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(54) MINIATURE TELEPHOTO LENS ASSEMBLY

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- (51) **Int. Cl. G02B 13/00** (2006.01) **G02B 13/02** (2006.01)
 (Continued)
- (52) U.S. Cl.

See application file for complete search history.

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(57) ABSTRACT

An optical lens assembly includes five lens elements and provides a TTL/EFL<1.0. In an embodiment, the focal length of the first lens element f1<TTL/2, an air gap between first and second lens elements is smaller than half the second lens element thickness, an air gap between the third and fourth lens elements is greater than TTL/5 and an air gap between the fourth and fifth lens elements is smaller than about 1.5 times the fifth lens element thickness. All lens elements may be aspheric.

28 Claims, 6 Drawing Sheets

