SET

Optical Transmission Components

2011

Data Links | Active Devices

BECAUSE LIGHT CONNECTS US ALL

SUMITOMO ELECTRIC

Putting your communications needs in the spotlight

Sumitomo Electric Industries, the market leader in optical and wireless components, provides communication system equipment companies with the broadest array of high-performance optical and wireless communication products, technical expertise, and unmatched service and support.

Focusing on advancing your capabilities

Our extensive product portfolio provides support for established and emerging communications standards, from Fast Ethernet to 100G Ethernet. It includes transceivers from the popular SFP package to the newest CFP modules, high-performance lasers, and receivers. We support reaches from short to long haul, DWDM, and CWDM.

These products, as well as our flexibility in meeting customer requirements, play an essential part in supporting the global communications infrastructure, helping customers shorten design cycles and get to market faster.

Our advanced technology is the result of world-class research and manufacturing capabilities in optical and mobile technologies. Product development, manufacturing, quality assurance, sales engineering and purchasing activities, also serve to expand and strengthen our product portfolio.

Helping you shine

We are committed to remaining at the forefront of the revolution in information and communications to meet the evolving demands of the broadband communications market and high-speed mobile communications. Our focus on vertical integration from fab to finished product ensures exceptional quality, optimum integration, advanced technology, and industry-leading levels of reliability.

SFP Transceivers

- Enhanced diagnostics on all modules
- Up to 80-km transmission available on all modules
- Complete family of SONET OC-3, OC-12, and OC-48 compliant modules
- Complete family of Gigabit Ethernet and Fibre Channel modules
- Complete family of CWDM SFPs
- Standard, extended, and industrial temperature ranges available
- MSA standard package with LC interface

SFP OC-3 SFP Transceivers

Part No.	Application	LD	PD	Ind Temp	Pout	RX Sens
SCP6G01	SR/IR-1	1310 nm FP	PIN	Yes	-15 to -8	-28 to -8
SCP6G11	LR-1	1310 nm DFB	PIN	Yes	-5 to 0	-34 to -8
SCP6G61	LR-2	1550 nm DFB	PIN	Yes	-5 to 0	-34 to -10
SCP6G91	OSC	1550 nm DFB	APD	No	0 to 5	-42

SFP OC-12

Part No.	Application	LD	PD	Ind Temp	Pout	RX Sens
SCP6G02	SR/IR-1	1310 nm FP	PIN	Yes	-15 to -8	-28 to -8
SCP6G12	LR-1	1310 nm DFB	PIN	Yes	-3 to +2	-28 to -8
SCP6G62	LR-2	1550 nm DFB	PIN	Yes	-3 to +2	-28 to -8

SFP OC-48

Part No.	Application	LD	PD	Ind Temp	Pout	RX Sens
SCP6G28	SR-1	1310 nm FP	PIN	Yes	-10 to -3	-19 to -3
SCP6G08	IR-1	1310 nm DFB	PIN	Yes	-5 to 0	-18 to 0
SCP6G18	LR-1	1310 nm DFB	APD	Yes	-2 to +3	-27 to -9
SCP6G78	LR-2	1550 nm DFB	APD	Yes	-2 to +3	-28 to -9
SGP6G95	Multirate IR-1	1310 nm DFB	PIN	Yes	-5 to 0	-19 to -3
SGP6G96	Multirate SR-1	1310 nm DFB	PIN	Yes	-9 to -3	-19 to -3

SFP 125 Mb/s Fast Ethernet Transceivers

Part No.	Application	LD	PD	Ind Temp	Pout	RX Sens
SCP6G03	100Base-LX10	1310 nm FP	PIN	Yes	-15 to -8	-28 to -8
SCP6G13	100Base-EX	1310 nm DFB	PIN	Yes	-5 to 0	-28 to -8
SCP6G63	100Base-ZX	1550 nm DFB	PIN	Yes	-3 to +2	-30 to -8

SFP Transceivers

SFP 1.250 Gb/Gigabit Ethernet Transceivers

Part No.	Application	LD	PD	Ind Temp	Pout	RX Sens
SCP6G44	10 km	1310 nm FP	PIN	Yes	-9.5 to -3	-20.5 to -3
SCP6G14	40 km	1310 nm DFB	PIN	Yes	-4.5 to 0	-22.5 to 0
SCP6G74	80 km	1550 nm DFB	PIN	Yes	-2 to +3	-24 to -0
SCP6G94	80 km	1550 nm DFB	PIN	Yes	0 to +5	-24 to 0

3.07 Gb/s CPRI SFP Transceivers

Part No.	LD	PD	Ext Temp	Ind Temp	Pout	RX Sens
SCP6G29	1310 nm FP	PIN	Yes	Yes	-10 to -3	-18 to -3
SCP6G09	1310 nm DFB	PIN	Yes	Yes	-5 to 0	-18 to 0
SCP6G19	1550 nm DFB	APD	Yes	Yes	-3 to +2	-24 to -9

