

FERROELECTRIC LIQUID CRYSTAL CELL

ABSTRACT

The commercial production of DHF (Deformed Helix Ferroelectric) cells, in particular DHF color display cells, has scarcely become established to date. This is in particular because the DHF cells required for this purpose and based on the known prior art have short switching times and a good angular range of view but relatively high voltages and currents are required for their operation. Moreover, for the production of a DHF cell, the liquid crystal mixture must additionally be oriented or formatted by means of an electric field. The present invention relates to a ferroelectric display cell which does not have these disadvantages and in particular is distinguished by the fact that

- the display is dark at $U = 0$ and bright at $|U| > 0$,
- the current-voltage hysteresis characteristic has two maxima of equal size,
- the birefringence Δn in the field-free state is greater than that in the saturated state and
- the saturation voltage is relatively low even with very small spontaneous polarization P_s ($P_s < 5 \text{ nC/cm}^2$).

Figure 1