SPECIFICATION

LDSMD-650-5730-M

Specification

Laserdiode, 650nm (typ.), SMD 5730, 5mW(CW) w/ monitor diode
Rev. 2.0 (June 2018)

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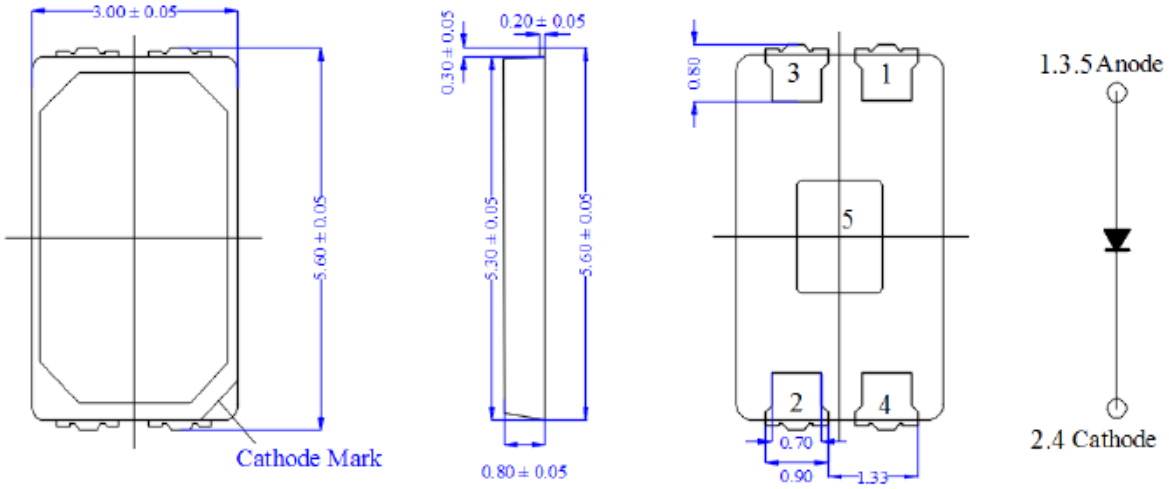
■ Features

1. Peak wavelength at 25°C：650 nm (typical)
2. Standard optical power output：5mW (CW)
3. 5630 Packaged
4. High temperature operation
5. single mode lasing

■ Applications

1. Laser Module
2. Laser Pointer
3. Medical application

■ External dimensions(Unit : mm)　5.60×3.00×0.80



Top View　　Front View　　Bottom View

Notes:

1. Drawings are not to scale
2. All dimensions are all in millimeter
3. All dimensions without tolerance are for reference only

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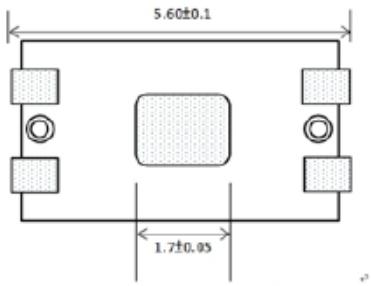
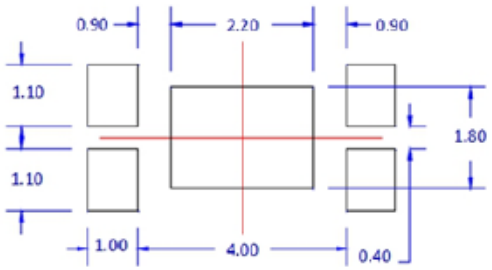
Soldering Conditions(Reference Outline)

Soldering pad pattem

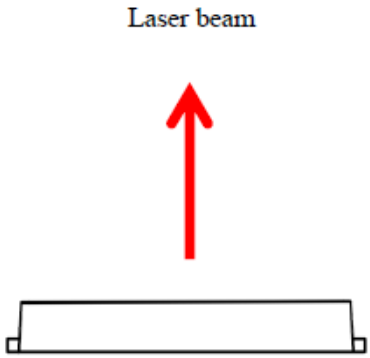


Metal solder stencil aperture



NOTE : All dimensions in mm tolerance is +/- 0.1mm unless otherwise noted.
The drawing above shows the recommended solder pad layout on Printed Circuit Board (PCB).