SFP+ Transceivers

- Hot pluggable 10 Gb/s serial optical interface
- High quality optical sub-assemblies
- 850-nm VCSEL for MMF application
- 1310-nm FP for LRM application
- 1310-nm DFB for 10-km transmission
- SFP+ MSA compliant
- Duplex LC receptacle
- 2-wire interface for management and diagnostics
- Standard and extended temperature ranges available
- Low power consumption (<1 W)

SFP+ Multimode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS
SPP5100SR	10GbE-SR	850 nm VCSEL	300 m	0 to 70	6/6
SPP5100SX	2/4/8G FC	850 nm VCSEL	150 m	0 to 70	6/6
SPP5200SR-M	10GbE-SR	850 nm VCSEL	300 m	-5 to 85	6/6
SPP5200SX-M	2/4/8G FC	850 nm VCSEL	150 m	-5 to 85	6/6

SFP+ Single-Mode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS
SPP5100EX	2/4/8 FC	1550 EA-DFB	40 km	0 to 70	6/6
SPP5200LR	10GbE-LR	1310 nm DFB	10 km	0 to 70	6/6
SPP5200LR-M	10GbE-LR	1310 nm DFB	10 km	-5 to 85	6/6
SPP5200LR-W	10GbE-LR	1310 nm DFB	10 km	-40 to 85	6/6
SPP5200LX	2/4/8G FC	1310 nm DFB	10 km	0 to 70	6/6
SPP5200LX-M	2/4/8G FC	1310 nm DFB	10 km	-5 to 85	6/6
SPP5100ER	10GbE-ER	1550 nm EA-DFB	40 km	0 to 70	6/6
SPP5100ZR	10GbE-ZR	1550 nm EA-DFB	80 km	0 to 70	6/6
SPP5100DM-xx	10GbE-ZR	DWDM EA-DFB	80 km	0 to 70	6/6
SPP5100CP-xx	10GbE-ER	CWDM EA-DFB	40 km	0 to 70	6/6

6.14 Gb/s CPRI SFP+ Transceivers

Part No.	LD	PD	Temp (°C)	Pout	RX Sens	Note	Reach
SPP5200SH	850 nm VCSEL	PIN	-5 to 70	-5.2 min	-11.2 min	in OMA	300 m
SPP5200SH-M	850 nm VCSEL	PIN	-5 to 85	-5.2 min	-11.2 min	in OMA	300 m
SPP5200SH-W	850 nm VCSEL	PIN	-40 to 85	-5.2 min	-11.2 min	in OMA	300 m
SPP5200LH	1310 nm DFB	PIN	-5 to 70	-5.2 min	-11.2 min	in OMA	10 km
SPP5200LH-M	1310 nm DFB	PIN	-5 to 85	-5.2 min	-11.2 min	in OMA	10 km
SPP5200LH-W	1310 nm DFB	PIN	-40 to 85	-5.2 min	-11.2 min	in OMA	10 km

XFP Transceivers

- Hot pluggable 10-Gb/s serial optical interface
- In-house high quality optical sub-assemblies
- 1550-nm EML for 40 and 80-km transmission
- 1310-nm DFB for 10-km transmission
- CWDM and DWDM EA-DFB
- XFP MSA compliant
- 2-wire interface for digital diagnostics and management
- Multiprotocol: SONET, GbE, 10G FC

XFP Multimode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	DDM
SXP3100SX	10GbE-SR	850 nm VCSEL	MMF 300 m	-5 to 70	6/6	Yes
SXP3100SX-M	10GbE-SR/8G FC/OIF-VSR	850 nm VCSEL	MMF 300 m	-5 to 85	6/6	Yes

