

eW40102

Multi Service, Dual Channel 100M~1.25G Transponder



SMALL SCALE
HIGH DENSITY
DWDM/CWDM
TRANSPONDER

- Dual channels
- 2X1.25G
- DWDM/CWDM
- Auto-detect
- Multi-service
- Low cost
- Low power consumption
- 1+1 protection
- Optical backplane
- Plug and play
- Small and smart

eW40102 Series is an dual channel 100M~1.25G multi-rate transponder card used in eWAVE4107 and eWAVE4214 platform. It provides a low cost solution, supports 2X1.25G transmission with 1 slot of eWAVE4107 or eWAVE4214. SFP modules are used in client side, which support 850nm, 1310nm or 1550nm according to different application. Line side ports are implemented by CWDM/DWDM SFP modules which support 40km, 80km, and 120km transmission.

eW40102 has a multi rate CDR inside, which can automatically detect the input data rate and adjust automatically data and clock recovery, so that user just needs to plug-play with any rate and protocol signal. eW40102 converts non-specified wavelength to CWDM or DWDM wavelength respectively.

- ◆ Client : 100Mbps ~ 1.25Gbps
- ◆ Line : 100Mbps ~ 1.25Gbps
- ◆ CDR : Multi-service, auto-detect
- ◆ Span: 40km, 80km, 120km

Optical interface performance (Typical spec of CWDM application, can be specified for different application)

Parameter	Symbol	Min	Typ	Max	Unit
Transmitter					
Output Opt. Power (End of Life) ¹	P _{OUT}	1		+5	dBm
Optical Wavelength ²	λ	1470		1610	nm
Wavelength Temperature Dependence			0.08	0.125	nm/°C
Spectral Width (-20dB)	σ			1	nm
Optical Extinction Ratio	ER	9			dB
Side mode Suppression ratio	SMSR _{min}	30			dB
Optical Rise/Fall Time ³	Tr/ Tf			180	ps
RIN	R _{IN}			-120	dB/Hz
Transmitter Jitter (peak to peak)				100	ps



Parameter	Symbol	Min	Typ	Max	Unit
Receiver					
Average Rx Sensitivity @ Gigabit Ethernet ⁴	RSENS3		-35.0	-33.0	dBm
Maximum Input Power	P _{MAX}	-3.0			dBm
Optical Center Wavelength	λ_C	1270		1620	nm
LOS De -Assert	LOS _D			-36	dBm
LOS Assert	LOS _A	-41			dBm
LOS Hysteresis			1.0		dB
Receiver Jitter Generation @ 1.25Gbps ⁵				160	ps
Mechanical and Power Specification					
Weight	W	0.3			kg
Dimension (D x W x H)	D _{im}	258 x 90.4 x 23.6			Mm
Power Dissipation	P _{ow}	10			W

Notes:

- 1) Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.
- 2) Over case temperature of 0 to 70 °C.
The current available wavelengths are: 1470, 1490, 1510, 1530, 1550, 1570, 1590, and 1610 nm.
- 3) Unfiltered
- 4) With worst-case extinction ratio. Measured with a PRBS 2⁷-1 test pattern, @1.25Gb/s, BER<10⁻¹².
- 5) Jitter added by receiver (peak to peak). Measured at -23dBm average Rx sensitivity, PRBS 2⁷-1 test pattern.