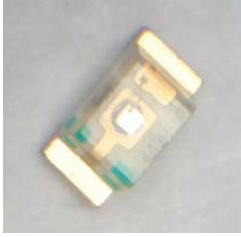


XS85-S0603-5U Rev 1.1

850nm VCSEL SMD Package

Features	Description
<ul style="list-style-type: none"> : 850nm wavelength range : Single mode transverse and longitudinal mode : High reliability : High resistance to ESD : Cost effective : Other configurations available on request 	

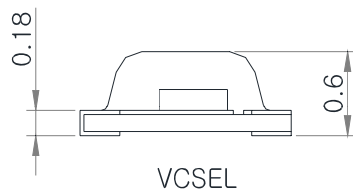
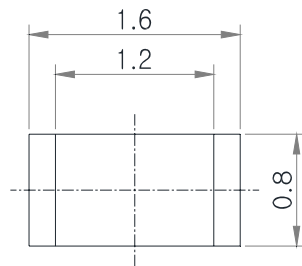
Applications	Absolute Maximum Ratings																		
<ul style="list-style-type: none"> : Consumer electronics : Laser mouse : Laser printer : Safety sensor : Engine management system 	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Parameter</th> <th style="width: 40%;">Rating</th> </tr> </thead> <tbody> <tr> <td>Storage Temperature</td> <td>-40 to 85 °C</td> </tr> <tr> <td>Operating Temperature</td> <td>-10 to 50°C</td> </tr> <tr> <td>Lead Solder Temperature</td> <td>260 °C, 5 sec</td> </tr> <tr> <td>Continuous Forward Current</td> <td>8mA</td> </tr> <tr> <td>Continuous Reverse Voltage</td> <td>5V (@10µA)</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Parameter	Rating	Storage Temperature	-40 to 85 °C	Operating Temperature	-10 to 50°C	Lead Solder Temperature	260 °C, 5 sec	Continuous Forward Current	8mA	Continuous Reverse Voltage	5V (@10µA)						
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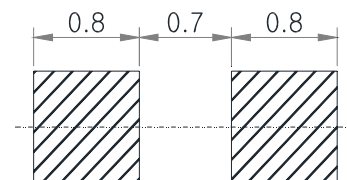
850nm VCSEL SMD Package

Dimensions

Unit :mm



For Reflow Soldering



XS85-S0603-5U Rev 1.1

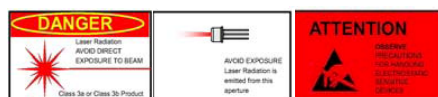
850nm VCSEL SMD Package

Electro-Optics Characteristics ($T_a=25^\circ\text{C}$ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		2	3	mA	CW
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	$T_a = -10$ to 50°C
Slope Efficiency	η	0.2	0.35		W/A	$I_f = 3.5\text{mA}$
η Temperature Variation	$\Delta\eta / \Delta T$		-0.5		%/ $^\circ\text{C}$	$T_a = -10$ to 50°C at 5mA
Optical Output Power	P_o	0.3	0.5	0.7	mW	$I_f = 3.5\text{mA}$
Peak Wavelength	λ	830	850	860	nm	$I_f = 3.5\text{mA}$
λ Temperature Variation	$\Delta\lambda / \Delta T$		0.06			$T_a = -10$ to 50°C at 3.5mA
Beam Divergence	Θ		8		$^\circ$	$I_f = 3.5\text{mA}$, (FWHM)
Operating Voltage	V_f		1.8	2.1	V	$I_f = 3.5\text{mA}$
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d		70	100	Ohm	$I_f = 3.5\text{mA}$
Side mode suppression ratio	SMSR	15			dB	$P_o = 1\text{mW}$
Max. single-mode Power	P_{SM}		1.0	1.3	mW	SMSR > 15dB

Notes

* These specifications are subject to change without notice



NOTICE	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
DANGER	The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.