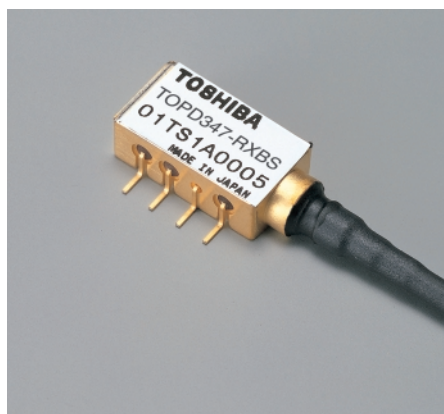


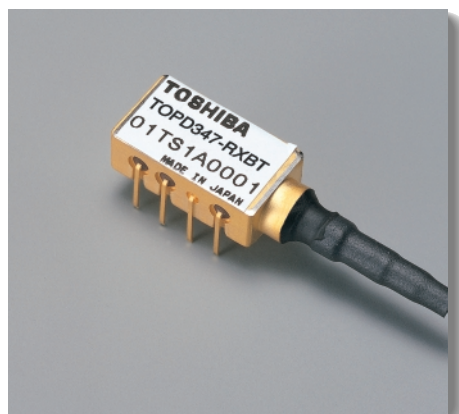
Optical Communication Devices

2.5 Gb/s Optical Receiver

TOPD347-RXB Series : TOPD347-RXBS
TOPD347-RXBT



(SMD type : TOPD347-RXBS)



(Through hole mount type : TOPD347- RXBT)

APPLICATION

- SONET / SDH (OC-48 / STM-16) applications

FEATURES

- PIN-PD and TIA
- TOPD347-RXBS: SMD type
- TOPD347-RXBT: through hole mount type
- Differential data outputs
- Single power supply voltage: +3.3 V to +5 V
- Sensitivity: -23.5 dBm (typ. @ BER = 1×10^{-10})
- Overload : 0 dBm (typ. @ BER = 1×10^{-10})
- Operating case temperature range: -40 to +85 °C
- Package size: 7.4 (W) x 13.2 (D) x 4.6 (H) mm

TOPD347-RXB Series : TOPD347-RXBS TOPD347-RXBT

ABSOLUTE MAXIMUM RATINGS (Tc = 25 °C)

Item	Symbol	Rating	Unit
Storage temperature	Tstg	−40 to +85	°C
Operating case temperature	Tc	−40 to +85	°C
PD forward current	If	10	mA
PD reverse current	Ir	1	mA
PD reverse voltage	Vpd	20	V
Positive supply voltage	Vdd	0 to +6	V
Soldering temperature / time	Tsol / tsol	260 / 5	°C / s

ELECTRICAL AND OPTICAL CHARACTERISTICS (Tc = −40 to +85 °C, Vpd = +5 V, Vdd = +3.3 V to +5 V)

Item	Min	Typ.	Max	Unit	Note
Positive supply current	−	34	−	mA	
Sensitivity	−	−23.5	−20	dBm	(1)
Overload	−2	0	−	dBm	(1)
Dark current	−	−	50	nA	
Bandwidth (−3 dB)	1.4	1.8	−	GHz	(2)
Logic sense	−	−	−	−	(3)
Skew, data out (+) to data out (−)	−20	−	20	ps	
Optical return loss	−	−	−27	dB	(4)
Output signal amplitude	20	−	250	mVpp	(5)
Electrical return loss	10	−	−	dB	(6)
	9	−	−	dB	(7)

Notes:

