



850nm Multimode VCSEL Diode in 1608 Package



VCS-F85S20-MM

Description

The Lasermate VCS-F85S20-MM is an 850nm wavelength, 2.2mW output power, CW operating mode, multi-mode, Vertical Cavity Surface Emitting Laser (VCSEL) diode in surface mount (SMD) package designed for use in sensing applications.

Features

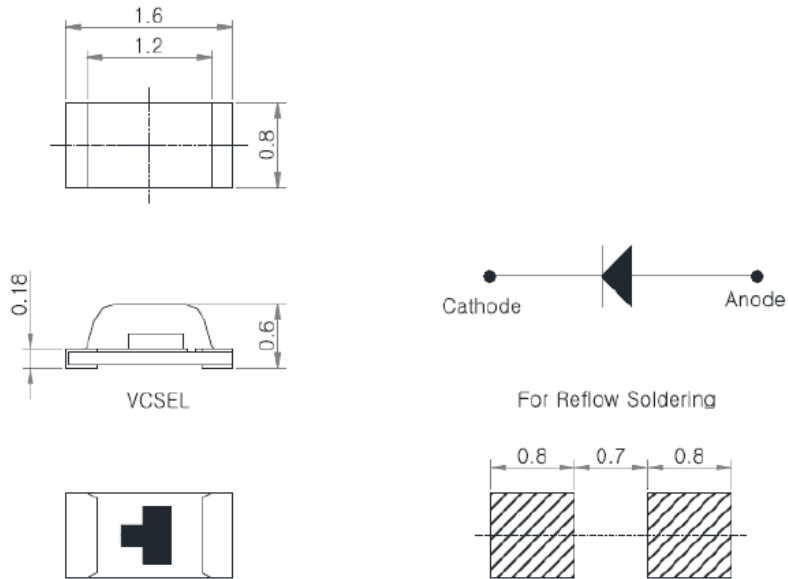
- Metric 1608 (or Imperial 0603) surface mount package
- Multimode 850nm VCSEL
- Low operating current and voltage
- Wide range operating temperature -40 to 85°C

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	-40	85	°C	
Lead Soldering Temperature		260	°C	5 seconds
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	@10uA

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}	-	1	2	mA	CW
Slope Efficiency	η	0.2	0.35	0.5	mW/mA	$I_f=7mA$
Optical Output Power	P_o	-	2.2	-	mW	$I_f=7mA$
Wavelength	λ_p	840	850	860	nm	$I_f=7mA$
Forward Voltage	V_F	-	1.8	2.3	V	$I_f=7mA$
Breakdown Voltage	V_B	-	-10	-	V	
Dynamic Resistance	R_d	20	35	70	Ω	$I_f=7mA$
Spectral Bandwidth (RMS)	$\Delta\lambda$	-	-	0.85	Nm	$I_f=7mA$
Beam Divergence	θ	14	-	30	degree	$I_f=7mA$ (Full width, $1/e^2$)

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	$T_a=-40$ to $85^\circ C$
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.5		%/°C	$T_a=-40$ to $85^\circ C$, $I_f=7mA$
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.06		nm/°C	$T_a=-40$ to $85^\circ C$, $I_f=7mA$

Outline Dimensions (unit: mm)**Additional Notes**

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.



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