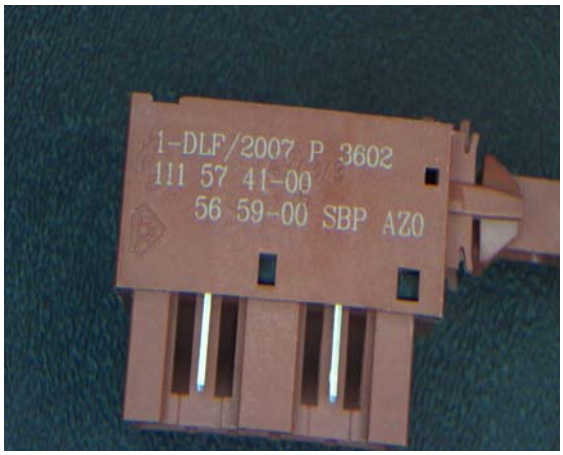
DPSS Lasers

Bringing Light to Applications

Application Note

355 nm UV LASER MARKING OF PLASTICS



More and more manufactures are switching to plastics as a cost-effective solution for the production of medical, automotive, industrial and consumer devices. Ultraviolet, 355 nm DPSS lasers offer several advantages over typical IR and CO_2 lasers for marking these devices.

UV lasers are able to affect a mark on many plastics via a photochemical or photo-bleaching process. This "Cold Marking" process eliminates the thermal damage typically encountered with longer wavelength lasers. The resulting mark becomes a permanent part of the product and requires no inks or solvents. In addition, the UV wavelength can be focused to spot sizes of a few microns, enabling high resolution and very small features. Because many plastics are extremely sensitive to UV wavelengths, marking speeds of 3 to 5 meters per second are achievable with UV powers as low as a few hundred mW.

A number of major manufactures and OEMs for plastic marking have already qualified the Model 3510-30 laser system, operating at 30 kHz with an

Laser Model	Average Power	Rep Rate	Scan Rate
3510-30	1 Watt@355 nm	30 kHz	0.5 to 5 meters/sec

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