XFP Single-Mode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	DDM
SXP3100EX	10GbE-ER	1550 nm EA-DFB	40 km	-5 to 70	6/6	Yes
SXP3100EX-M	10GbE-ER	1550 nm EA-DFB	40 km	-5 to 85	6/6	Yes
SXP3100EX-W	10GbE-ER	1550 nm EA-DFB	40 km	-40 to 85	6/6	Yes
SXP3100S5	SONET IR-2	1550 nm EA-DFB	40 km	-5 to 70	6/6	Yes
SXP3100S5-M	SONET IR-2	1550 nm EA-DFB	40 km	-5 to 85	6/6	Yes
SXP3100SV	SONET IR-2/10GbE-ER	1550 nm EA-DFB	40 km	-5 to 70	6/6	Yes
SXP3100SV-M	SONET IR-2/10GbE-ER	1550 nm EA-DFB	40 km	-5 to 85	6/6	Yes
SXP3100SV-W	SONET IR-2/10GbE-ER	1550 nm EA-DFB	40 km	-40 to 85	6/6	Yes
SXP3102ZX	10GbE-ZR	1550 nm EA-DFB	80 km	-5 to 70	6/6	Yes
SXP3102ZX-M	10GbE-ZR	1550 nm EA-DFB	80 km	-5 to 85	6/6	Yes
SXP3102L2	SONET LR-2	1550 nm EA-DFB	80 km	-5 to 70	6/6	Yes
SXP3102L2-M	SONET LR-2	1550 nm EA-DFB	80 km	-5 to 85	6/6	Yes
SXP3102LV	SONET LR-2/10GbE-ZR	1550 nm EA-DFB	80 km	-5 to 70	6/6	Yes
SXP3102LV-M	SONET LR-2/10GbE-ZR	1550 nm EA-DFB	80 km	-5 to 85	6/6	Yes
SXP3103LX	10GbE-LR	1310 nm DFB	10 km	-5 to 70	6/6	Yes
SXP3103LX-M	10GbE-LR	1310 nm DFB	10 km	-5 to 85	6/6	Yes
SXP3103LX-W	10GbE-LR	1310 nm DFB	10 km	-40 to 85	6/6	Yes
SXP3103NV	SONET-SR-1/10GbE-LR	1310 nm DFB	10 km	-5 to 70	6/6	Yes
SXP3103NV-M	SONET-SR-1/10GbE-LR	1310 nm DFB	10 km	-5 to 85	6/6	Yes
SXP3103NV-W	SONET-SR-1/10GbE-LR	1310 nm DFB	10 km	-40 to 85	6/6	Yes

XFP Transceivers

XFP CWDM and DWDM Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	DDM
SXP3102CP	SONET IR-2/10GbE-ER	CWDM EA-DFB	40 km	-5 to 70	6/6	Yes
SXP3102CP-M	SONET IR-2/10GbE-ER	CWDM EA-DFB	40 km	-5 to 85	6/6	Yes
SXP3102CA	SONET LR-2/10GbE-ZR	CWDM EA-DFB	70 km	-5 to 70	6/6	Yes
SXP3102DA	SONET LR-2/10GbE-ZR	DWDM EA-DFB	80 km	-5 to 70	6/6	Yes
SXP3102DA-M	SONET LR-2/10GbE-ZR	DWDM EA-DFB	80 km	-5 to 85	6/6	Yes

CFP Transceivers

- 40 and 100 Gb/s Ethernet
- CFP MSA-compatible transceivers
- 10 km over SMF
- MDIO for management and diagnostic monitor
- Flat top or integrated heat sink
- IEEE802.3 100GBase-LR4 or 40Gbase-LR4

CFP Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	DDM
SCF0400L4	40GbE-LR4	1310 nm CWDM-DFB	10 km	0 to 70	6/6	Yes
SCF0420L4	40GbE-LR4/C4S1-2D1	1310 nm CWDM-DFB	10 km	0 to 70	6/6	Yes
SCF1000L4	100GbE-LR4	1310 nm LAN-WDM EA-DFB	10 km	0 to 70	6/6	Yes
SCF1010L4	100GbE-LR4/4I1-9D1F	1310 nm LAN-WDM EA-DFB	10 km 2 km (4I1-9D1F)	0 to 70	6/6	Yes

X2 Transceivers

- Hot pluggable 10 Gb/s serial optical interface
- In-house high quality optical sub-assemblies
- 1550-nm EML laser for 40 and 80-km transmission
- 1310-nm DFB for 10-km transmission
- X2 MSA compliant
- Duplex SC receptacle
- Link status interrupt
- Diagnostic optical monitoring
- Low power consumption

X2 Multimode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	Diagnostics
SDX4102LM	10GbE-LRM	1310 nm FP	220 m	0 to 70C	5/6	Yes

X2 Single-Mode Transceivers

Part No.	Type	Laser	Distance	Temp (°C)	RoHS	Diagnostics
SDX4102FL	LR/10G FC	1310 nm DFB	10 km	0 to 70	5/6	Yes
SDX4101ER	10GbE-ER	1550 nm EA-DFB	40 km	0 to 70	5/6	Yes
SDX4101ZR	10GbE-ZR	1550 nm EA-DFB	80 km	0 to 70	5/6	Yes
SDX4100LR	10GbE-LR	1310 nm DFB	10 km	0 to 70	6/6	Yes

10 Gb/s EML Lasers

- 10 Gb/s long-haul optical transmission
- Full lineup covering SR-1, IR-1, IR-2, LR-2, and DWDM
- Built-in optical isolator, monitor photodiode, thermistor, and TEC
- 7-pin butterfly package with GPO connector

