

Fig. 2-1 TDS of the plastic substrate



Standard plastic sample



Hard coating SiN

Fig. 2-2 picture of the different sample immersed in acetone

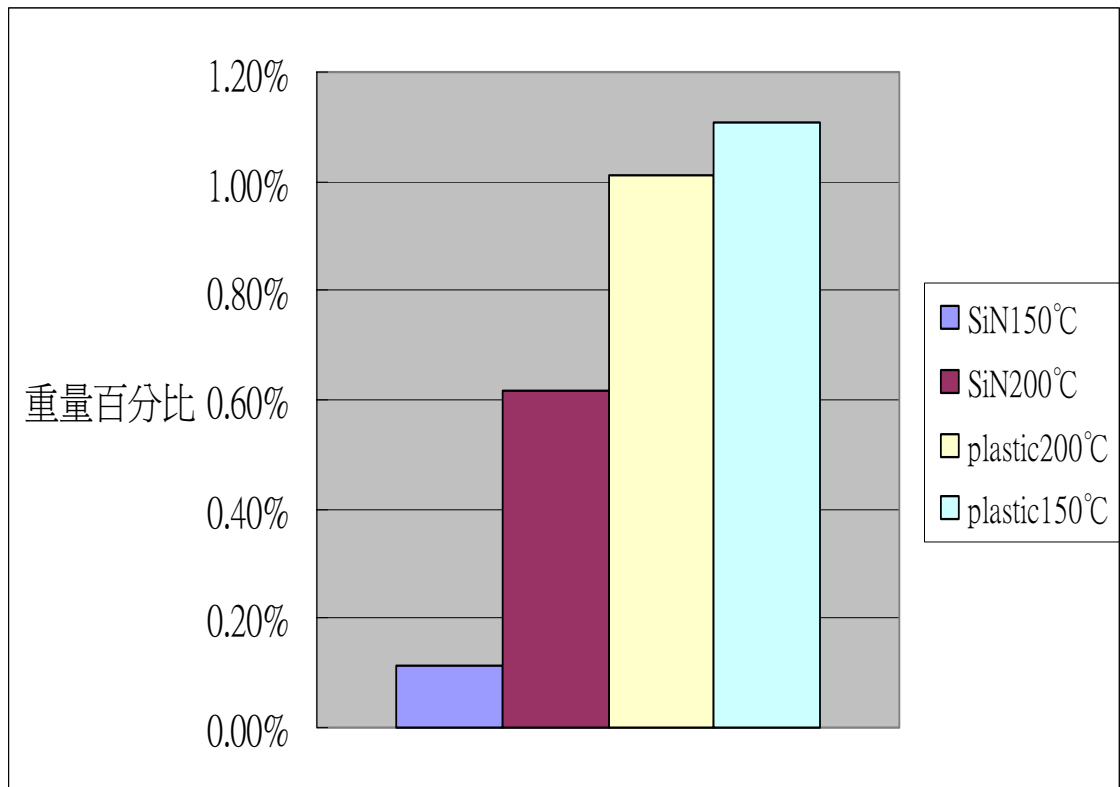
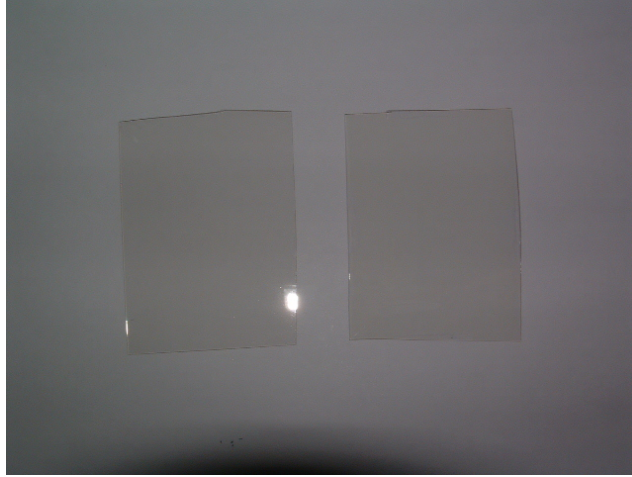
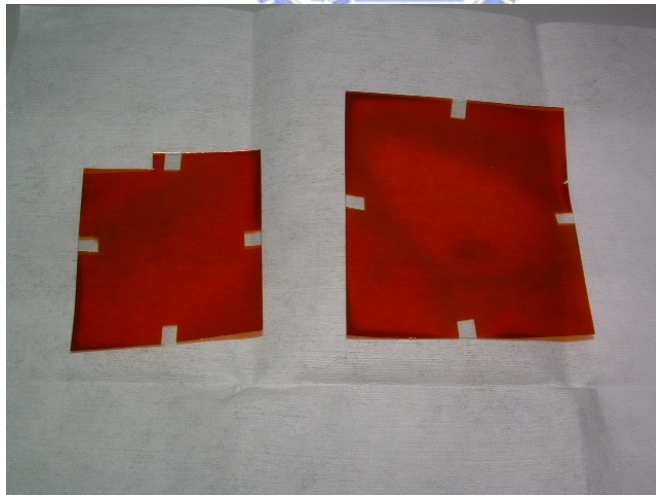