■ Emission direction



■ Absolute Maximum Ratings(Tc=25℃)

Parameter	Symbol	Rating	Unit
Optical Output	Po	5	mW
Reverse Voltage	Vr	2	V
Operating Temperature（Case）	Top	-10～+70	℃
Storage Temperature	Tstg	-40～+85	℃

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■ Absolute Maximum Rating (Ta=25℃)

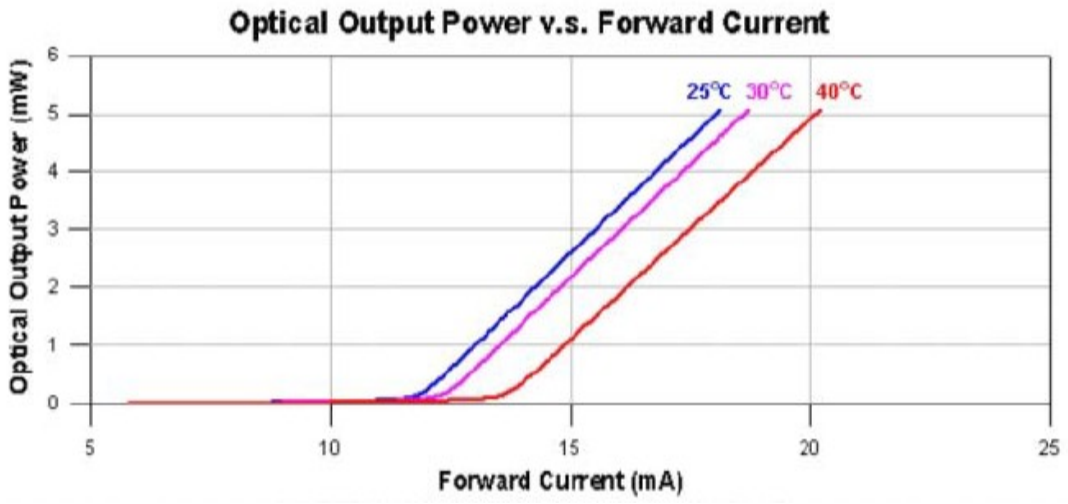
Item	Symbol	Value	Unit
Threshold current	I_F	12-25	mA
Operating current	I_{FP}	18-25	mA
Power dissipation	P_D	150	mW
Operating temperature	T_{opr}	-10~+40	℃
Storage temperature	Y_{stg}	-15~+85	℃
Reverse voltage	V_R Laser	2	V
Reverse voltage	V_R Pin PD	30	V
Sold soldering temperature	T_{sol}	260℃/3Sec	---

Plus with Max 10ms,duty ratio max1/10

■ Initial Electrical/Optical Characteristics (Ta=25℃)

Item	Symbol	condition	Min	Type	Max	Unit
Operating Voltage	V_F	PO=5MA	----	2.1	2.5	V
Slope efficieny	η	4-11MW	0.4	----	0.8	MW/MA
Monitor current	Im	PO=5MA	----	0.3	0.5	MA
Beam divergence(FWHM)	Parallel	PO=5MA	5	9	12	Deg
	Perpendicular	PO=5MA	30	36	42	
Laser wavelength	λ	PO=5MA	640	650	660	Nm

