

# QMatrix – Film Keys

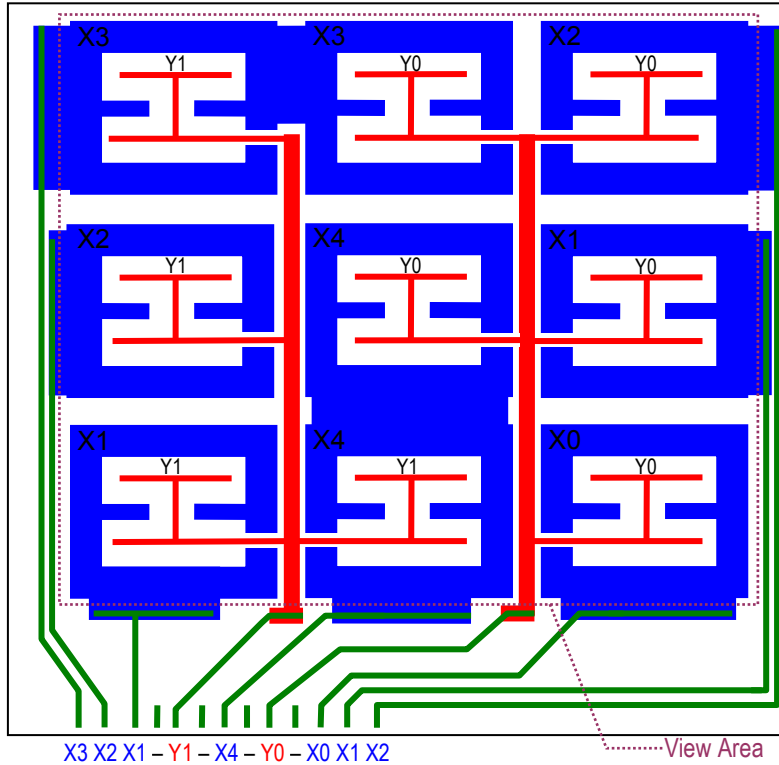
2009-01-05, v01, Paul Russell, Atmel QRG FAE Japan

## Confidential Design Document

\* These are guidelines only. Actual requirements and performance may vary depending on panel construction, items behind panel, connection length, noise sources, etc.

	Traces	Electrodes	ITO for X and Y: $250\Omega/\square \sim 350\Omega/\square$ (ohms/square)
ITO Y	1mm	0.3mm	Keep Y traces short and thin to minimize noise pickup
ITO X	1mm	**	**Typically = Thickness from Finger to Electrode (Can be less)
Metal (Ag, Al, ...)	0.3mm	--	
Gap XY	Maximize	**	**Typically = Half of Thickness from Finger to Electrode (Can be less)

QMatrix: 9 Keys on Single ITO using AT42QT2160 (X8, Y2):



QMatrix: Keys and Slider on Single ITO using AT42QT2160 (X8, Y2):

- Right column can be slider, 6 keys, or 3 keys (if interpret each pair as single key)
- Many variations possible: Slider 5, Slider 4, Slider on left ...
- Unused nodes may be used for buttons elsewhere.

