



ML-8150A

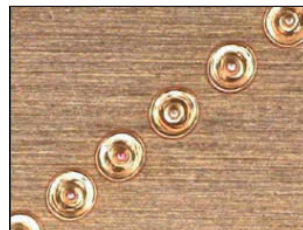
Green Pulse Laser Welder

- For solder-less joining of semiconductor substrate
- SHG laser can weld copper wire directly onto a semiconductor substrate without using solder
- Combination of YAG fundamental laser and SHG laser realizes welding of thick copper plates; which is difficult to weld by a conventional way
- SHG laser is the best solution for welding copper and gold
- Copper and gold are materials with high reflectance so that those are known as hard-to-weld materials
- Wavelength of SHG laser is 532 nm which is a half of fundamental laser (1064 nm) and that makes laser absorptance to copper and gold 4.5 to 20 times higher than fundamental laser
- Even copper and gold does not reflect SHG laser

KEY FEATURES

- Maximum power is 5 W! Its power gets much stronger than ML-8050A with 2 W
- Beam quality is up and power density is nine times higher than the existing model. (190 kW/mm² @1.5 kW)
- High-speed, Welding shortens takt time
- Real-time power feedback control feature supports stable laser output
- Air cooling method is employed; no additional heat exchanger is necessary

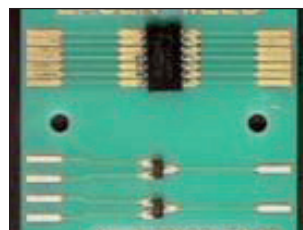
TYPICAL APPLICATIONS



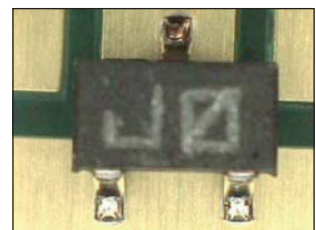
Spot welding of copper



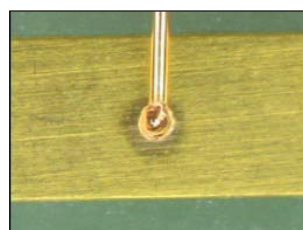
Welding of bus bars



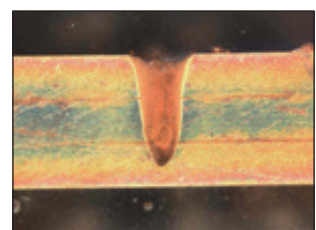
Welding of copper on PCB



Welding of mount parts onto PCB without solder



Penetration of 1.26 mm in CuSn6



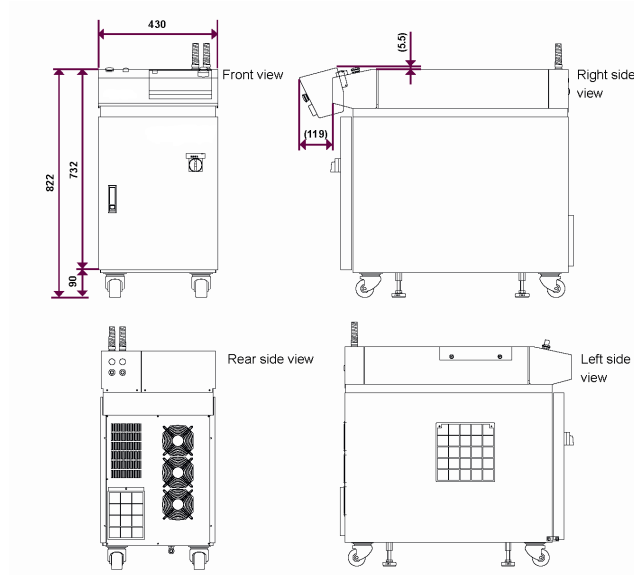
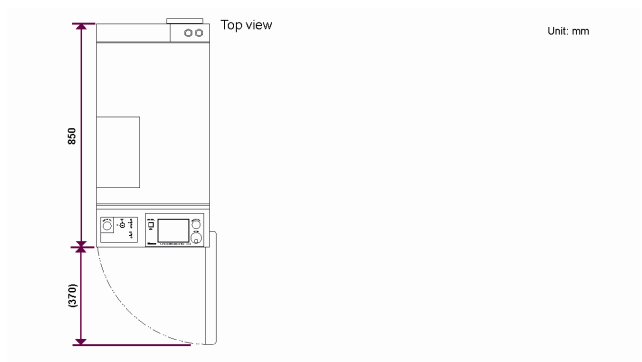
Penetration of 1.26 mm in CuSn6



TECHNICAL SPECIFICATIONS

Oscillator	Technical specifications	5 W
	Weldheads	4 JP / 1.5 kW
	Available for	0.20 to 5.00 ms (0.02ms step)
	Offset	1 to 30 pps
	Front head 40 mm lower (other steps upon request)	532 nm
	Head selection	Optical fiber / Two energy sharing at maximum
Power supply	Camera	200/220/240 VAC +10% -15% 50/60 Hz Single phase
	Shielding gas	7A / 2.0 kVA
	Maximum output	15A
	Beam quality	RS-485
	Pulse width	Air cooling
	Pulse width resolution	5 to 30 °C / 85% or below
Weight ML-8150A (Power supply / Oscillator)		approx. 175 kg

DRAWINGS



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