■Typical characteristic curves



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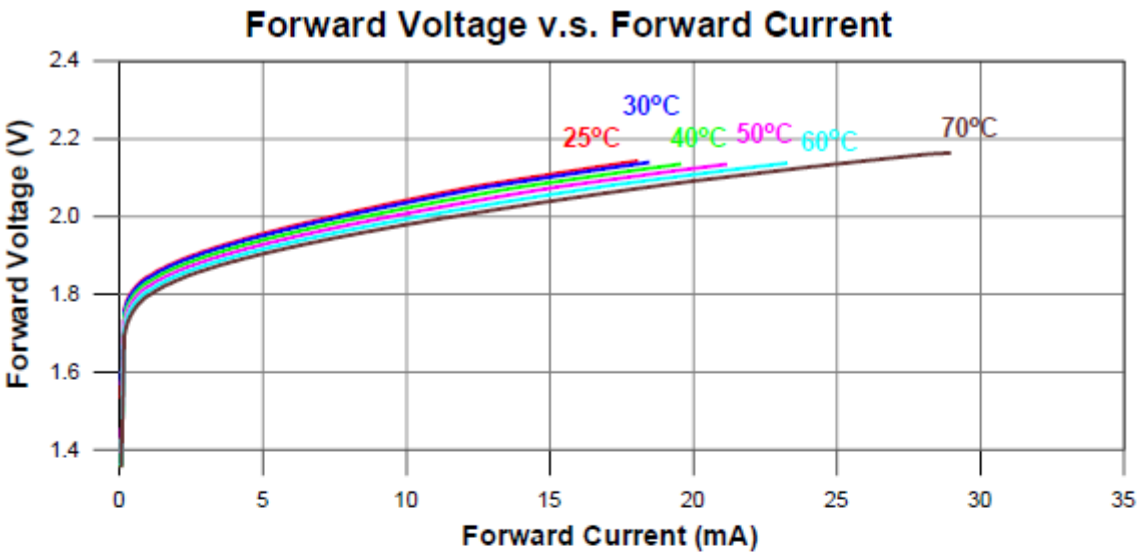

