

## 2.5Gbps VCSEL TOSA KTx-485-D3AA

### Description

VCSEL module, TOSA(Transmitter Optical Sub Assembly) consists of reliable 850nm VCSEL, back monitor PIN PD and plastic SC or LC receptacle. The power monitor PD can be used with appropriate feedback control circuitry to set a constant power level for each VCSEL. The parts of plastic SC or LC receptacle are actively aligned. This module guarantees high coupling efficiency, high slope efficiency, low operating current and low tracking error over wide temperature range(0°C to +85°C) and provides high optical performance.



### Features

- 850nm Wavelength Range
- High Data Rate  $\geq$  2.5Gbps
- High Reliability
- Low Current and Voltage
- Multi mode
- Other Configurations Available on Request

### Applications

- High speed Data Communications
- Gigabit Ethernet
- Fiber Channel

### Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Peak Fiber Coupled Optical Output Power	P <sub>oc</sub>	-	500	-	uW	I <sub>F</sub> =7mA, 50/125um fiber NA=0.20
Threshold Current	I <sub>th</sub>	-	1.5	3.0	mA	CW
Slope Efficiency	$\eta$	0.04	-	0.2	mW/mA	I <sub>F</sub> =7mA
Peak Wavelength	$\lambda_p$	840	850	860	nm	I <sub>F</sub> =7mA
Spectral Bandwidth(RMS)	$\Delta\lambda$	-	-	0.85	nm	I <sub>F</sub> =7mA
Forward Voltage	V <sub>f</sub>	-	1.7	2.2	V	I <sub>F</sub> =7mA
Breakdown Voltage	V <sub>b</sub>	-	-10	-	V	
Rise and Fall Times	t <sub>R</sub> / t <sub>F</sub>	-	130 / 150	-	ps	Prebias Above Threshold, 20% ~ 80%
Relative Intensity Noise	RIN	-	-130	-122	dB/Hz	1 GHz BW, I <sub>F</sub> =7mA
Series Resistance	R <sub>s</sub>	20	35	55	Ohm	I <sub>F</sub> =7mA
Monitor Current	I <sub>PD</sub>	0.3	-	1.0	mA	P <sub>oc</sub> =0.5mW
Dark Current	I <sub>D</sub>	-	-	20	nA	P <sub>oc</sub> =0mW, V <sub>R</sub> =3V
PD Reverse Voltage	BV <sub>RPD</sub>	30	115		V	P <sub>oc</sub> =0mW, I <sub>R</sub> =10uA
PD Capacitance	C			100 55	pF	V <sub>R</sub> =0V, F=1MHz V <sub>R</sub> =3V, F=1MHz