



Digital Lasers

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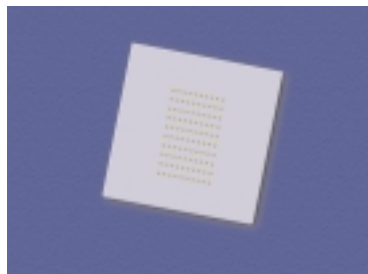
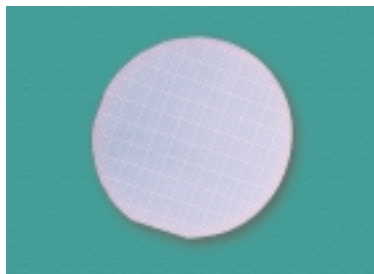


Butterfly & Highspeed Modules 6





Optical Chip



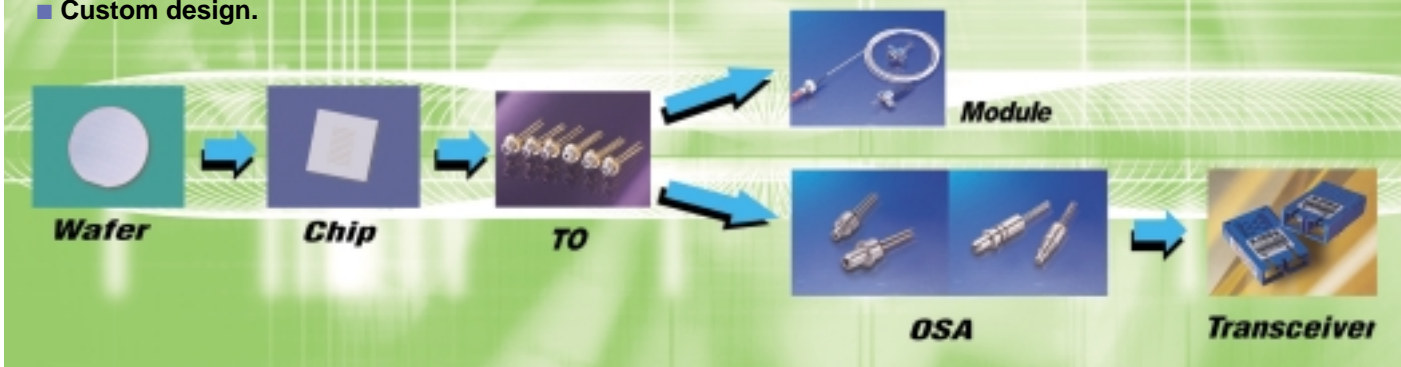
PD chip

Part Number	Active Diameter (μm)	Package Feature	Applications
R-11-055-C	55	Bare chip	OC-48 Receiver
R-11-075-C	75	Bare chip	OC-3, OC-12, Gigabit Receiver
R-11-300-C	300	Bare chip	LD Power Monitoring

10G chip

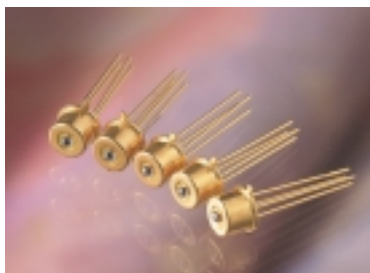
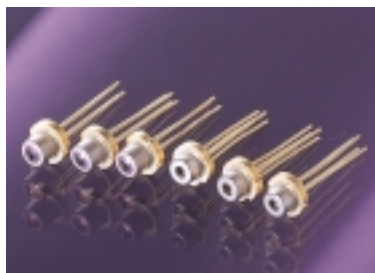
Part Number	Product	Data Rate	Package Feature	Applications
C-13-010-C	FP Laser	10Gbps	Bare chip	10G Ethernet, OC-192
C-13-DFB10-C	DFB Laser	10Gbps	Bare chip	10G Ethernet, OC-192
R-11-020-C	Photodiode	10Gbps	Bare chip	10G Ethernet, OC-192

- Complete vertical integration of manufacturing technology with state of the art facility.
- Automated volume production.
- Comply with Telcordia GR-468-CORE.
- Competitive pricing and short lead time.
- Custom design.