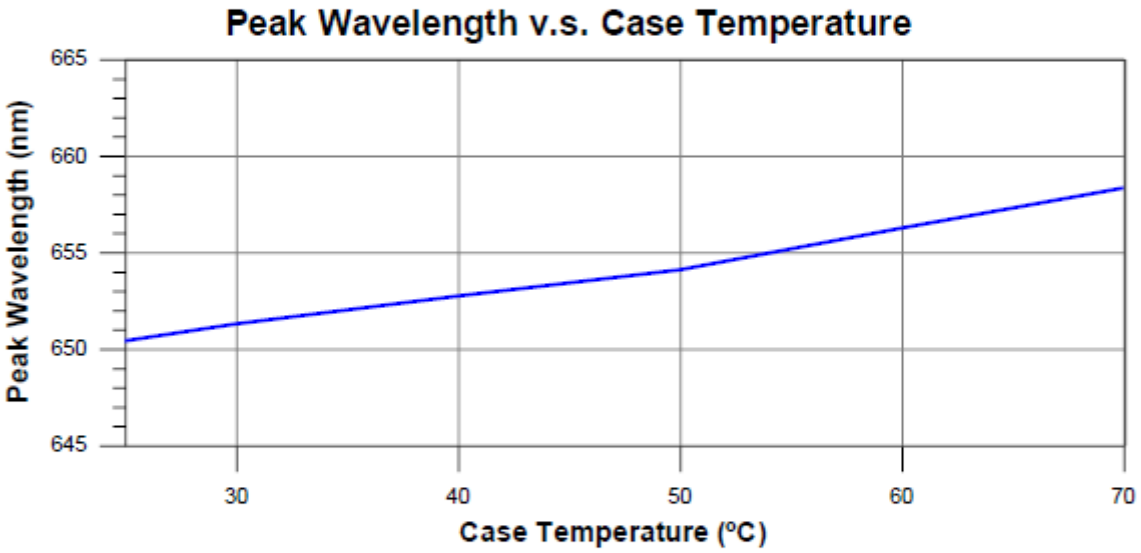

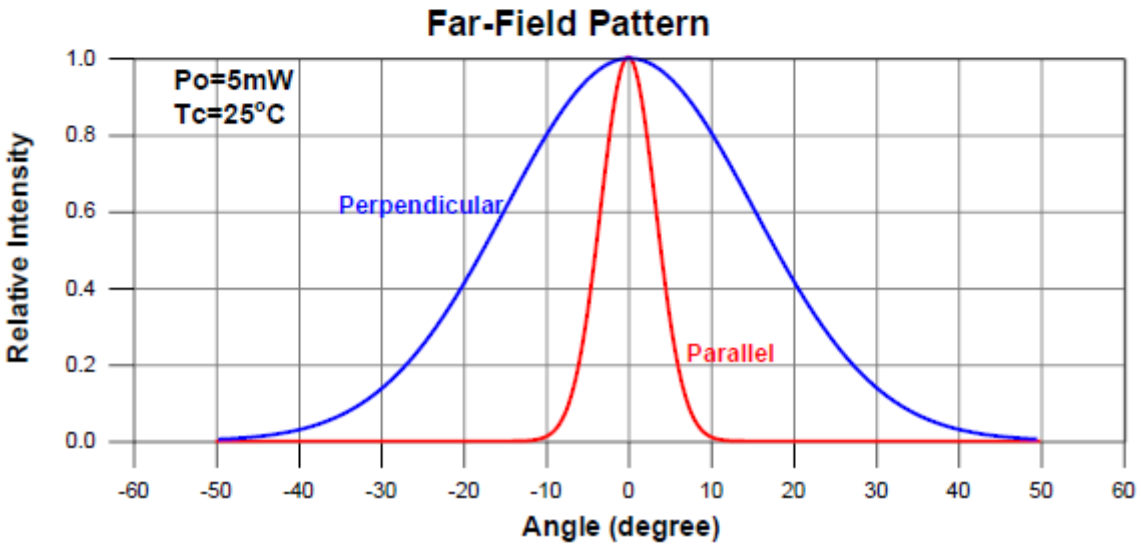

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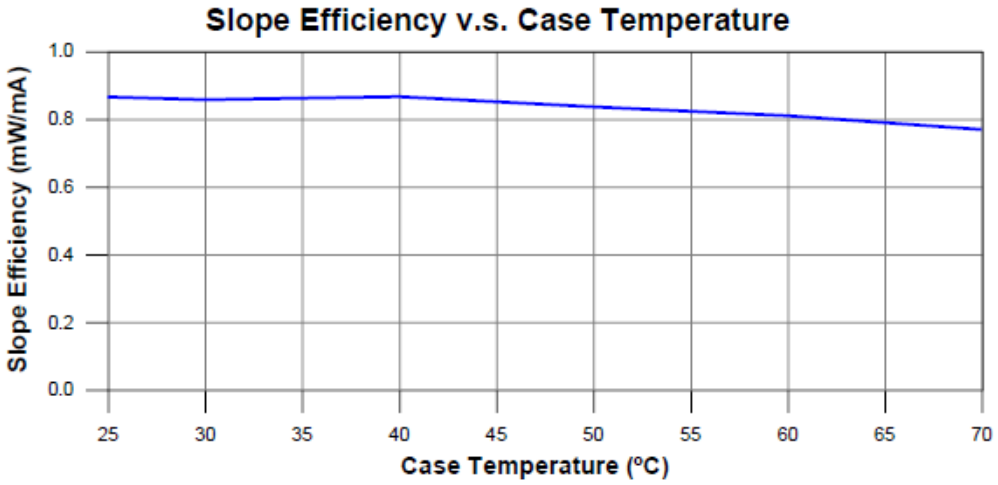