10 Gb/s EML Lasers

Part No.	Peak Wavelength (nm), Typ.	Pf (dBm), Min.	Extinction Ratio (dB), Min.	Rise Time (ps), Max. 20%-80%	Fall Time (ps), Max. 20%-80%	Fc (GHz) (Min.)	Dispersion (ps/nm)	Dispersion Penalty (dB)
FLD5F20NP	1550	0	10	25	25	10	800	2
FLD5F20NP-C	1550	0	10	25	25	10	1600	2
ELD5401NP-C	1550	1	10	25	25	10	1600	2
ELD5401NP-H	1550	4	10	25	25	10	1600	2
FLD3F10NP	1310	-5	6.5	25	25	10	6.6	1
FLD3F10NP-A	1310	0	8.2	25	25	10	80	1
FLD3F10NP-B	1310	2	8.2	25	25	10	80	1

10 Gb/s DWDM EML Lasers

Series Part No.	Peak Wavelength (nm), Typ.	Pf (dBm), Min.	Extinction Ratio (dB), Min.	Rise Time (ps), Max. 20%-80%	Fall Time (ps), Max. 20%-80%	Fc (GHz) (Min.)	Dispersion (ps/nm)	Dispersion Penalty (dB)
FLD5F20NP-D18 to D60	1529.55 to 1563.05*	-1	10	25	25	10	800	2
FLD5F20NP-E21 to E60	1529.55 to 1560.61*	0	10	25	25	10	1600	2

*±0.1 nm

10 Gb/s EML TOSA

- EML with built-in cooler in compact package
- Low power consumption
- High wavelength stability
- Full line-up covering SR-1, IR-1, IR-2, LR-2, and DWDM applications
- Variety of optical interfaces, including LC, SC, and pigtail
- Available XMD-MSA compliant TOSA with FPC (8-pin)

10 Gb/s EML TOSA

Series Part No.	Peak Wavelength (nm)	Pf (dBm), Min.	Laser Set Temp (°C)	Extinction Ratio (dB), Min.	TEC Power (W) Max.*	Case Temp (°C)	Dispersion (ps/nm)	Dispersion Penalty (dB)	Interface
ELD5401QK-M	1530 to 1565	-1	40	8.2	1.3	0 - 80	800	2	LC
ELD5401QK-N	1530 to 1565	0	40	9	1.3	0 - 80	1600	2	LC
ELD5401QK-P18 to P61	1528.77 to 1563.05*	-1	35 - 45	8.2	2	0 - 80	800	2	LC
ELD5401QK-Q18 to Q61	1528.77 to 1563.05*	0	35 - 45	9	2	0 - 80	1600	2	LC
ELD5401FP-M	1530 to 1565	-1	40	8.2	1.3	0 - 80	800	2	SC
ELD5401FP-N	1530 to 1565	0	40	9	1.3	0 - 80	1600	2	SC
ELD5401FP-P18 to P61	1528.77 to 1563.05*	-1	35 - 45	8.2	2	0 - 80	800	2	SC
ELD5401FP-Q18 to Q61	1528.77 to 1563.05*	0	35 - 45	9	2	0 - 80	1600	2	SC
ELD5401BH-M	1530 to 1565	-1	40	8.2	1.3	0 - 75	800	2	Pigtail
ELD5401BH-N	1530 to 1565	0	40	9	1.3	0 - 75	1600	2	Pigtail
ELD5401BH-P18 to P61	1528.77 to 1563.05*	-1	35 - 45	8.2	2	0 - 75	800	2	Pigtail
ELD5401BH-Q18 to Q61	1528.77 to 1563.05*	0	35 - 45	9	2	0 - 75	1600	2	Pigtail
ELD5403QK-M	1530 to 1565	-1	45	8.2	1.3	0 - 90	800	2	LC
ELD5403QK-R	1530 to 1565	-1	45	8.2	1.3	-40 - 90	800	2	LC
ELD5406QK-M	1530 to 1565	-1	45	8.2	1.3	0 - 90	800	2	LC
ELD5406QK-N	1530 to 1565	0	40 - 45	9	1.3	0 - 90	1600	2	LC
ELD5406QK-P18 to P61	1528.77 to 1563.05*	-1	35 - 45	8.2	2	0 - 90	800	2	LC

