Type: SAE-GSS1315-20

Technical Specification of SAE-GSS1315-20

- **1.25G BIDI SFP BIDI Transceivers 20km**

- Simplex LC connector in SFP standard package, hot-pluggable
- Data rate 1.25Gbps
- 1550nm PIN Photo-detector (A Type), 1310nm FP Laser
- 1310nm PIN Photo-detector (B Type), 1550nm FP Laser
- A maximum 20Km transmission distance on SMF
- +3.3V power supply
- Compatible data input/output interfaces with LVPECL
- High ESD protection and Low EMI
- Compliant with class 1 IEC-60825 Laser safety standard
- Compatible with RoHS
- Supports ITU –T G.957 and IEEE802.3 10/100Base-TX/1000Base-TX and1000Base-FX
- Supports MSA
- Supports SFF-8472 Digital Diagnostic Monitor

Product Description

SAE-GSS1315-20 is a very reliable and high performance in order to transmit 1.25G network data on optical cores.

The **SAE-GSS1315-20** designed in a way that work in zero warm up time

and is very real-time, loss-free and high-quality data network transmission over a pair optical line.

It planned with embedded ESD to avoid damage from electrostatic.

SAE-GSS1315-20 made by high quality of components were rigorous screened, have superior performance in stability, environmental adaptability. The product planned in a way of better resistance and ability to corrosion and electromagnetic interference.

Applications

- Switching/hub and Router
- Fast Ethernet 1000Base-Lx NIC
- Telecom IEEE 802.3z
- Other Fiber Channels

Technical spesification

Product	**1.25Gbps SFP Single Fiber Transceivers**
Product Model	**SAE-GSS1315-20**

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.45	V
Operating Relative Humidity	RH	5	95	%

Parameter	Symbol	Min	Typical	Max	Units
Supply Voltage	Vcc	3.15	3.3	3.45	V
Supply Current	Icc	100	200	300	mA
Operating Case Temperature	Commercial	Tc	0	+70	°C
	Industrial		-40	+85	
Power Dissipation				1	W
Data Rate		1250			Mbps

Parameter		**Symbol**	**Min.**	**Typ.**	**Max.**	**Units**
Transmitter Section						
Center Wavelength	Tx 1310	λo	1260	1310	1360	nm
	Tx 1550		1540	1550	1560	
Spectral Width(RMS)	Tx 1310	Δλ	-	-	4	nm
	Tx 1550		-	-	1	
Average Output Power	Tx 1310	Po	-8	-	-3	dBm
	Tx 1550		-8	-	-3	
Extinction Ratio		Er	9	-	15	dB
Rise/Fall Time(20%~80%)		Tr/Tf			0.26	ns
Total jitter		Tj			0.43	UI
Optical Eye Diagram		IEEE 802.3z and ANSI Fibre Channel Compatible				

Receiver Section						
Center Wavelength	Tx 1310	λo	1500	1550	1600	nm
	Tx 1550		1260	1310	1360	
Receiver Sensitivity		Rsen			-24	dBm
Receiver Overload		Rov	-3			dBm
Rise/Fall Time(20%~80%)		Tr/Tf			1	ns
LOS Assert		LOS_A	-36			dBm
LOS Dessert		LOS_D			-24	dBm
LOS Hysteresis			0.5		5	

Parameter		Symbol	Min.	Typ.	Max.	unit
Transmitter Section						
Input Differential Impendence		Zin	90	100	110	Ohm
Data Input Swing Differential		Vin	500		2400	mV
TX Disable	Disable		2.0		Vcc	V
	Enable		0		0.8	V
TX Fault	Assert		2.0		Vcc	V
	Deassert		0		0.8	V
Receiver Section						
Output differential impendence		Zout		100		Ohm
Data Input Swing Differential		Vout	370		2000	mV
Rx_LOS	Assert		2.0		Vcc	V
	Deassert		0		0.8	V

Addr	Field Size (Bytes)	Name of Field	HEX	Description
0	1	Identifier	03	SFP
1	1	Ext. Identifier	04	MOD4
2	1	Connector	07	LC
3-10	8	Transceiver	00 00 00 02 12 00 0D 01	Transmitter Code
11	1	Encoding	02	4B5B
12	1	BR, nominal	0D	1250M bps
13	1	Reserved	00	
14	1	Length (9um)-km	14	20km
15	1	Length (9um)	64	
16	1	Length (50um)	00	
17	1	Length (62.5um)	00	
18	1	Length (copper)	00	
19	1	Reserved	00	
20-35	16	Vendor name	57 49 4E 54 4F 50 20 20 20 20 20 20 20 20 20 20	CRED
36	1	Reserved	00	
37-39	3	Vendor OUI	00 00 00	
40-55	16	Vendor PN	xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx	ASC II
56-59	4	Vendor rev	31 2E 30 20	V1.0
60-61	2	Wavelength	05 1E/06 0E	1310nm/1550nm
62	1	Reserved	00	
63	1	CC BASE	XX	Check sum of byte 0~62
64-65	2	Options	00 1A	LOS, TX_DISABLE, TX_FAULT
66	1	BR, max	32	50%
67	1	BR, min	32	50%
68-83	16	Vendor SN	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Unspecified

