

Title (en)

OPTICAL SWITCHING DEVICE USING HOLOGRAPHIC POLYMER DISPERSED LIQUID CRYSTALS

Title (de)

OPTISCHE UMSCHALTEINRICHTUNG MIT HOLOGRAPHISCHEN POLYMERDISPERGIERTEN FLÜSSIGKRISTALLEN

Title (fr)

DISPOSITIF DE COMMUTATION OPTIQUE FAISANT APPEL A DES CRISTAUX LIQUIDES DISPERSES DANS UN POLYMERE HOLOGRAPHIQUE

Publication

EP 1766462 A4 20080813 (EN)

Application

EP 05754190 A 20050519

Priority

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Abstract (en)

[origin: WO2005114310A2] A thin holographic optical switch (100) used in a liquid crystal display device (800) contains opposing transparent substrates, (102) transparent electrodes (104) between the substrates (102) and a diffraction grating (105) between the electrodes (104). The diffraction grating (105) contains regions of transparent polymerized photopolymers and cholesteric liquid crystal microdroplets. Refractive indexes of the photopolymers and liquid crystal are substantially the same when the electrodes have the same potential. The holographic optical switch (100) transmits broadband LED light when the potential difference between the electrodes (104) is zero and is polarization independent. The holographic optical switch (100) diffracts broadband LED light when the potential difference between the electrodes (102) is non-zero and is polarization independent.

IPC 8 full level

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Citation (search report)

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- [Y] JP 2002311435 A 20021023 - MATSUSHITA ELECTRIC IND CO LTD
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- [A] EP 1211869 A1 20020605 - SIEMENS AG [DE]
- See references of WO 2005114310A2

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