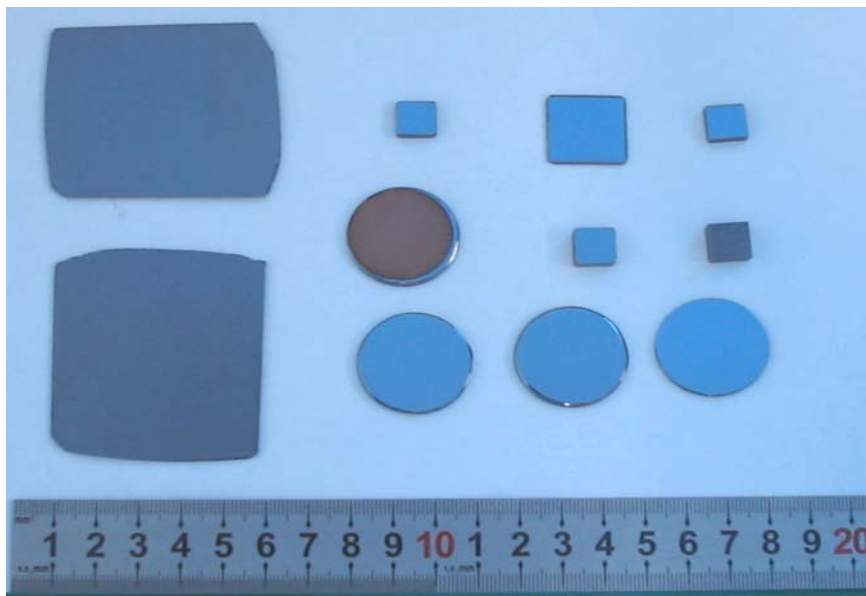


# CZT Single Crystal Substrate and Window

MTI supplies high quality  $Cd_{1-x}Zn_xTe$  ( CZT) crystal at affordable cost. CZT crystal is grown by special Bridgman technique up to 2" Diameter. Compared with CdTe, it has larger band gap and excellent IR transmission. It is widely used as X-ray and  $\gamma$ -ray detectors, and substrate for epitaxial film. MTI provides two grades CZT crystal components, e.g substrate grade and detector grade

## Typical Properties of CZT Crystal

	<b>Substrate Grade</b>	<b>Detector grade</b>
Chemical Formula	$Cd_{1-x}Zn_xTe$	
Concentration	$x=0.04\pm 0.01$	$x=0.10\pm 0.03$
Crystal structure	Cubic, Zinc blend	
Lattices constants	$a=6.468$	$a=6.446 \text{ \AA}$
Band gap	$E_g=1.63$ (at 300K)	$E_g=1.658$ (at 300K)
FWHM X-ray rocking curve	< 50 rad-s	
Infrared transmittance	> 60% (1.5~25 $\mu\text{m}$ )	
Resistance	$> 10^3 \Omega\text{-cm}$	$> 10^9 \Omega\text{-cm}$
DEPD	< $1 \times 10^5 / \text{cm}^2$	
Standard size	10x10x1.0 mm	up to 20x20x20 mm



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