

MODEL 58625

KEY FEATURES

- All-in-one test system
- Flexible test station arrangement
- Precise temperature control -20~85°C
- Large beam angle measurement
- Nanosecond high-speed testing (optional)

APPLICATIONS

- 3D sensing modules & laser diodes
- Lidar modules
 - Automotive
 - Automation
 - Mobile devices
- Various laser products



PHOTONICS MODULE TEST SYSTEM MODEL 58625

Chroma 58625 provides characterization testing for 3D sensing illumination devices. Various optical test modules are combined for validation testing under precise temperature control. The optical modules include electrical properties along with optical power, wavelength, near-field, far-field, eye safety and similar optical measurements. These features make Chroma's 58625 a perfect fit for product development and quality screening of illumination modules for 3D sensing.

Light Power & Wavelength Test (LIV+ λ)

A select integrating sphere is paired with a high-resolution spectrometer to accurately measure the light power and wavelength of 3D sensing illuminators. The flexible design enables customized test plans according to specified test requirements. Chroma 58625 can calculate photonic parameters such as threshold current (I_{th}), power conversion efficiency (PCE), slope efficiency (SE), etc. from LIV testing.

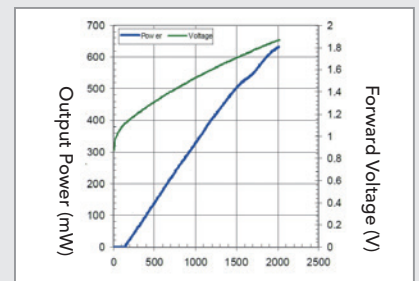
Far Field Test

In far-field optical measurements, Chroma 58625 uses screen projection to measure 3D sensing illuminators with a divergence angle up to 120°. Chroma's unique algorithm analyzes far-field light patterns, automatically obtaining the divergence angle, beam uniformity, and Class 1 conditions as stipulated by IEC 60825. Extra high-resolution testing can be achieved via an add-on beam profiler.

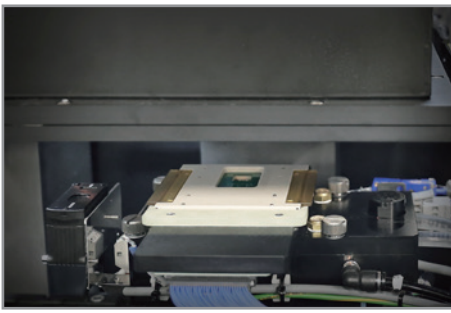
Near Field Test

Near-field optical measurements primarily apply to laser diodes and similar devices in 3D sensing illuminators. With a high-performance microscope and automated optical alignment, the Chroma 58625 measures the beam waist (W₀), divergence angle, and beam propagation ratio (M₂) of such sources. When testing laser arrays, Chroma's exclusive image analysis obtains the light uniformity of such devices down to each emitter.

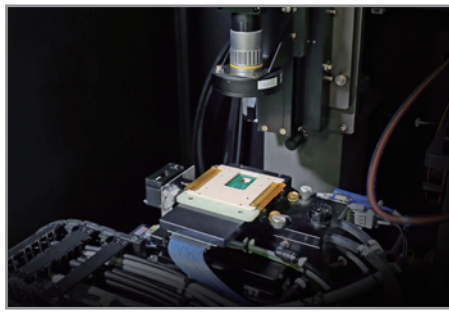
Light-Current-Voltage Characteristics



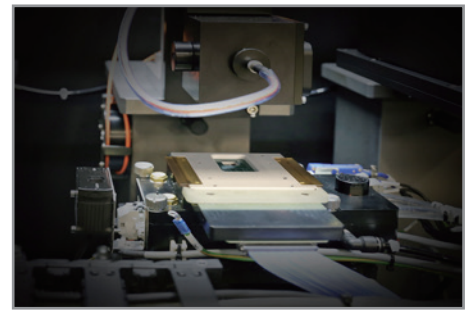
Chroma



Far-field optical inspection module



Near-field optical inspection module



Precise temperature control platform

SPECIFICATIONS

Model	58625
Max. Supported Test Stations	4
Temperature Control of Test Station	Standard: 25~85°C ; Option: -20~85°C
Temperature Accuracy	± 0.3°C ^{*1}
Temperature Stability	± 0.1°C ^{*2}
Clean Room Class	10,000
Current Accuracy	0.2% F.S.
SMU Specification	
Number of SMUs (25W max. each)	2 channels (additional channels optional)
Driving Mode	CW and Pulse
Pulse Mode	≤ 6A, ≤ 5V, 100us Pulse width, ≤ 10%
CW Mode	Max. ≤ 3.5A/5V
Current Range	± 6A/± 3.5A/± 2.5A/± 1A/± 100mA/± 10mA/± 1mA/± 100μA/± 10μA/± 1μA
Voltage Range	± 25V/± 12.5V/± 10V/± 5V/± 2V/± 1V/± 500mV/± 200mV/± 100mV
LIV+ λ Measurement	
Test Parameters	Optical power (w), Forward voltage (v), PCE(%), SE, λ p and λ c (nm)
Integrating Sphere Cover Angle	≤ 120° ^{*2}
Optical Power Measurement Range	1mW~10W ^{*2 *3}
Wavelength Range	800~1,000nm
Wavelength Optical Resolution	≥ 0.25nm
FFP Test (Projection)	
Test Parameters ^{*4}	FOI uniformity, divergence angle
Coverage Angle	≤ 120°
Optical Power Measurement Range	100mW~10W ^{*5}
NFP Test (Laser Diode)	
Test Parameters ^{*4}	Standard: Relativity, Intensity, Uniformity, Dead emitters Option: WO, M ² , Divergence angle
Optical Module ^{*6}	ND filters, NA ≤ 0.3@940nm (manual selection)
Effective FOV	1.6x1.2mm (emitter size ≤ 1.4x1mm)
Optical Power Measurement Range	10mW~10W (940nm)

Note *1 : Temperature accuracy and stability specs are based on the reading of the thermal couple inside the socket. The DUT will determine the thermal gradient between the thermal couple and junction temperature.

Note *2 : Correlation is required for accurate optical power measurement, especially for wide angle emission.

Note *3 : For optical power > 6.5W, correlation is required for an accurate measurement.

Note *4 : D86 and D4 sigma selectable

Note *5 : Camera exposure time is proportional to the optical power. ND filters may be required to compensate the optical power.

Note *6 : Cover chip angle ≤ 36°

ORDERING INFORMATION

58625 : Photonics Module Test System

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