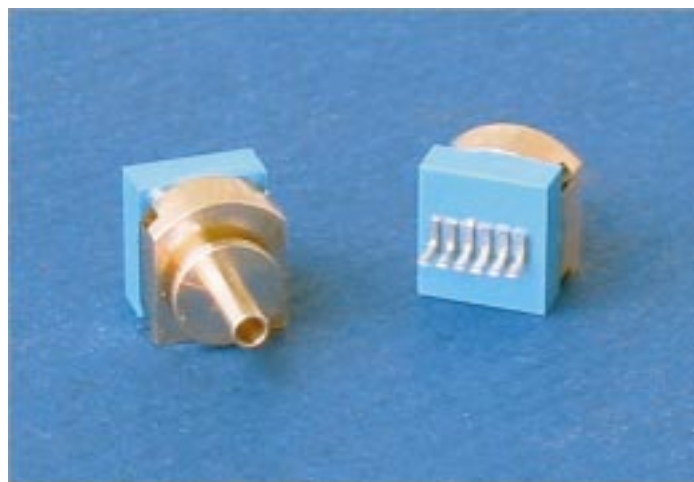


10 Gbps Multi-Mode VCSEL ROSA

March 2003
Preliminary Datasheet

Features

- 850nm wavelength range
- LC receptacle
- Data rates up to 12.5 Gbps
- High sensitivity
- Low power dissipation



Opto-electrical characteristics

Parameter*	Symbol	Conditions	Ratings			Units
			Min	Typ	Max	
Sensitivity	S	10^{-12} BER, ER = 5 dB		-14	-13	dBm
Stressed sensitivity	S_{stressed}	10^{-12} BER, ER = 5 dB			-10	dBm
Diff. output voltage	V_{out}	$P_{\text{in}} = -13$ dBm	50	100		mVpp
Overload	$P_{\text{in, max}}$		0	+2		dBm
HF cutoff	f_{high}	$P_{\text{in}} = -13$ dBm	8	9	13	GHz
LF cutoff	f_{low}			30	100	kHz
Responsivity	R		0.4	0.5		A/W
Saturated output voltage	$V_{\text{out, sat}}$	Single ended	130	150		mVpp
Optical return loss	ORL		12			dB
Output impedance	R_{out}	differential		100		Ω
Electrical return loss	$ S_{22} $	differential	-10	-12		dB
Group delay variation	τ_G	100 MHz... 8GHz		+/-25		ps
Supply voltage	V_{cc}		3.0	3.3	3.6	V
Power dissipation		$V_{\text{cc}} = 3.3$ V		140		mW

Pinout

PIN no.	Function
1	$V_{\text{cc}} = 3.3$ V for TIA
2	GND
3	Vout-
4	Vout+
5	GND
6	V_{pd} (Cathode) = 3.3 V

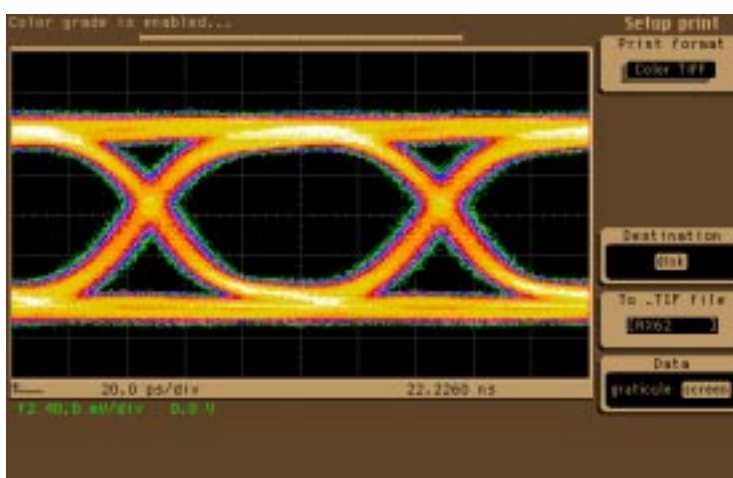
- Ordering information
Part Number APAE101011300

10 Gbps Multi-Mode VCSEL ROSA

Absolute maximum ratings

Parameter*	Ratings	Units
Optical input power	3	mW
Supply voltage	4	V
Operating temperature	0 to +85	°C
Storage temperature	-40 to +100	°C

*(T=25°C unless otherwise noted)



ROSA sample on test fixture (with Avalon TOSA, ER = 5 dB, PRBS31),
T = 25°C, $I_{PD} = 67 \mu\text{A}$, single ended output voltage approx. 150 mVpp

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The above specifications are subject to change without notice

