

### Features

- Up to 1.25Gb/s data links
- DFB laser and PIN photo-detector
- Up to 40km on 9/125µm SMF
- GBIC footprint
- BiDi SC/UPC type pluggable optical interface
- Low power dissipation
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Single +5V power supply
- Compliant with SFF-8472
- Case operation Temperature: 0°C to +70°C



### Applications

- Switch to Switch Interface
- Gigabit Ethernet
- Switched Backplane Applications
- Router/Server Interface
- Other Optical Links

### Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		85	°C	
Storage Ambient Humidity	HA	5		95	%	
Power Supply Voltage	VCC	0		6	V	
Signal Input Voltage		0		Vcc	V	
Receiver Damage Threshold		5			dBm	

### Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note	
Case Operating Temperature	Tcase	0		70	°C		
Ambient Humidity	HA	5		70	%	Non-condensing	
Power Supply Voltage	VCC	4.75	5	5.25	V		
Power Supply Current	ICC			300	mA		
Power Supply Noise Rejection				100	mVp-p	100Hz to 1MHz	
Data Rate			1250/1250		Mbps	TX Rate/RX Rate	
Transmission Distance				40	KM		
Coupled Fiber		Single mode fiber					9/125um SMF

### Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-5		0	dBm	
Extinction Ratio	ER	9			dB	
Center Wavelength	λC	1290	1310	1330	nm	SV-GB-LX41
		1530	1550	1570		SV-GB-LX42
Side Mode Suppression Ratio	SMSR	30			dB	
Spectrum Bandwidth(-20dB)	σ			1	nm	
Transmitter OFF Output Power	POff			-45	dBm	

Differential Line Input Impedance	RIN	90	100	110	Ohm	
Total Jitter ( Peak-Peak )	tJ			128	ps	Note (1)
Output Eye Mask	Compliant with IEEE802.3 z (class 1 laser safety)					

Note (1): Measure at 2<sup>7</sup>-1 NRZ PRBS pattern.

### Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	λIN	1530	1550	1570	nm	SV-GB-LX41
		1290	1310	1330		SV-GB-LX42
Receiver Sensitivity	PIN			-24	dBm	Note (1)
Input Saturation Power (Overload)	PSAT	-1			dBm	
Los Of Signal Assert	PA	-38			dBm	
Los Of Signal De-assert	PD			-26	dBm	Note (2)
LOS Hysteresis	PA-PD	0.5	2	6	dB	

Note (1): Measured with Light source 1550nm(1310nm), ER=9dB; BER =<10<sup>-12</sup> @PRBS=2<sup>7</sup>-1 NRZ

Note (2): When LOS de-asserted, the RX data+/- output is High-level (fixed)

### Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Total Supply Current	ICC			A	mA	Note (1)
Transmitter Disable Input-High	VDISH	2		V <sub>cc</sub> +0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VDISL	2		V <sub>cc</sub> +0.3	V	
Transmitter Fault Input-Low	VTxFH	0		0.8	V	
<b>Receiver</b>						
Total Supply Current	ICC			B	mA	Note (1)
LOSS Output Voltage-High	VLOSH	2		V <sub>cc</sub> +0.3	V	LVTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

Note (1): A (TX) + B (RX) = 300mA (Not include termination circuit)

### Ordering Information

Part number	Description	TX Power (dBm)	RX Sens. (dBm)	Fiber Budget (dB)	Distance (km)	DDM
<b>SV-GB-LX41</b>	Starview Single Fiber Bi-Directional GBIC module, 1Gbps Fiber Channel/ 1000Base-LX 1310nm TX/ 1550nm RX single fiber SM (SC), distance up to 40km	-5 to 0	-24 to -1	19	40	NO
<b>SV-GB-LX42</b>	Starview Single Fiber Bi-Directional GBIC module, 1Gbps Fiber Channel/ 1000Base-LX 1550nm TX/ 1310nm RX single fiber SM (SC), distance up to 40km	-5 to 0	-24 to -1	19	40	NO