



Datasheet

No.

DS10-003

Initial Date

2010-07-29

OA

OA2M3113

Written Team

R&D Dept.

GH Zheng

I Preview


PN	OA2M3113
Description	1x9, 1.25G MM 1310nm 1.5KM SC 0~70°C +3.3V

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III Revision History

No.	Date	Items	Change Recording	Ver.	Rev.	Customer
1	2010-07-29	All	Initial registration	000	000	Standard
2						
3						
4						
5						
6						

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1. Features

- ◆ Compliant with Standard of IEEE-802.3
- ◆ Independent Transmitter and Receiver
- ◆ Industry Standard 1X9 Package Style
- ◆ Single +3.3V Power Supply
- ◆ LVPECL Differential Input, Output Electrical Interfaces
- ◆ Class 1/IM Laser Product, Compliant with IEC825, FDA21,
CFR1040.10 and CFR1040.11
- ◆ Compliant with Telcordia(Bellcore) GR-468-CORE
- ◆ RoHS Compliant Products Available

2. Applications

- ◆ Gigabit Ethernet
- ◆ Fiber Channel

3. Description

OCRE's OA2M3113 Transceiver is a high performance, cost effective module, which is compliant with Gigabit Ethernet and Standard of IEEE-802.3. This transceiver operates at the normal wavelength of 1310nm. The transmitter section incorporates an advanced FP and driver IC with temperature compensation and automatic power control function. The receiver section incorporates an efficient InGaAs/InP PIN photodiode and transimpedance with AGC for wide dynamic range. The transceiver has excellent immunity and reliability.


4. Absolute Maximum Ratings(TC=25°C)

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T _{ST}	-40	+85	°C
Supply Voltage	V _{CC}	0	+3.6	V
Input Voltage	V _{IN}	0	V _{CC}	V
RX Data Difference Input Voltage	±TX_DAT	0	2000	mVp-p
Soldering Temperature & Time	-		240/10	°C/S

5. Operating Environment

Parameter	Symbol	Min.	Typical	Max.	Unit
Supply Voltage	V _{CC}	+3.15	+3.3	+3.45	V

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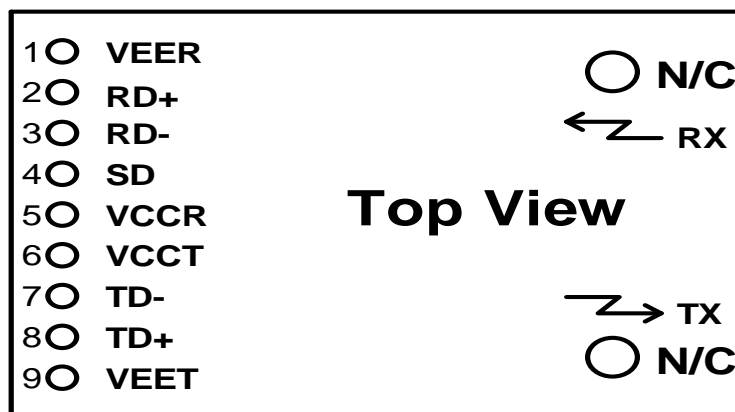
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Operating Temperature	T _{OP}	0	-	+70	°C
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6. Electrical and Optical Characteristics(Condition: Ta=TOP)

Parameter	Symbol	Min.	Typical	Max.	Unit
Data Rate	B	-	1250	-	Mb/s
Transmitter Section					
Center Wavelength	λ_c	1290	1310	1330	nm
Output Spectral Width	$\Delta\lambda(\text{RMS})$	-	-	4	nm
Average Output Power	P _o	-9.5	-	-3	dBm
Extinction Ratio	E.R.	9	-	-	dB
Supply Current	I _{CC}	-	70	100	mA
Output Optical Eye	Compliant with IEEE-802.3				
Data Input Voltage-High, Low	V _{IH} -V _{CC}	-1.49	-1.3	-1.19	V
Input Differential Voltage	V _{ID}	0.5	-	1.6	V
Receiver Section					
Receive Sensitivity	P _{min}	-	-	-20	dBm
Maximum Input Power	P _{MAX}	-3	-	-	dBm
Signal Detection-Asserted	P _{HL}	-35	-	-	dBm
Signal Detection-Deserted	P _{LH}	-	-	-25	dBm
Operating Wavelength	λ_c	1100	-	1600	nm
Supply Current	I _{CC}	-	70	100	mA
Date Output High Voltage	V _{OH} -V _{CC}	-1.1	-	-0.879	V
Date Output Low Voltage	V _{OL} -V _{CC}	-1.89	-	-1.548	V