Diodes in TO CAN



FP LD

Part Number	Wavelength (nm)	Power (mW)	Data Rate	Package Feature	Applications
C-13-001-E-A/B	1310	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-13-002-E-AD/BD	1310	5	2.5Gbps	TO-18	OC-48/STM-16
C-15-001-E-A/B	1550	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-15-002-E-AD/BD	1550	5	2.5Gbps	TO-18	OC-48/STM-16
C-151-001-E-A/B	1510	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-151-002-E-AD/BD	1510	5	2.5Gbps	TO-18	OC-48/STM-16

DFB LD

Part Number	Wavelength (nm)	Power (mW)	Data Rate	Package Feature	Applications
C-13-DFB-E-AD/BD-NT	1310	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-13-DFB2.5-E-AD/BD-NT	1310	5	2.5Gbps	TO-18	OC-48/STM-16
C-15-DFB-E-AD/BD-NT	1550	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-15-DFB2.5-E-AD/BD-NT	1550	5	2.5Gbps	TO-18	OC-48/STM-16
C-151-DFB-E-AD/BD-NT	1510	5	1.25Gbps	TO-18	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-151-DFB2.5-E-AD/BD-NT	1510	5	2.5Gbps	TO-18	OC-48/STM-16

LED

Part Number	Wavelength (nm)	Data Rate	Package Feature	Applications
L-13-155-G-B	1310	155Mbps	TO-46	OC-3, STM-1, FDDI, Fast Ethernet, MM TRx

PD

Part Number	Typ. Responsivity (A/W)	Active Diameter (μm)	Package Feature	Applications
R-11-055-G-B	0.85	55	TO-46	OC-48 Receiver
R-11-075-G-B	0.85	75	TO-46	OC-3, OC-12, Gigabit Receiver
R-11-300-G-B	0.85	300	TO-46	LD Power Monitoring

PIN-TIA

Part Number	Vcc.	Data Rate	Package Feature	Applications
T-11-155-G3-B	3.3V	155Mbps	TO-46	OC-3/STM-1
T-11-155-G-AGC	5V	155Mbps	TO-46	OC-3/STM-1
T-11-622-G/3-B	3.3V ~ 5V	622Mbps	TO-46	OC-12/STM-4
T-11-1250-G/3-B	3.3V ~ 5V	1.25Gbps	TO-46	Gigabit Ethernet
T-11-2500-G3-B-C	3.3V	2.5Gbps	TO-46	OC-48 /STM-16
T-11-2500-G-B-C	5V	2.5Gbps	TO-46	OC-48 /STM-16



Fibre Modules



TOSA

Part Number	Wavelength (nm)	Laser	Data Rate	Package Feature	Applications
C-13-001-T-SXXX	1310	FP	1.25Gbps	OSA (SC/LC)	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-13-002-TD-SXXX	1310	FP	2.5Gbps	OSA (SC/LC)	OC-48/STM-16
C-13-DFB-T-SXXX	1310	DFB	1.25Gbps	OSA (SC/LC)	SONET/SDH, Fiber channel, Gigabit Ethernet, Long Reach
C-13-DFB2.5-TD-SXXX	1310	DFB	2.5Gbps	OSA (SC/LC)	OC-48/STM-16, Long Reach
C-15-001-T-SXXX	1550	FP	1.25Gbps	OSA (SC/LC)	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-15-002-TD-SXXX	1550	FP	2.5Gbps	OSA (SC/LC)	OC-48/STM-16
C-15-DFB-T-SXXX	1550	DFB	1.25Gbps	OSA (SC/LC)	SONET/SDH, Fiber channel, Gigabit Ethernet, Long Reach
C-15-DFB2.5-TD-SXXX	1550	DFB	2.5Gbps	OSA (SC/LC)	OC-48/STM-16, Long Reach
NEW C-13-010-TJ-SXXXI	1310	FP	10Gbps	OSA (SC/LC)	OC-192, Fiber channel, 10 Gigabit Ethernet
NEW C-13-DFB10-TJ-SXXXI	1310	DFB	10Gbps	OSA (SC/LC)	OC-192, Fiber channel, 10 Gigabit Ethernet