*±0.1 nm

10 Gb/s EML TOSA

10 Gb/s EML TOSA

Series Part No.	Peak Wavelength (nm)	Pf (dBm), Min.	Laser Set Temp (°C)	Extinction Ratio (dB), Min.	TEC Power (W) Max.*	Case Temp (°C)	Dispersion (ps/nm)	Dispersion Penalty (dB)	Interface
ELD5406QK-Q18 to Q61	1528.77 to 1563.05*	0	35 - 45	9	2	0 - 90	1600	2	LC
ELD5406QK-R	1530 to 1565	-1	45	8.2	1.3	-40 - 90	800	2	LC
ELD5406QK-S	1530 to 1565	0	40 - 45	9	1.3	-40 - 90	1600	2	LC
ELD5406QK-T18 to T61	1528.77 to 1563.05*	-1	35 - 45	8.2	1.9	-40 - 90	800	2	LC
ELD5406QK-U18 to U61	1528.77 to 1563.05*	0	35 - 45	9	2	-40 - 90	1600	2	LC
FLD3F10QK-M	1260 to 1360	-5	40	6	1.3	0 - 80	6.6	1	LC
FLD3F10BH-M	1260 to 1360	-5	40	6	1.3	0 - 75	6.6	1	Pigtail
FLD3F10QK-N	1260 to 1360	2	35	6	1.3	0 - 80	70	1	LC
FLD3F10BH-N	1260 to 1360	2	35	6	1.3	0 - 75	70	1	Pigtail

*±0.1 nm

10 Gb/s DML TOSA

- Uncooled 5.6-mm coaxial package
- Sleeve and stem electrically isolated
- XMD-MSA compliant TOSA with FPC
- OC-192-SR1, 10GbE-LR, 10Gb/s x 4 (10GbE-LR4) applications
- LC and SC interfaces available

10 Gb/s DML TOSA

Series Part No.	Application	pF (dBm), Min.	Wavelength (nm)	Extinction Ratio (dB),Typ.	Case Temp. (°C)
STH1W44-LP	10GbE-LR	-2	1310	5	-5 - 85
STH1W44-LP	OC-192-SR1	-3	1310	7	-5 - 75
STH1W44-xnnS	40GbE-LR4	2	1271/1291/1311/1331	5	-5 - 75
STL1WD6	OC-192 SR1 10GbE	-3	1310	7	-40 - 90
STL2WD6	16GFC	-1.5	1310	5	-5 - 90

40 Gb/s EML Laser

- MSA package for 40 Gb/s
- MI-DFB-LD (Modulator Integrated DFB Laser Diode)
- Integrated modulator driver
- Integrated optical isolator, PIN-PD monitor, thermistor, and TEC
- Differential SMPM (GPPO) connector for RF signal interface

40 Gb/s EML Laser

Series Part No.	Peak Wavelength (nm)	Pf (dBm), Min.	Laser Set Temp (°C)	Extinction Ratio (dB), Min.	TEC Power (W) Max.*	Case Temp (°C)	Dispersion (ps/nm)	Dispersion Penalty (dB)
ETM5402NF	1530 to 1565	0	25 – 45	8.5	4.0	0 – 75	40	2

2.5 Gb/s DWDM Lasers and 622-Mb/s Supervisory-Channel Lasers

- Directly modulated up to 2.5 Gb/s
- CW for use with external modulator for high speed, long distance applications
- CW with wavelength locker for tight spacing and long distance
- EML integrated laser for very long distance
- Uncooled supervisory channel lasers

DM Lasers

Series Part No.	Peak Wavelength (nm)*	Pf (mW), Min.	dλ (nm), Max.	λ stability (pm/°C)	Dispersion (ps/nm)	Dispersion Penalty (dB), Max.
FLD5F15CX-E	1527.99 to 1563.05	2	0.1	±1	1800	2
FLD5F15CX-J	1527.99 to 1563.05	10	0.1	±1	1800	2
FLD5F15CX-A	1527.99 to 1563.05	10	0.1	±1	3200	2

*±0.1 nm

CW Lasers | Pigtailed with PMF 10 and 40 Gb/s Long-Haul DWDM Transmission Systems | C and L-Band

Series Part No.	Peak Wavelength (nm)*	Pf (mW), Min.	dλ (nm), Max.	λ stability (pm/°C)
FLD5F15CX-H	1528.773-1569.594 (C-band)	40	0.2	±1
FLD5F15CX-L	1570.416-1608.329 (L-band)	40	0.2	±1
FLD5F15CX-K	1528.773-1569.594 (C-band)	20	0.1	±1
FLD5F15CX-N	1570.416-1608.329 (L-band)	20	0.1	±1

*±0.1 nm

2.5 Gb/s Cooled EML Lasers

Series Part No.	Peak Wavelength (nm)*	Pf (mW), Min.	dλ (nm), Max.	Threshold Current (mA)	Laser Set Temp (°C)	Exctintion Ratio (dB), Min.	Dispersion (ps/nm)	Dispersion Penalty (dB)
ELD5301CN-D	1530.33-1560.61	1	0.2	2 - 40	15-35	10	6500	1.5
ELD5301CN-E	1530.33-1560.61	1	0.2	2 - 40	15-35	10	10,000	1.5
ELD5301CN-H	1530.33-1560.61	1	0.2	2 - 40	15-35	10	12,800	2

