

## CMOS CCD Processes

### 1.2 $\mu$ m CMOS CCD Process

- ❖ Integration of CCD elements into a 1.2 N-well process
- ❖ 2 poly, 2 metal
- ❖ CCD elements in 5E14/cc p-substrate
- ❖ Poly 1 is CCD gate electrode and bottom plate of CMOS capacitor only
- ❖ Poly 2 is CCD gate electrode and CMOS gate and capacitor top plate
- ❖ CCD gate dielectric is oxide/nitride sandwich
- ❖ CCD Channel potential customized
- ❖ Vertical anti-blooming

### Layout Rules

- ❖ Upon request

### CMOS Process and Electrical Parameters

- ❖ Refer to our 1.2 $\mu$ m CMOS process

### CCD Process Parameters

	Value	Units
Poly 1 & poly 2 gate dielectric (oxide/nitride)	325/450	Å
Implant poly channel potential	1.5-2.5 or customized	V
Barrier ht between poly 1 and 2 electrodes	1.0-1.5 or customized	V
CCD Inter-poly thickness	900	Å
CCD Transfer efficiency	4 9's minimum	