**XXX: For specifying connector type and power range.*

ROSA

Part Number	Vcc.	Data Rate	Package Feature	Applications
T-11-155-D3-SXX	3.3V	155Mbps	OSA (SC/LC)	OC-3/STM-1
T-11-155-D-SXX	5V	155Mbps	OSA (SC/LC)	OC-3/STM-1
T-11-622-D3-SXX	3.3V	622Mbps	OSA (SC/LC)	OC-12/STM-4
T-11-622-D-SXX	5V	622Mbps	OSA (SC/LC)	OC-12/STM-4
T-11-1250-D3-SXX	3.3V	1.25Gbps	OSA (SC/LC)	Gigabit Ethernet
T-11-1250-D-SXX	5V	1.25Gbps	OSA (SC/LC)	Gigabit Ethernet
T-11-2500-D3-SXX	3.3V	2.5Gbps	OSA (SC/LC)	OC-48 /STM-16
T-11-2500-D-SXX	5V	2.5Gbps	OSA (SC/LC)	OC-48 /STM-16
NEW T-11-10G-D-SXX	5V	10Gbps	OSA (SC/LC)	OC-192 /10 Gigabit Ethernet

**XX: For specifying connector type.*

LD Module

Part Number	Wavelength (nm)	Laser	Data Rate	Package Feature	Applications
C-13-001-P/R-SXXX	1310	FP	1.25Gbps	Pigtail / Receptacle	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-13-002-PD/RD-SXXX	1310	FP	2.5Gbps	Pigtail / Receptacle	OC-48/STM-16
C-13-DFB-P/R-SXXX	1310	DFB	1.25Gbps	Pigtail / Receptacle	SONET/SDH, Fiber channel, Gigabit Ethernet, Long Reach
C-13-DFB2.5-PD/RD-SXXX	1310	DFB	2.5Gbps	Pigtail / Receptacle	OC-48/STM-16, Long Reach
C-15-001-P/R-SXXX	1550	FP	1.25Gbps	Pigtail / Receptacle	SONET/SDH, Fiber channel, Ethernet , Gigabit Ethernet
C-15-002-PD/RD-SXXX	1550	FP	2.5Gbps	Pigtail / Receptacle	OC-48/STM-16
C-15-DFB-P/R-SXXX	1550	DFB	1.25Gbps	Pigtail / Receptacle	SONET/SDH, Fiber channel, Gigabit Ethernet, Long Reach
C-15-DFB2.5-PD/RD-SXXX	1550	DFB	2.5Gbps	Pigtail / Receptacle	OC-48/STM-16, Long Reach

**XXX: For specifying connector type and power range.*



Fibre Modules



PD Module

Part Number	Active Diameter (µm)	Package Feature	Applications
R-11-055-P/R-SXX	55	Pigtail / Receptacle	OC-48 Receiver (Singlemode fiber)
R-11-055-P/R-MXX	55	Pigtail / Receptacle	OC-48 Receiver (Multimode fiber)
R-11-075-P/R-SXX	75	Pigtail / Receptacle	OC-3, OC-12, Gigabit Receiver (Singlemode fiber)
R-11-075-P/R-MXX	75	Pigtail / Receptacle	OC-3, OC-12, Gigabit Receiver (Multimode fiber)
R-11-300-P/R-SXX	300	Pigtail / Receptacle	LD Power Monitoring (Singlemode fiber)
R-11-300-P/R-MXX	300	Pigtail / Receptacle	LD Power Monitoring (Multimode fiber)

**XX: For specifying connector type.*

Receiver Module

Part Number	Vcc.	Data Rate	Package Feature	Applications
T-11-155-P3/R3-SXX	3.3V	155Mbps	Pigtail / Receptacle	OC-3/STM-1
T-11-155-P/R-SXX	5V	155Mbps	Pigtail / Receptacle	OC-3/STM-1
T-11-622-P3/R3-SXX	3.3V	622Mbps	Pigtail / Receptacle	OC-12/STM-4
T-11-622-P/R-SXX	5V	622Mbps	Pigtail / Receptacle	OC-12/STM-4
T-11-1250-P3/R3-SXX	3.3V	1.25Gbps	Pigtail / Receptacle	Gigabit Ethernet
T-11-1250-P/R-SXX	5V	1.25Gbps	Pigtail / Receptacle	Gigabit Ethernet
T-11-2500-P3/R3-SXX	3.3V	2.5Gbps	Pigtail / Receptacle	OC-48 /STM-16
T-11-2500-P/R-SXX	5V	2.5Gbps	Pigtail / Receptacle	OC-48 /STM-16

