

# SWIFT LIQUID CRYSTALS



## Meadowlark Optics' Swift Liquid Crystals

Introducing Meadowlark Optics' fastest family of liquid crystal devices. Using a proprietary method of construction switching speeds are dramatically increased over the standard liquid crystal family. These cells also have a symmetric switching speed so sluggish relaxation rates are no longer the limiting factor for time response. (In normal Nematic devices, relaxation rate is quadratically dependent on thickness. e.g. twice the cell thickness leads to four times the switching time.)

Still an analog device, these cells can be used as variable attenuators, as polarization rotators and as variable retarders. Thin cells with less than a wave of retardance and up to 50,000 nm of retardance are possible. The cells can also be compensated to provide a zero retardance point. Meadowlark is please to discuss custom requirements.

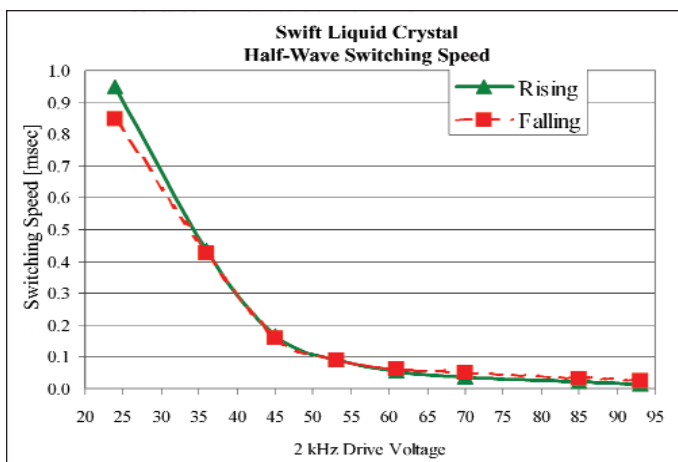
### Applications:

- Polarimetry
- Variable Attenuators
- Fast Phase Modulators
- Interferometry
- Video Shutters



### Specifications

Speed:	< 100 $\mu$ sec for $T_{on}$ and $T_{off}$ for > 50V <sub>AC</sub> < 0.5 msec for 35V p-p < 1 msec for 25V p-p
Scattering:	< 9% at 633 nm, less at NIR, IR
Retardance Uniformity:	< 2% over clear aperture
Power Handling:	~ 100 W/cm <sup>2</sup>
Beam Deviation:	< 2 arc min
Maximum Voltage :	> 100V <sub>peak</sub> (DC balanced) for minimum switching time
Temperature	20° to 60° C
Maximum Size:	4" x 4"
Resolution:	Analog voltage, Circuit dependent



### Meadowlark Optics

5964 Iris Pkwy., PO Box 1000

Frederick, CO 80530

P:303.833.4333 F:303.833.4335

[www.meadowlark.com](http://www.meadowlark.com)

[sales@meadowlark.com](mailto:sales@meadowlark.com)

**meadowlark optics**  
polarization solutions