*±0.1 nm

622-Mb/s Uncooled Laser for Supervisory Channel | 4-Pin Coaxial Package

Part No.	Type	Pout	Isolated	Package
SLT1430-S850	1510 nm DFB-LD	3 mW	Aspherical lens cap	5.6 mm can
SLT4400-S850	1510 nm DFB-LD	2.0 mW	No	Pigtail
SLT4460-S850	1510 nm DFB-LD	2.0 mW	Yes	Pigtail

2.5 Gb/s CWDM Lasers

CWDM DFB Lasers | 18 Channels | 4-Pin Coaxial

Series Part No.	Pout (mW)	Data Rate (Gb/s)	Options	Package Type
SLT1430-XnnnX	4.0	2.5	Aspherical lens cap	5.6 mm can
SLT1440-XnnnX	4.0	2.5	Aspherical lens with short FL	5.6 mm can
SLT2470-XnnnX	1.5	2.5	LC sleeve	3.8 mm mini-TOSA
SLT2480-XnnnX	1.5	2.5	LC sleeve with single isolator	3.8 mm mini-TOSA
SLT4410-XnnnX	2.0	2.5	No isolator	5.6 mm with pigtail
SLT4460-XnnnX	2.0	2.5	Single isolator	5.6 mm with pigtail

Bidirectional

- Compact high-performance packages for OLT and ONU applications
- Support for both 10G and XG PON architectures
- Diplexer package with SC receptacle or pigtail
- High-power 10G 1577nm EML transmitter with integrated TEC
- EML transmitter leverages ceramic-package to downsize and reduce cost
- 2.5G burst-mode TIA/2.5G APD receiver

Bidirectional PON TOSA/ROSA

Application	Part No.	Bit Rate (D1/D2//U)	Form	Laser 10G	Laser 1G	Detector	TIA	Pout (dBm), Typ.	Smin (dBm)	Smax (dBm)
10GE-PON OLT	SXT3EBA	10G/1G/1G	Triplexer	1577 nm EML	1490 nm DML	APD	1G BM	4.0	<-29 @ 1G	>-9.38 @ 1G
10GE-PON OLT	SXT3EAA	10G/1G/10G	Triplexer	1577 nm EML	1490 nm DML	APD	10G BM	4.0	<-27.2 @ 10G	>-6 @ 10G
10GE-PON ONU	SRC4183	10G	APD CAN	–	–	APD	10G CM	–	–	–
10GE-PON ONU	STD1P-54K60B	10G	DFB CAN	1270 nm DML	–	–	–	–	–	–
XG-PON OLT	SXT2ECA	10G/-// 2.5G	Diplexer	1577 nm EML	–	APD	2.5G BM	4.5	<-27.5 @ 2.5G	>-7 @ 2.5G

Analog Lasers

- Economical uncooled lasers designed for return path links.
- InGaAsP/InP, SMQW lasers (Fabry-Perot and DFB) provide excellent distortion performance
- Wide temperature operation from -40 to 85°C
- Cooled high power DFBs for forward path and narrowcast applications
- Designed to meet Telcordia (Bellcore) and ITU-T requirements
- RoHS compliant

Cooled Lasers for Forward Path | 14-Pin Butterfly Package with Pigtail

Part No.	Peak Wavelength (nm)	Pf (mW), Min.	CSO (dBc), Max.	CTB (dBc), Max.	CNR (dB), Min.	Channel No.
STV7ACZ	1530.33-1560.61	10	-50	-63	51	34

Uncooled Lasers for Return Path | 4-Pin Coaxial Package with Pigtail

Part No.	Type	Pf (mW)	IMD2 (dBc)	IMD3 (dBc)	RIN (dB/Hz)	Isolator	SNon (dBc)	SNoff (dBc)
STV1DB0	1310 nm DFB	2	-40	-55	-145	1 stage	-50	-32
STV1DC0	1310 nm DFB	2	-40	-55	-150	2 stage	-60	-52
STV1GB0	1550 nm DFB	2	-40	-60	-145	1 stage	-55	-35
STV1GC0	1550 nm DFB	2	-40	-55	-150	2 stage	–	–
STV1GB0-XnnX Series	CWDM DFB	2	-40	-50	-145	1 stage	–	–

Lasers for Wireless | 4-Pin Coaxial Package with Pigtail

Part No.	Type	Pout (mW)	IMD3 (dBc)	Isolator
STU1DB0	1310 nm DFB	3	-65	1 stage
STU1DC0	1310 nm DFB	3	-65	2 stage
STU1GB0	1550 nm DFB	3	-65	1 stage
STU1KB0	1310 nm DFB	3	-65	1 stage
STU1GC0	1550 nm DFB	3	-65	2 stage
STU1GB0-XnnX Series	CWDM DFB	3	-65	1 stage
STU1GC0-XnnX Series	CWDM DFB	3	-65	2 stage

