

# LED Mapping Probe Tester

## Model 58212-C

The Chroma 58212-C features an automated LED wafer/chip probe tester, delivering fast and accurate LED measurements with test times less than 125ms \*1.

The system can be modified to support different LED structures including Lateral, Vertical, and Flip Chip designs. Integrated scanners provide autonomous wafer mapping to guarantee precision testing. The patented probe head prevents device scratches and ensures solid contact with every LED.

Chroma's unique design acquires and analyzes optical data such as the dominant wave length, peak wavelength, and CCT. Additionally, it provides essential electrical data such as forward voltage, leakage current, and reverse breakdown voltage, all in one test step.

The 58212-C includes a user-friendly graphical interface and advanced logic algorithms to significantly increase production efficiency. Comprehensive statistical reports and analysis tools allow for easy control and mass production management.

**Note \*1** : Test condition: under 300um sample pitch, 5 electrical test parameters and 1 optical parameter. Due to differences in LED characteristics, the measurement results may vary.

### Key Features

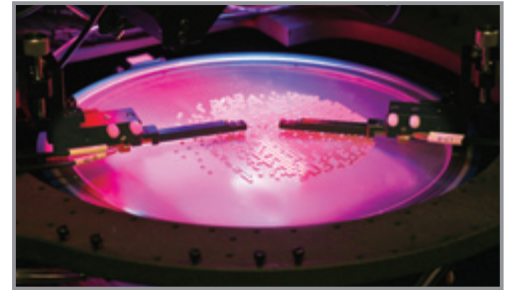
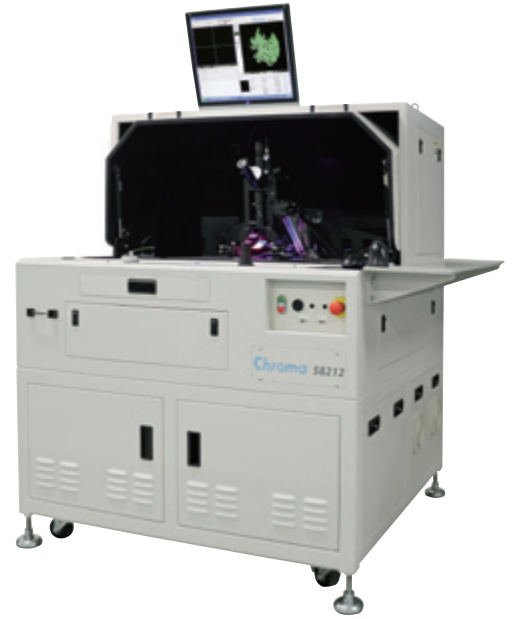
- ✓ High speed and accuracy
- ✓ Lateral, vertical, and flip chip
- ✓ Wide power test range (up to 200V/2A)
- ✓ Up to 8 inch wafers
- ✓ Chroma® Huge Photo Detector
- ✓ Unique edge sensor
- ✓ Patented probe head
- ✓ Robust Z-Axis stage
- ✓ Wafer mapping algorithm
- ✓ External light shielding enclosure
- ✓ Analysis tools and statistical reports

### Test Items

- ✓ Electrical parameters:
  - Forward Voltage Measurement (Vf)
  - Reverse Breakdown Voltage Measurement (Vrb)
  - Reverse Leakage Current (I<sub>r</sub>)
  - SCR detection
- ✓ Optical parameters:
  - Optical power (mw, lm, mcd)
  - Dominant Wavelength (Wd)
  - Peak Wavelength (Wp)
  - Full Width at Half Maximum (FWHM)
  - CIE<sub>x</sub> - CCT - CRI

### Hardwares

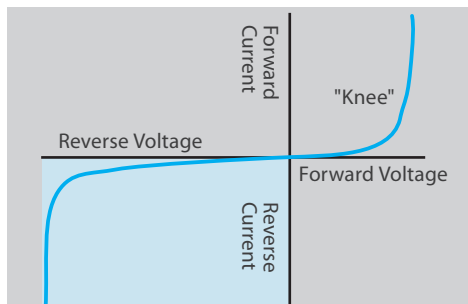
- ✓ Automatic LED wafer/Chip prober
- ✓ Electrical test module
- ✓ Optical test module
- ✓ Optional ESD test module



SPECIFICATIONS		
Model	58212-C	
Application		
Test Area	ψ 8 inch wafer	
Supported Device (Chuck is device selected)	Chip on wafer : 2", 4", 6", 8" Chip on tape : 2", 4", 6"	
Chuck Type	Lateral type, Vertical type, and Flip Chip type (Select one of them)	
Die Size	7 ~ 120 mil	
Pad Size	≥ 70 μm	
Electrical Parameter Measurements		
Power Range	≤ 20W	
Voltage	Source Range	± 10V / ± 100V / ± 200V
	Source Accuracy	0.05% + 0.03%F.S. / 0.05% + 0.03%F.S. / 0.05% + 0.03%F.S. *2
	Measure Range	± 10V / ± 100V / ± 200V
Current	Measure Accuracy	0.03% + 0.02%F.S. / 0.03% + 0.02%F.S. / 0.03% + 0.02%F.S. *2
	Source Range	± 20uA / ± 500uA / ± 20mA / ± 500mA / ± 2A
	Source Accuracy	0.08% + 0.06%F.S. / 0.08% + 0.05%F.S. / 0.08% + 0.05%F.S. / 0.3% + 0.1%F.S. / 0.3% + 0.3%F.S. *2
Current	Measure Range	± 20uA / ± 500uA / ± 20mA / ± 500mA / ± 2A
	Measure Accuracy	0.06% + 0.04%F.S. / 0.06% + 0.03%F.S. / 0.06% + 0.03%F.S. / 0.25% + 0.1%F.S. / 0.25% + 0.3%F.S. *1
Optical Measurements		
Spectrometer	Wavelength Rang	350 ~ 780 nm
	Wp Repeatability	± 0.5 nm
	Wd Repeatability (380~780nm)	± 0.3 nm
Optical Power	Repeatability	± 1%
Operation	Temperature	20° ~ 30°
Environment	Humidity	40% ~ 70%
Facility Requirements		
Machine Dimension	980 mmx1160mmx1500 mm (does not include monitor and signal)	
Power Requirement	Single phase, 220VAC ± 10%, 50/60Hz, 20A	
Input Air	-0.2 Mpa / ψ 6 mm	
Weight	750 kg	

**Note \*1** : Test condition is under point of sensing

**Note \*2** : The tested device is blue LED chip



LED I-V curve