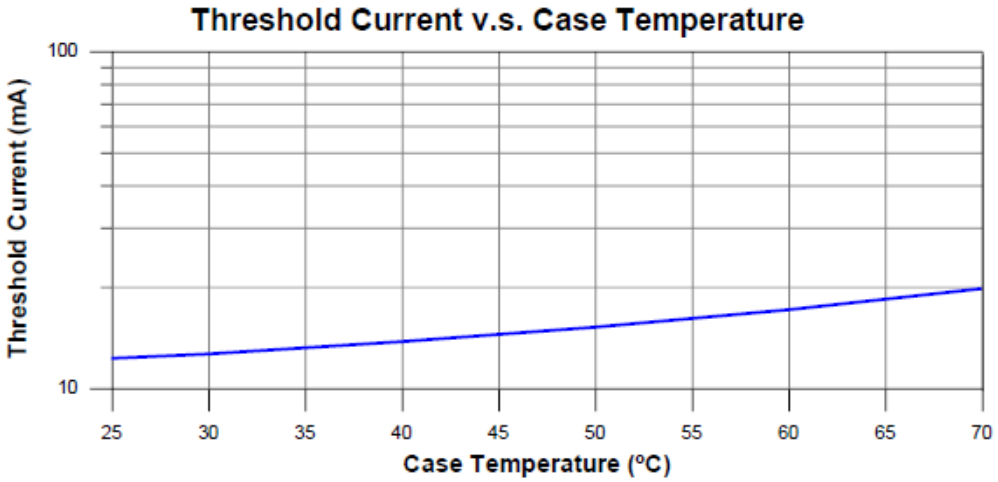

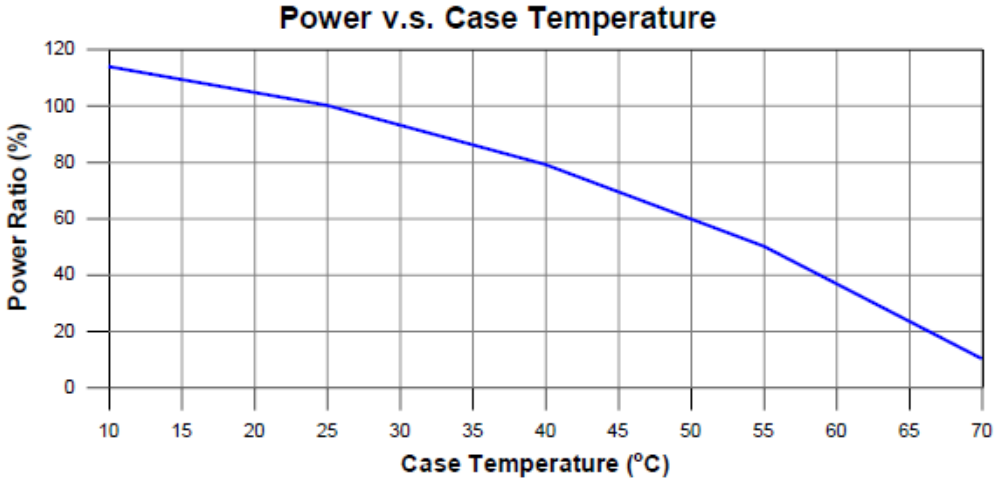

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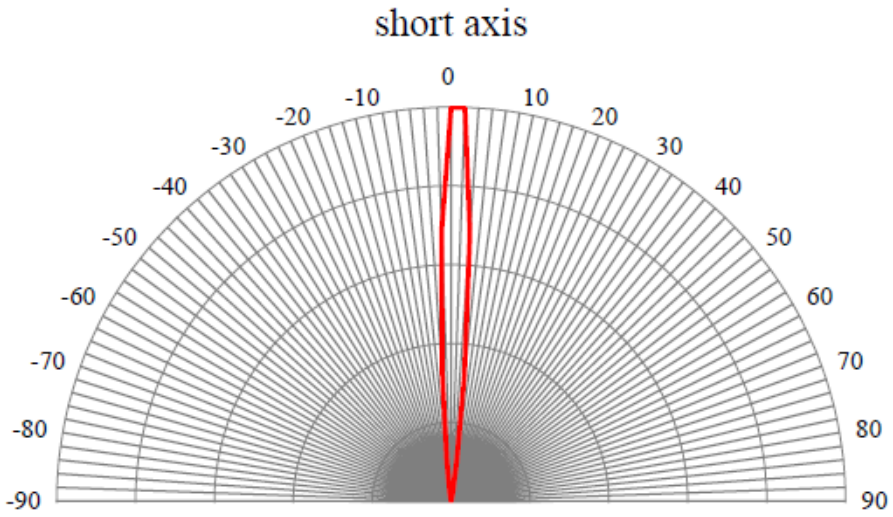
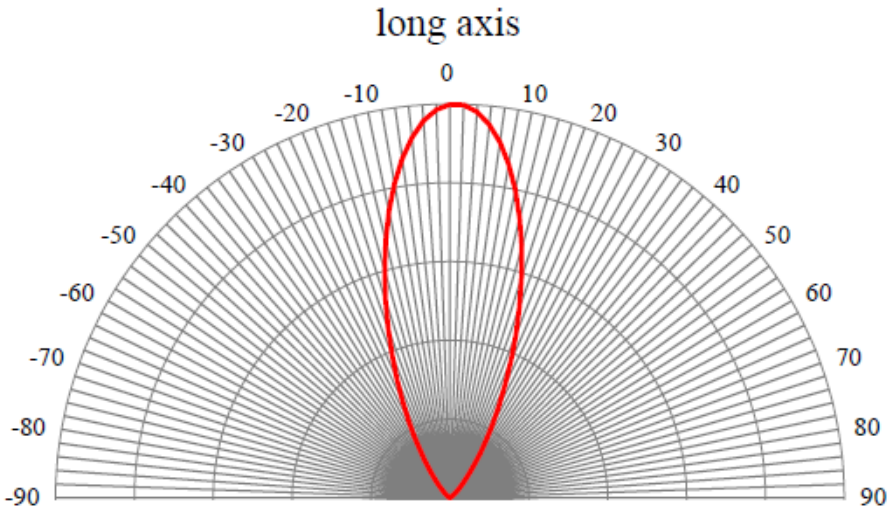
■ Radiation Pattern in Polar Coordinate System





