

NEGATIVE-WORKING PHOTORESIST COMPOSITIONS FOR LASER ABLATION AND USE THEREOF

ABSTRACT

A composition crosslinkable by broad band UV radiation, which after cross-linking is capable of cold ablation by a UV Excimer Laser emitting between 222 nm and 308 nm, where the composition is comprised of a negative tone resist developable in aqueous base comprising and is also comprised of a conjugated aryl additive absorbing ultraviolet radiation strongly in a range between from about 220 nm to about 310 nm.

The present invention also encompasses a process comprising steps a), b) and c)

- a) coating the composition of claim 1 on a substrate;
- b) cross-linking the entire coating by irradiation with broadband UV exposure;
- c) forming a pattern in the cross-linked coating by cold laser ablating with a UV excimer laser emitting between 222 nm and 308 nm. Finally, the present invention also encompasses

The present invention also encompasses a process comprising steps a'), b') c') and d')

- a) coating the composition of claim 1 on a substrate;
- b) cross-linking part of the coating by irradiation with broadband UV exposure through a mask;
- c) developing the coating with aqueous base removing the unexposed areas of the film, thereby forming a first pattern;
- d) forming a second pattern in the first pattern by laser cold laser ablating of the first pattern with a UV excimer laser emitting between 222 nm and 308 nm.

(No suitable Figure)