

PN Checker

SM500

Features

- Portable, contactless PN checker
- Based on the test principle of surface photovoltage method, the injection depth is 5 μ m
- No sample pretreatment required
- PN model of any shape sample
- Test resistivity range: >20 m.ohm
- Test time: 0.5s
- Two-color LED display test results
- Built-in lithium battery, the number of battery life measurements > 10,000 times Fast scan a cycle of four channels within 5s

Application

- Polysilicon purification/ingoting, direct to monocrystalline, chip, cell production
- Measure monopolysilicon samples of any shape

Description

SM500 checker uses surface photovoltage technology to determine PN models quickly and without damage.

SM500 uses the surface photovoltage method to measure PN types. The polarity of the surface barrier of the semiconductor material characterizes the material type. The polarity of the surface barrier can be measured by a non-contact surface photovoltage measurement method. This method uses a chopping laser to cut the surface barrier. The change in barrier due to light irradiation is measured by a surface-coupled capacitor probe. The PN model is derived from the polarity of the change in the surface barrier caused by light irradiation.

SM500 checker built-in lithium battery, using BQ27520 power management chip, USB interface charging, a single full charge can be tested up to 15,000 times.



Performance

Number	index	parameter
1	Resistivity range	> 20 m.ohm
2	Detection speed	0.5s
3	Maximum output power	10mW
4	Average output power	5mW (50% Power Factor)
5	18650 lithium battery	USB interface charging, a single full charge can be tested about 15,000 times
6	Beam divergence	0.5 radians
7	Measure the spot	~10-20mm (diameter depends on test distance)
8	Laser excitation depth	5 μ m
9	Detection distance	1mm~20mm
10	The result is displayed	LED