

450 nm Compact Laser Diode Modules CS450050M3X

Laser Diode Solutions

CS450050M3X is a 450 nm band laser diode. It's an attractive light source, with a typical light output power of CW 50 mW. It's suitable for use as high reliability laser diode in a wide range of industrial application.

Key Features

- Visible light $\lambda = 450$ nm
- Output powers = 50 mW
- Package type = 3.8 mm ϕ

Applications

- Blu-ray Disc/HD DVD drive
- Other new application



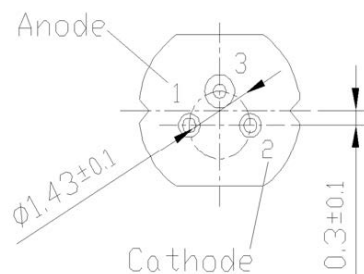
Electrical and Optical Characteristics at $T_c=25^\circ\text{C}$

Item	Symbols	Min.	Typ.	Max.	Unit	Condition
Optical output power	P_o	-	-	80	mW	-
Threshold current	I_{th}	-	30	60	mA	-
Operating current	I_{op}	-	80	120	mA	-
Slope efficiency	SE				mW/mA	-
Operating voltage	V_{op}	-	5.5	6.5	V	-
Peak wavelength	λ_p	440	450	460	nm	-
Beam divergence	$\Theta_{//}$	4	7	15	deg	-
	Θ_{\perp}	15	21	25	deg	-
Modulation frequency	f	-	>100	-	MHz	-

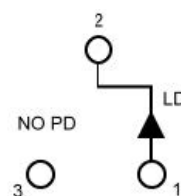
Absolute Maximum Rating at $T_c=25^\circ\text{C}$

Items	Symbols	Values	Unit
Optical output power	P_o	80	mW
Laser diode reserve voltage	V	2	V
Operating temperature	T_o	-10 ~ +70	$^\circ\text{C}$
Storage temperature	T_s	-40 ~ +85	$^\circ\text{C}$

Electrical Connection

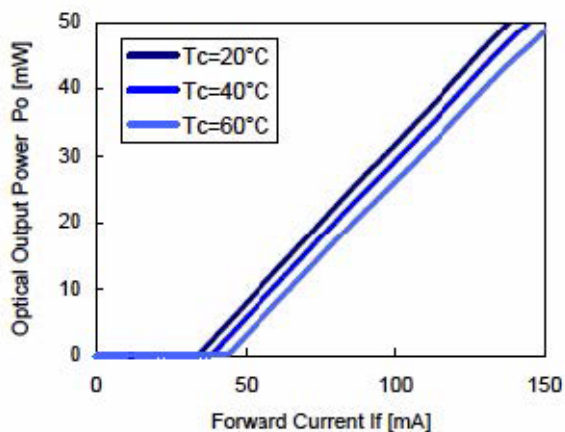


Package Type

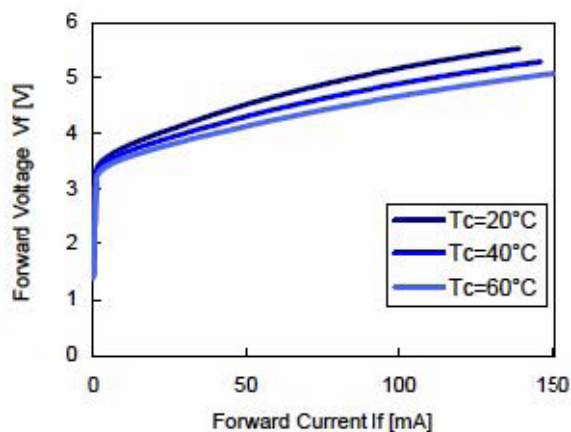


Typical Characteristics

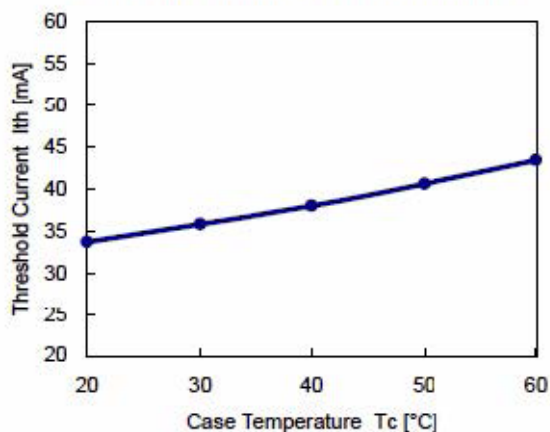
◆ Optical Output Power vs. Forward Current



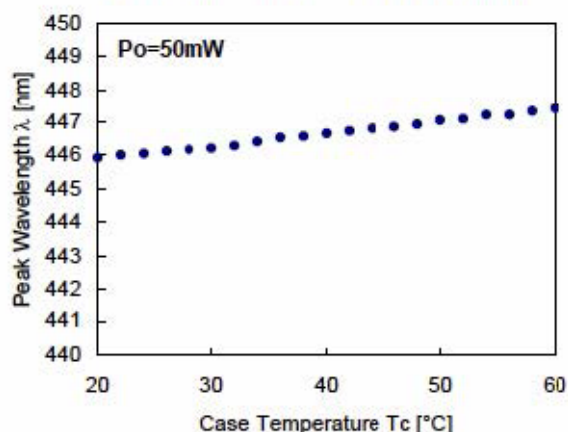
◆ Forward Voltage vs. Forward Current



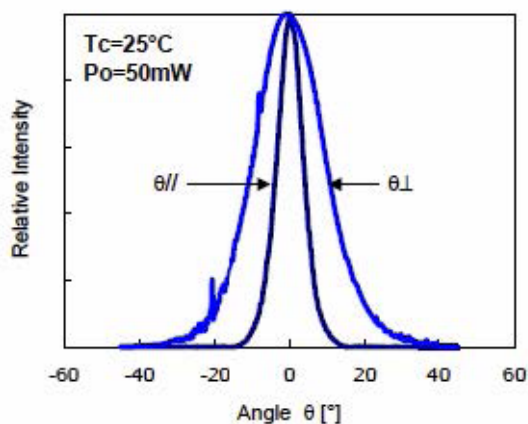
◆ Threshold Current vs. Case Temperature



◆ Peak Wavelength vs. Case Temperature



◆ Far Field Pattern



◆ Typical Spectrum