7. Pin Description



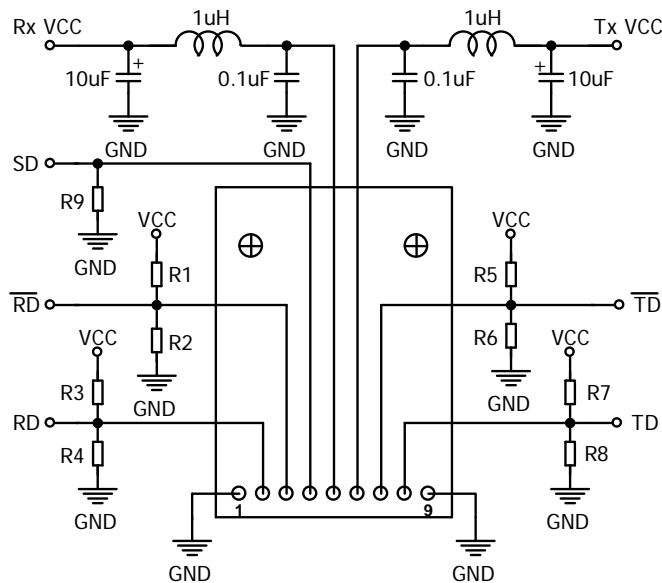
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Pin	Name	Level	Description
1	VEER		Negative power of receiver section, normally grounded
2	RD+	LVPECL	Receiver Data Output
3	RD-	LVPECL	Inverted Receiver Data Output
4	SD	LVPECL	Optical alarm of receiver section, High level when normal, low level when no light
5	VCCR		Positive power of receiver section, normally +3.3V
6	VCCT		Positive power of transmitter section, normally +3.3V
7	TD-	LVPECL	Inverted Transmitter Data input
8	TD+	LVPECL	Transmitter Data input
9	VEET		Negative power of transmitter section, normally grounded

8. Recommended Circuit



NOTE:

1:VCC=+5V

2:VCC=+3.3V

R1=R3=R5=R7=82R R1=R3=R5=R7=130R

R2=R4=R6=R8=130R R2=R4=R6=R8=82R

R9=390R R9=200R

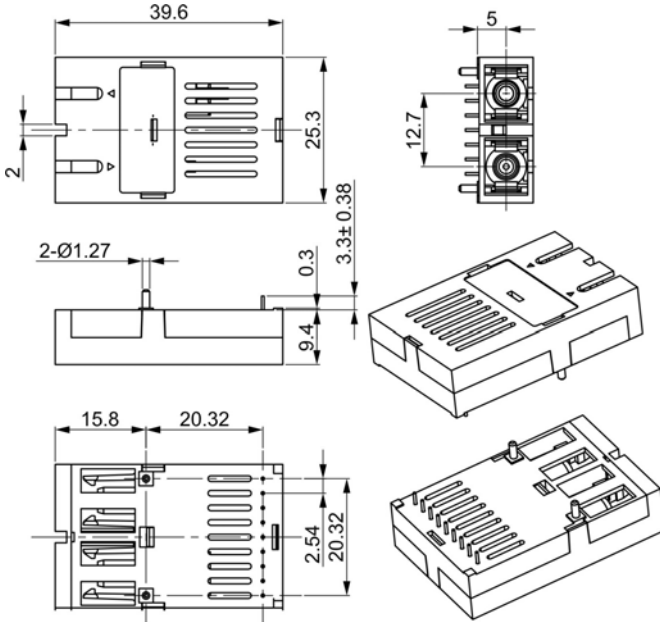
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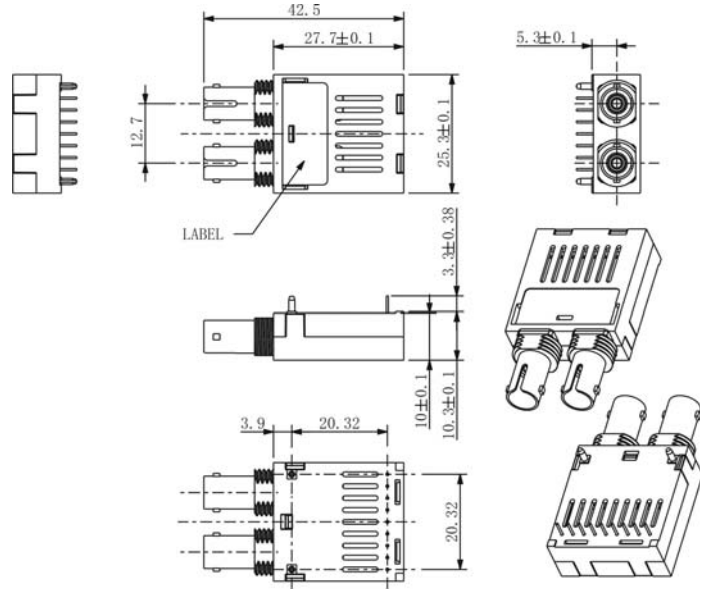


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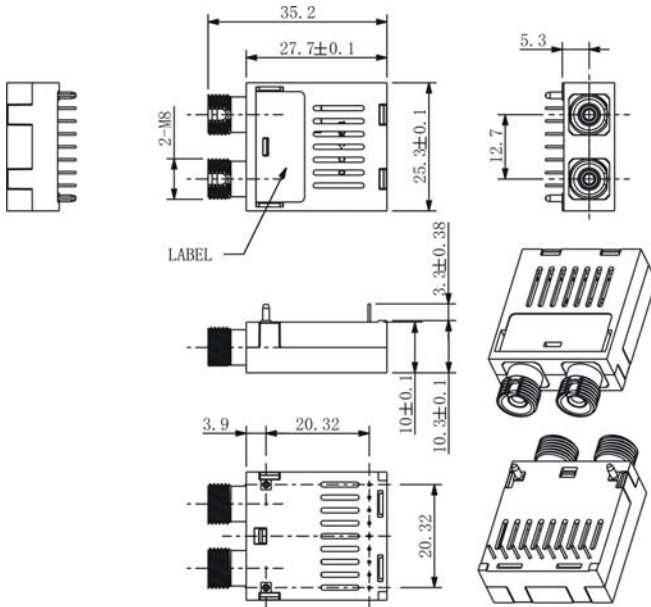
9. Mechanical Dimensions(Unit:mm)



**1X9 DUPLEX SC
(OA2M3113)**




**1X9 DUPLEX ST
(OA2M3613)**



**1X9 DUPLEX FC
(OA2M3513)**

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10. Model Ordering Information

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OA2M3113	1x9 transceiver, 1.25G MM 1310nm 1.5KM SC 0~70°C +3.3V
OA2M3123	1x9 transceiver, 1.25G MM 1310nm 1.5KM SC -40~85°C +3.3V
OA2M3513	1x9 transceiver, 1.25G MM 1310nm 1.5KM FC 0~70°C +3.3V
OA2M3523	1x9 transceiver, 1.25G MM 1310nm 1.5KM FC -40~85°C +3.3V
OA2M3613	1x9 transceiver, 1.25G MM 1310nm 1.5KM ST 0~70°C +3.3V
OA2M3623	1x9 transceiver, 1.25G MM 1310nm 1.5KM ST -40~85°C +3.3V

Remark: +5V is available

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