

# ROITHNER LASERTECHNIK

A-1040 WIEN, FLEISCHMANNGASSE 9  
 TEL: +43 -1- 586 52 43 FAX: +43 -1- 586 41 43  
 e-mail: rlt@mcb.at, http://www.roithner.mcb.at

## VCSEL TEL-2E TECHNICAL DATA

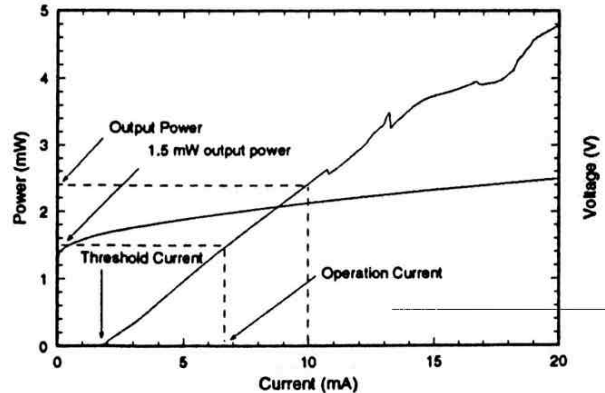
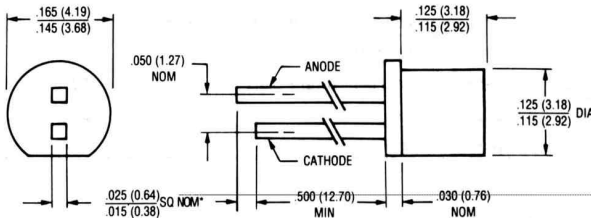
### Infrared Wavelength VCSEL

Lasing wavelength: **840 nm typ.**

Max. optical power: **3 mW typ.**, lasing aperture  $\varnothing$  **10  $\mu$ m typ.**

Package: **5 mm clear epoxy molded, 12° circular round beam (FWHM)**

**Very low threshold current, low operating current, high speed**



#### Absolute Maximum Ratings (T<sub>c</sub>=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Optical Output Power	P <sub>o</sub>	5	mW
LD Reverse Voltage	V <sub>R(LD)</sub>	10	V
Operation Temperature	T <sub>C</sub>	-10 .. +70	°C
Storage Temperature	T <sub>STG</sub>	-40 +85	°C

#### Optical-Electrical Characteristics (T<sub>c</sub> = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Optical Output Power	P <sub>o</sub>	I <sub>F</sub> = 10 mA	1.0	2.0	3.0	mW
Threshold Current	I <sub>th</sub>		1.5	2.0	3.0	mA
Threshold Variation	Δ I <sub>th</sub>	T <sub>A</sub> = 0 .. 70°C	- 1	0	+ 1	mA
Operation Current	I <sub>op</sub>	P <sub>o</sub> = 1.5 mW		7	10	mA
Operating Voltage	V <sub>op</sub>	I <sub>F</sub> = 10 mA	1.8	2.2	2.5	V
Slope Efficiency	η	I <sub>F</sub> = 10 mA	0.15	0.25	0.35	mW/mA
Series Resistance	R <sub>S</sub>	I <sub>F</sub> = 10 mA		50		Ω
Wavelength	λ <sub>p</sub>	I <sub>F</sub> = 10 mA	820	840	860	nm
Risetime / Falltime	t <sub>r</sub> / t <sub>f</sub>			200		ps
Beam Divergence	θ	I <sub>F</sub> = 10 mA		12		°
Spectral Width	Δλ	I <sub>F</sub> = 10 mA		0.5		nm
Wavelength Drift	Δλ <sub>p</sub> /ΔT	I <sub>F</sub> = 10 mA		0.05		nm/°C