Digital Lasers up to 2.5 Gb/s

Coaxial DFB Lasers | 4-Pin 5.6-mm TO Can

Part No.	Wavelength	Pout (mW)	Data Rate (Gb/s)	Package Option
SLT1200	1310 nm	7	2.5	Flat window
SLT1230	1310 nm	7	2.5	Aspherical lens cap
SLT1240	1310 nm	7	2.5	Aspherical lens cap with short FL
SLT12D0	1310 nm	7	2.5	Ball lens
SLT1830	1310 nm	7	2.5	Aspherical lens cap
SLT1840	1310 nm	7	2.5	Aspherical lens cap
SLT1436-G120	1490 nm	6	2.5	Aspherical lens cap
SLT1446-G120	1490 nm	6	2.5	Aspherical lens cap with short FL
SLT1400	1550 nm	5	2.5	Flat window
SLT1430	1550 nm	5	2.5	Aspherical lens cap
SLT1440	1550 nm	5	2.5	Aspherical lens cap with short FL
SLT14D0	1550 nm	5	2.5	Ball lens

TOSA | 5.6 mm Package | SC Sleeve

Part No.	Type	Wavelength	Pout (mW)	Data Rate
SLT2220-CN	DFB	1310 nm	1.5	2.5 Gb/s

Digital Lasers up to 2.5 Gb/s

Mini-TOSA | 3.8 mm Package | LC Sleeve

Part No.	Type	Wavelength	Pout (mW)	Data Rate (Gb/s)
SLT2270-LN	DFB	1310 nm	1.5	2.5
SLT2280-LN	DFB	1310 nm	1.5	2.5
SLT2880-LN	DFB	1310 nm	2.5	2.5
SLT2880-LR	DFB	1310 nm	0.4	4.25
SLT2470-LN	DFB	1550 nm	1.5	2.5
SLT2480-LN	DFB	1550 nm	1.5	2.5
SLT2490-LN	DFB	1550 nm	1.5	2.5

Pigtailed Coaxial Fabry-Perot Lasers

Part No.	Wavelength	Pout (mW)	Data Rate	Isolated
SLT4310	1550 nm	2.0	2.5 Gb/s	No

Pigtailed Coaxial DFB Lasers

Part No.	Wavelength	Pout (mW)	Data Rate (Gb/s)	Isolated
STP1DA0	1310 nm	2.0	2.5	No
STP1DB0	1310 nm	2.0	2.5	Yes
STP1KA0	1310 nm	3.0	2.5	No
STP1KB0	1310 nm	3.0	2.5	Yes
STP1GA0	1550 nm	2.0	2.5	No
STP1GB0	1550 nm	4.0	2.5	Yes
STP1GC0	1550 nm	2.0	2.5	Yes

10 Gb/s PIN Coaxial Mini-ROSAs

- Complete package – PIN, preamp, and pigtail, SC, or LC sleeve
- High sensitivity and wide dynamic range
- High gain and high transimpedance
- Excellent overload performance
- XMD compliant package available with FPC
- Single 3.3 V supply
- Sleeve and stem electrically isolated

10 Gb/s PIN Coaxial Mini-ROSAs

Part No.	Spot Size (um)	Fc (MHz)	Zt (kW)	Noise (pA/√Hz)	Input Power (dBm)	Interface	Application
SPG3103-LG	30	10,000	2	10	-19		
SPG3303-LG	30	8500	6	8	-19		
SPG3403-LG	30	11,000	2.3	8	-19		
SRD2146-LH4	30	11,000	2.3	8	-19		Designed for 10GbE-LRM
SRD2245-LZ3	30	7500	3.5	14.5	-15.5	LC	Designed for 10GbE-LRM
SRD2245-CG3	30	7500	3.5	14.5	-15.5	SC	Designed for 10GbE-LRM

10 Gb/s Receivers

- Compact 9-pin or 17-pin coplanar MSA package
- Available XMD MSA compliant ROSA
- High sensitivity and excellent overload performance
- High transimpedance gain
- Variety of TIA options: high gain limiting, low gain linear, mid-gain linear, AGC linear
- Available with VOA integrated receiver
- Response wavelength: 1270 to 1620 nm
- Operating case temperature: -5°C to 75°C
- Single 3.3 V TIA supply voltage

10 Gb/s High-Gain, High-Sensitivity Receivers
High Transimpedance Gain : 4.5 kΩ (Single Ended), 9 kΩ (Differential)
Maximum Output Voltage Swing: 180 mVpp (Single Ended), 360 mV (Differential)