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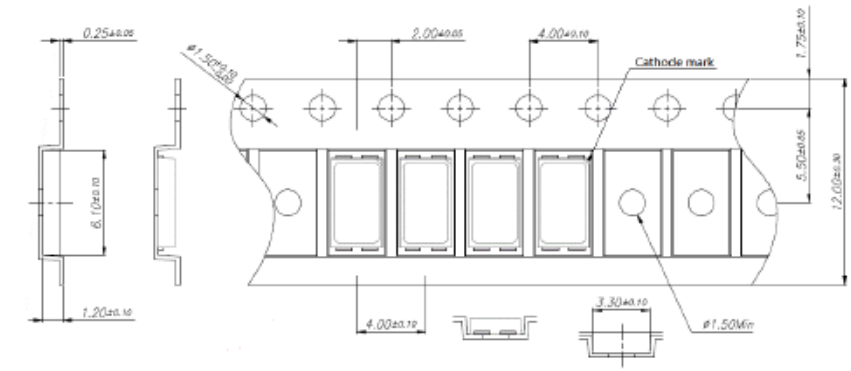
■ Recommend reflow conditions

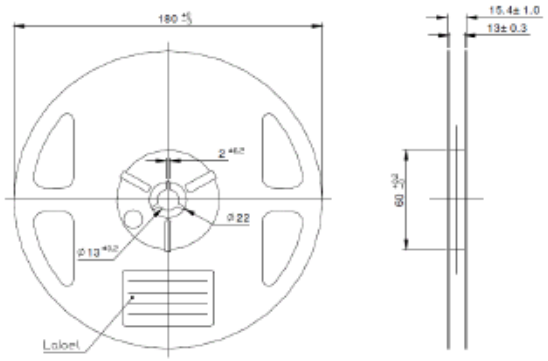
Low temperature solder is recommended.

Maximum solder profile should be less than 200℃ 1min.

■ Packing Information

- Embossed Tape Dimension





(Tolerance: ±0.2, Unit: mm)

■ Precautions

QUALITY ASSURANCE

After any processing of laser chip or laser diode SMD (LD) by the customer, the performance, yield and reliability of the product, in which the chip or LD is applied, are subject to change due to customer's handling, assembly, testing, and processing. Because laser chip and LD are strongly affected by environmental conditions, physical stress, and chemical stresses imposed by customer that are not in Optronics Corp. (OC) control and hence no guarantee on the characteristics and the reliability at all after the shipment. Also, OC does not have any responsibility for field failures in a customer product. When attaching a heat sink to laser chip or LD, be careful not to apply excessive force to the device in the process.

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Although Optronics Corp. (OC) keeps improving quality and reliability of its laser chip and laser diode SMD (LD), semiconductor devices in general can malfunction or fail due to their intrinsic characteristics. Hence, it is required that the customer's products are designed with full regard to safety by incorporating the redundancy, fire prevention, error prevention so that any problems or error with OC laser chip or LD does not cause any accidents resulting in injury, death, fire, property damage, economic damage, or environmental damage. In case customer wants to use OC laser chip or LD in the systems requiring high safety, customer is requested to confirm safety of entire systems with customer's own testing.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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