术：The ridging heat sinks used direct contact to the pluggable module to draw heat away from the source. TE heat sinks are available in three standard networking, SAN, PCI, or can be designed to customer specifications.

在设计时要问的问题：

什么标准和数据速率是必需的？

Please refer to the standards for high speed I / O interface table on page 5

应用程序是否具有特定的密度要求？

Assemblies can be configured by the number of ports and to meet height / width restrictions

应用程序是否需要光管？

Light pipes are available for SFP, SFP+, QSFP / QSFP+, and CXP

应用程序是否需要散热？

Heatsinks are available for SFP, SFP+, QSFP / QSFP+, XFP, CFP, and CXP

你的电缆要求是什么？

Depending on the pluggable I / O interface, copper or optical cable assemblies and transceiver or direct attach assemblies are available. Many different cable lengths and options are available.

了解更多信息

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* as defined www.te.com / 无铅

www.te.com

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4-1773455-2 DTCLUGRRD1M11 / 2012

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