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (kΩ), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERP1404GW	PIN	1	4.5	9	-20.5	3	9 pin
ERP1404GT	PIN	1	4.5	9	-20.5	3	17 pin
ERA1404GW	APD	0.9	4.5	8	-28	0	9 pin
ERA1404GT	APD	0.9	4.5	8	-28	0	17 pin
ERA1404PW	APD	0.9	4.5	7	-28	0	XMD FPC

10 Gb/s Linear Receivers
Transimpedance Gain: 0.9 kΩ (Single Ended), 1.8 kΩ (Differential)
Maximum Output Voltage Swing: 550 mVpp (Single Ended), 1100 mV (Differential)

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (kΩ), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERP1402GW	PIN	1	0.9	9	-20	0	9-pin
ERP1402GT	PIN	1	0.9	9	-20	0	17-pin
ERA1402GW	APD	0.9	0.9	8	-27.5	0	9-pin
ERA1402GT	APD	0.9	0.9	8	-27.5	0	17-pin

10 Gb/s Mid-Gain Receivers
Transimpedance Gain: 1.5 kΩ (Single Ended), 3 kΩ (Differential)
Maximum Output Voltage Swing: 600 mVpp (Single Ended), 1200 mV (Differential)

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (k), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERP1403GW	PIN	1	1.5	8	-20	3	9-pin
ERP1403GT	PIN	1	1.5	8	-20	3	17-pin
ERA1403GW	APD	0.9	1.5	7	-28	0	9-pin
ERA1403GT	APD	0.9	1.5	7	-28	0	17-pin

10 Gb/s Receivers

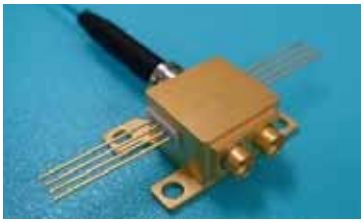
10 Gb/s Linear AGC Receivers
Transimpedance Gain: 6 kΩ (Single Ended), 12 kΩ (Differential)
Maximum Output Voltage Swing: 180 mVpp (Single Ended), 360 mV (Differential)

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (k), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERP1405GW		1	6	8.5	-19	3	9-pin
ERP1405GT		1	6	8.5	-19	3	17-pin
ERA1405GW	APD	0.9	6	7	-28	0	9-pin
ERA1405GT	APD	0.9	6	7	-28	0	17-pin
ERA1405PW	APD	0.9	6	7	-28	0	XMD FPC

10 Gb/s Receivers with VOA
20 dB VOA Attenuation Range

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (k), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERA1452GT	APD	0.9	0.9	8	-27.5	0	17-pin
ERA1453GT	APD	0.9	1.5	7	-28	0	17-pin
ERA1454GT	APD	0.9	4.5	8	-28	0	17-pin
ERA1455GT	APD	0.9	6	7	-28	0	17-pin
SRN43GS-LA	APD	0.9	1.5	8	-28	0	Box ROSA FPC
SRN45GS-LA	APD	0.9	6	7	-28	0	Box ROSA FPC

40 Gb/s Receiver



- XLMD-MSA compliant 8-pin package PIN+TIA receiver
- +3.3V high-gain transimpedance amplifier
- Differential output with two SMPM (GPPO) connectors
- High transimpedance gain: 1.1 kΩ (Single Ended), 2.2 kΩ (Differential)
- Operating case temperature: 0°C to 75°C

40 Gb/s PIN+TIA XLMD Receiver

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (k), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERP4401BE	PIN	0.65	1.1	30	-11	4	XLMD

2.5 Gb/s Receivers

- 5-pin coaxial compact package with LC receptacle or SMF pigtail
- Built-in InGaAs PD and 3.3V GaAs preamplifier IC
- Differential output

2.5 Gb/s Receivers

Part No.	Type	Responsivity (A/W), Typ.	Transimpedance Zt (kΩ), Typ.	-3 dB Bandwidth (GHz), Typ.	Minimum Sensitivity (dBm), Typ.	Overload Pmax (dBm), Typ.	Package
ERA2316BS	APD	0.85	2.6	1.6	-35	-5	8-pin Mini-DIL
ERP2316LY	PIN	0.85	2.6	1.5	-26	0	5-pin coaxial pigtail
ERP2316HY	PIN	0.85	2.6	1.5	-26	0	5-pin coaxial pigtail
ERA2316LY	APD	0.85	2.6	1.8	-35	-5	5-pin coaxial pigtail
ERA2316HY	APD	0.85	2.6	1.8	-35	-5	5-pin coaxial pigtail
ERA2365PZ	APD	0.85	2.6	1.8	-34	-5	5-pin LC ROSA

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