(1) 2.48832 Gb/s, NRZ, PRBS 2³¹−1, BER = 1 × 10^{−10}, λ = 1.55 μm

(2) −4 dBm > Pf > −27 dBm

(3) Data out (+), Light ON = Vout Logic HIGH

Data out (−), Light ON = Vout Logic LOW

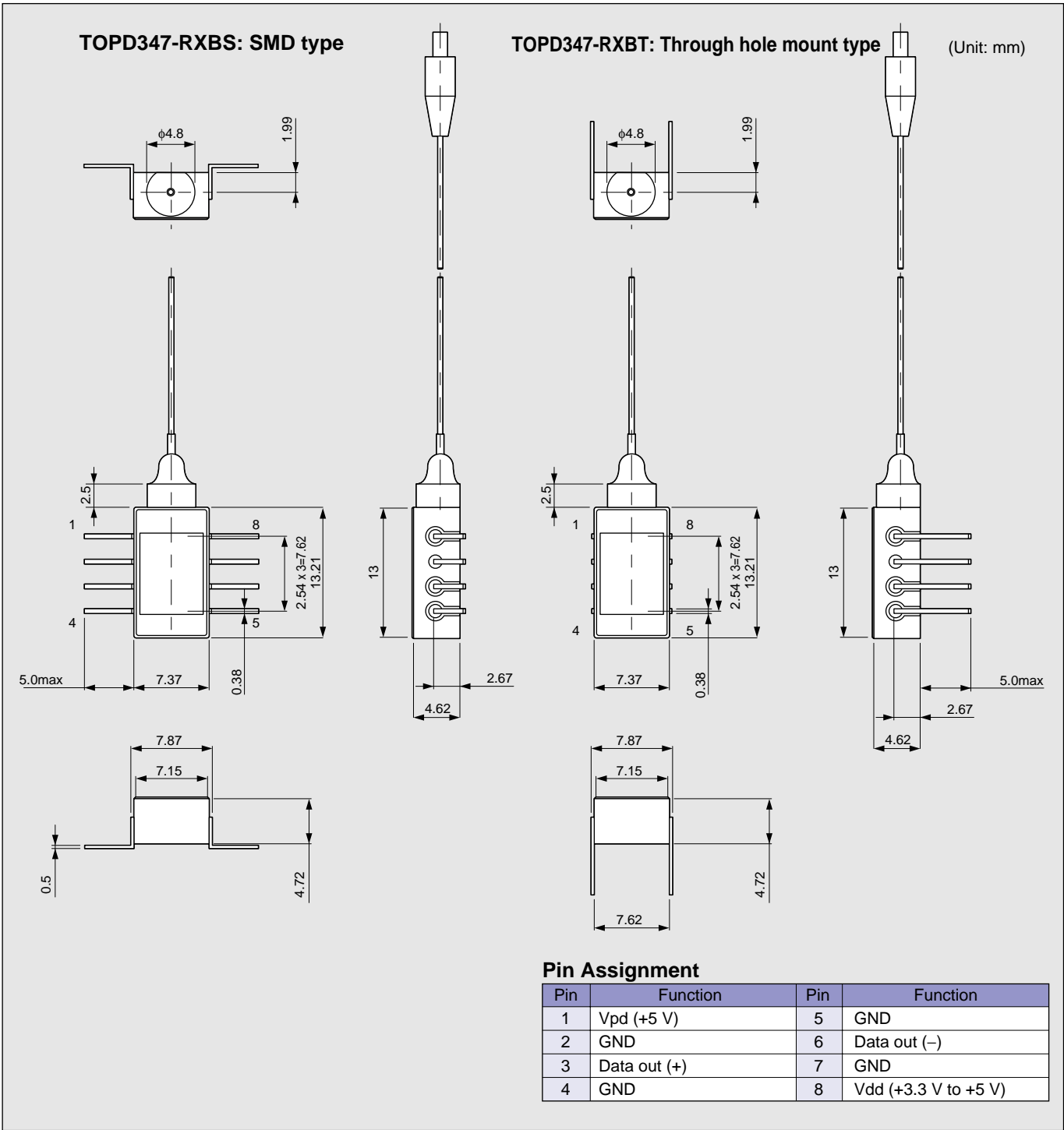
(4) λ = 1.3/1.55 μm

(5) 0 dBm > Pf > −20 dBm

(6) 0.13 GHz < F < 1.75 GHz

(7) 1.75 GHz < F < 2.5 GHz

DIMENSIONAL OUTLINE AND PIN ASSIGNMENT



PRECAUTIONS

- (a) Power supply: Transient electric spike may cause a damage to the photodiode or IC chips.
A surge-free power supply and a slow starter circuit should be used.
To avoid causing an electrical surge, pin should not be connected or disconnected on the fixture before turning the power off.
- (b) The product should be grounded for obtaining the performance.

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