**XX: For specifying connector type.*

Diplexer Module with TIA

Part Number	Laser	Wavelength (nm)	Vcc.	Data Rate	Package Feature	Applications
C-13/15-F02/04/06-P-SXXX	FP	Tx 1310nm , Rx 1550nm	3.3V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-15/13-F02/04/06-P-SXXX	FP	Tx 1550nm , Rx 1310nm	3.3V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-13/15-F01/03/05-P-SXXX	FP	Tx 1310nm , Rx 1550nm	5V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-15/13-F01/03/05-P-SXXX	FP	Tx 1550nm , Rx 1310nm	5V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-13/15-D02/04/06-P-SXXX	DFB	Tx 1310nm , Rx 1550nm	3.3V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-15/13-D02/04/06-P-SXXX	DFB	Tx 1550nm , Rx 1310nm	3.3V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-13/15-D01/03/05-P-SXXX	DFB	Tx 1310nm , Rx 1550nm	5V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH
C-15/13-D01/03/05-P-SXXX	DFB	Tx 1550nm , Rx 1310nm	5V	155Mbps/622Mbps/1.25Gbps	Pigtail	FTTH

**XXX: For specifying connector type and power range.*

Diplexer Module without TIA

Part Number	Leser	Wavelength (nm)	Package Feature	Applications
C-13/15-001-P-SXXX	FP	Tx 1310nm , Rx 1550nm	Pigtail	FTTH
C-15/13-001-P-SXXX	FP	Tx 1550nm , Rx 1310nm	Pigtail	FTTH

**XXX: For specifying connector type and power range.*



CW Laser Module with Optical Isolator, Up to 30mW

1905 LMI

C and L-Band

- Up to 30 mW Output Power
- Wavelength Selection According to ITU-T G.692 from 1529.55 nm (C-Band) and from 1570.00 nm to 1610.05 nm (L-Band)
- 50 GHz Channel Spacing Available
- Optimised for use with LiNbO₃ External Modulator
- Polarisation Maintaining Fibre Pigtail
- RIN -140 dB/Hz
- Industry Standard Hermetic 14-Pin Butterfly Package
- InGaAsP Distributed FeedBack (DFB) SLMQW Laser

Applications:

- Ultra Long-Haul 2.5 and 10 Gb/s Synchronous Digital Transmission Systems
- WDM Submarine Terminal Digital Transmission Systems
- Instrumentation



2.5Gb/s Electro-Absorption Laser Module

1916 LMM

- Very Low Dispersion Penalty over 750 km of Fibre up to 2.7 Gb/s Operation
- Wavelength Selection According to ITU-T G.692 from 1529.55 nm to 1569.59 nm
- Industry-Standard 14-Pin Butterfly Package
- High Frequency Butterfly Package with 50 ΩRF Impedance
- Low Drive Voltage (2 Vpp)
- InGaAsP Monolithically Integrated DFB Laser and Modulator Chip (EA-ILM)

Applications:

- STM-16 and OC-48 DWDM Regional Metropolitan and Long-Haul Equipment
- Terminals for Submarine Transmission Systems
- Size Optimised Transceiver and Transponder
- Digital CATV Transmission



2.5Gb/s Laser Module, 2, 10 and 20mW

1915 LMI

- Up to 20 mW Output Power
- Up to 3200 ps/nm Dispersion Performance for 2 & 10 mW Versions and Up to 1800 ps/nm Dispersion Performance for 20 mW Version
- Low Dispersion Penalty
- Optimised for Direct Modulation up to 2.7 Gb/s
- Wavelength Selection According to ITU-T G.692 from 1529.55 nm to 1569.59 nm
- 25 ΩRF Impedance Matching and DC Bias RF Filtering
- Industry Standard Hermetic 14-Pin Butterfly Package and Low Profile Package (8.3 mm height)
- InGaAsP Distributed FeedBack SLMQW (DFB) Laser

Applications:

- STM-16, OC-48 and DWDM Metropolitan Area Networks Equipment
- STM-16, OC-48 DWDM Transceiver and Transponder for Metropolitan and Extended Reach Metropolitan Application
- Saturation Laser for WDM EDFA
- Instrumentation
- Digital CATV Transmission



10Gb/s Digital Electro-Absorption Laser Module

1915 LMM

800 and 1600 ps/nm,
TDM and WDM Applications

- 7-Pin Package with either GPO or K Connector RF Input
- High Frequency RF Connector Package with 50 ΩRF Impedance
- InGaAsP Monolithically Integrated DFB Laser and Modulator Chip
- Low Drive Voltage (2 Vpp)
- Very Low Dispersion Penalty up to 1600 ps/nm
- Wavelength Selection According to ITU-TG.692 from 1529.55 nm to 1569.59 nm