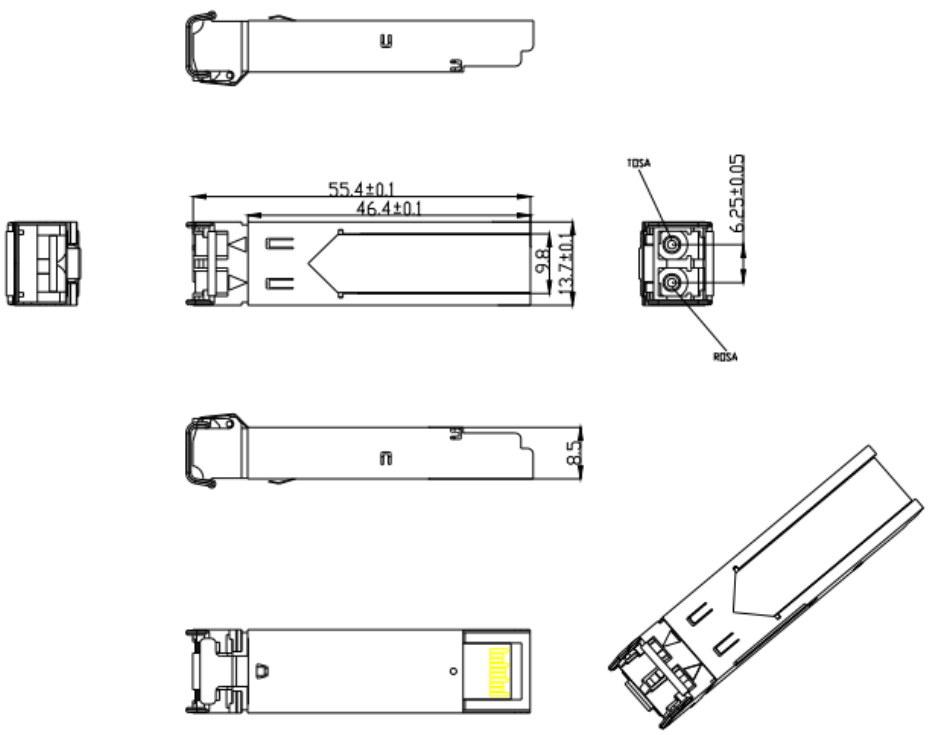
84-91	8	Vendor date code	XX XX XX 20	Year, Month, Day
92-94	3	Reserved	00	
95	1	CC_EXT	XX	Check sum of byte 64~94
96-255	160	Vendor specific		

Parameter		Range	Accuracy%	Unit	Calibration
Temperature	C	-5 ~ 70	±3	ºC	Internal
	I	-40 ~ 80	±3		
Voltage		0 ~ VCC	±3	V	Internal
Bias Current		0 ~ 120	±2	mA	Internal
Tx Power		-8 ~ -3	±3	dBm	Internal
Rx Power		-24 ~ -3	±3	dBm	Internal

Pins	Name	Discription	NOTE
1	VeeT	Transmitter Ground	
2	Tx Fault	Transmitter Fault Indication	1
3	Tx Disable	Transmitter Disable	2
4	MOD DEF2	Module Definition 2	3
5	MOD DEF1	Module Definition 1	3
6	MOD DEF0	Module Definition 0	3
7	Rate Select	Not Connected	
8	LOS	Loss of Signal	4
9	VeeR	Receiver Ground	
10	VeeR	Receiver Ground	
11	VeeR	Receiver Ground	
12	RD-	Inv. Received Data Output	5
13	RD+	IReceived Data Output	5
14	VeeR	Receiver Ground	
15	VccR	Receiver Power	
16	VccT	Transmitter Power	

17	VeeT	Transmitter Ground	
18	TD+	Transmit Data Input	6
19	TD-	Inv. Transmit Data Input	6
20	VeeT	Transmitter Ground	

Product Size Display



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SAE-GSS1315-20