Applications:

- Metro SONET/SDH and D-WDM Equipment
- Long-Haul WDM Power Consumption / Size / Cost Optimised Equipment
- Terminals for Submarine WDM Transmission Systems
- STM-64 (Intra-Office and Short-Haul and Long-Haul) and OC-192 (Short-Reach and Intermediate-Reach and Long-Reach) Size Optimised Transceiver and Transponder



10.7Gb/s Digital Locked Electro-Absorption Laser Module

1945 LMM

+/-800 ps/nm, TDM and WDM Applications

- Integrated Fabry-Perot Etalon Wavelength Monitoring (replaces external lockers)
- 50 GHz Spacing ITU-T Channels
- Low Drive Voltage (2 VPP)
- Internal TEC & Power Monitoring Photodiode
- High Frequency Industry-Standard 7-Pin Butterfly Package with 50 ΩRF Input and Either K or GPO RF Connector with MSA Pin-Out
- InGaAsP Monolithically Integrated DFB Laser and Modulator Chip (EA-ILM)
- Low Dispersion Penalty Between -800 to +800 ps/nm

Applications:

- 10.7 Gb/s Long-Haul 50 GHz WDM Power Consumption / Size / Cost Optimised Equipment with DCF Modules
- 10.7 Gb/s Long-Haul 50 GHz WDM Equipment Up-Gradable to 25 GHz from Day One
- 10.7 Gb/s Consumption/Size/Cost Optimised Long-Haul 50 GHz WDM Transceiver and Transponder



10Gb/s PIN Pre-Amplifier Receiver Module

A1915 DMO

- -18 dBm Maximum Sensitivity
- +0 dBm Minimum Overload
- 11 GHz Typical Bandwidth
- Operation at 1310 nm and 1550 nm Wavelength Windows
- Differential Output Voltage
- DC Coupled Output
- Low Power Consumption

Applications:

- Used in Telecommunication and Data-Communication Systems, for High-Speed up to 12.5 Gb/s
- STM-64 (Intra-Office & Short-Haul & Long-Haul) and OC-192 (Short-Reach and Intermediate-Reach and Long-Reach) Size Optimised Transceiver and Transponder
- Strong Forward Error Correction (FEC) Applications



2.5Gb/s ADP Receiver Flat- Pack Module

A1924 DMS

- Up to 2.7 Gb/s
- Space-Saving with Low Profile Package (3 mm height)
- -34 dBm Typical Sensitivity
- Operation at 1310 nm & 1550 nm Wavelengths
- Differential Output Voltage
- 50 Ω Output DC Coupled
- AGC Amplifier for Best Linearity
- -30 dB Typical Optical Return Loss
- Metal Package for Best Noise Immunity
- Low Power Consumption Module

Applications:

- DWDM Regional Metropolitan and Long-Haul Equipment
- Size Optimised Transceiver and Transponder



2.5Gb/s PIN Detector Pigtailed Coaxial Module

A1951 DMC

- Operation at 1310 nm and 1550 nm Extended to 1620 nm Wavelengths
- Case Operating Temperature from -40 to +85°C
- 3 GHz Minimum Bandwidth
- Bit Rate up to 2.7 Gb/s
- Low Dark Current
- Low Capacitance
- Space-Saving Package

Applications:

- SONET/SDH and DWDM Metropolitan Optical Networks
- I-16.1, S-16.1, S-16.2, L-16.1 Applications
- STM-16, OC-48 Transceiver
- Fibre In The Loop (FTTB, FTTC, FTTH)



2.5Gb/s APD Detector Pigtailed Coaxial Module

A1954 DMC

- Operation at 1310 nm and 1550 nm Extended to 1620 nm Wavelengths
- Case Operating Temperature from -40 to +85°C
- 3 GHz Minimum Bandwidth
- Bit Rate up to 2.7 Gb/s
- Low Dark Current
- Low Capacitance
- Space-Saving Package

Applications:

- SONET/SDH and DWDM Metropolitan Optical Networks
- S-16.2, L-16.2 Applications
- STM-16, OC-48 Transceiver
- Fibre in the Loop (FTTB, FTTC, FTTH)