Fig. 2-3 Comparison of weight loss among PES substrates with/without SiN hardcoating, after different thermal annealing (at 150oC and 200oC).

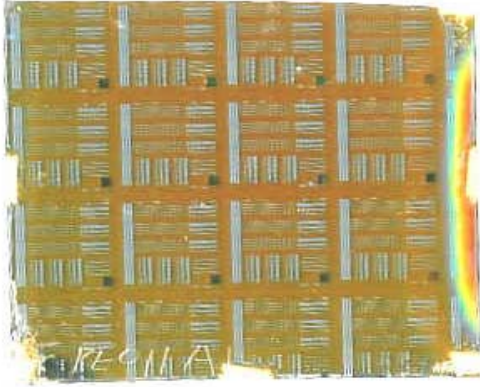


Thin SiN

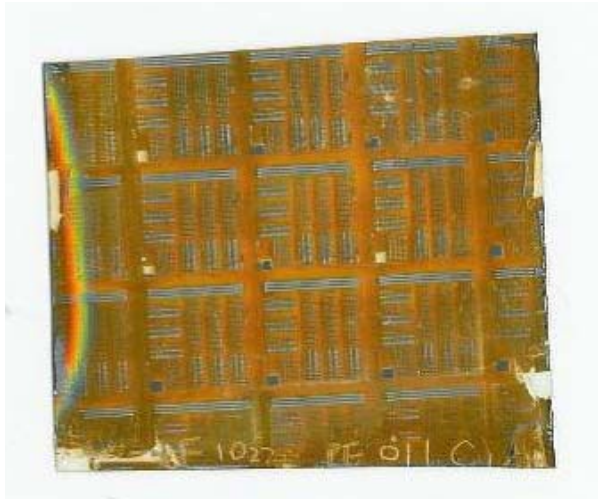


Thick SiN

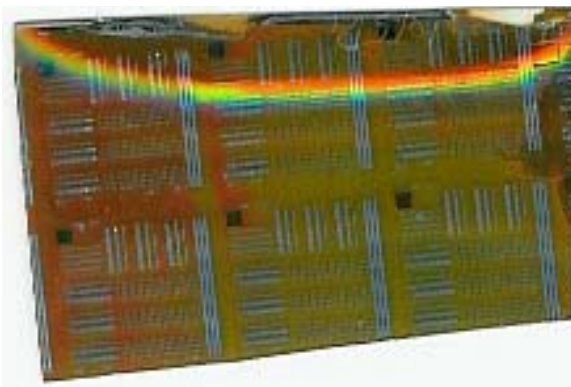
Fig. 2-4 SiN_x Hard Coating Layer



SiC hard coating 5min



SiC hard coating 8min



SiC hard coating 10min

Fig.2-5 sample with different thickness of hard coating

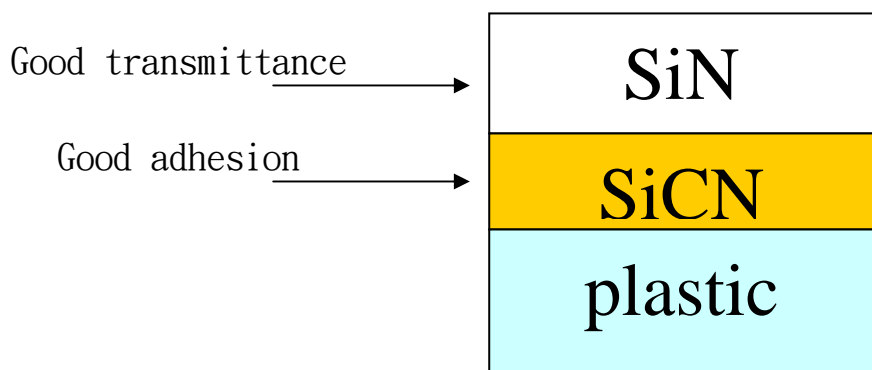
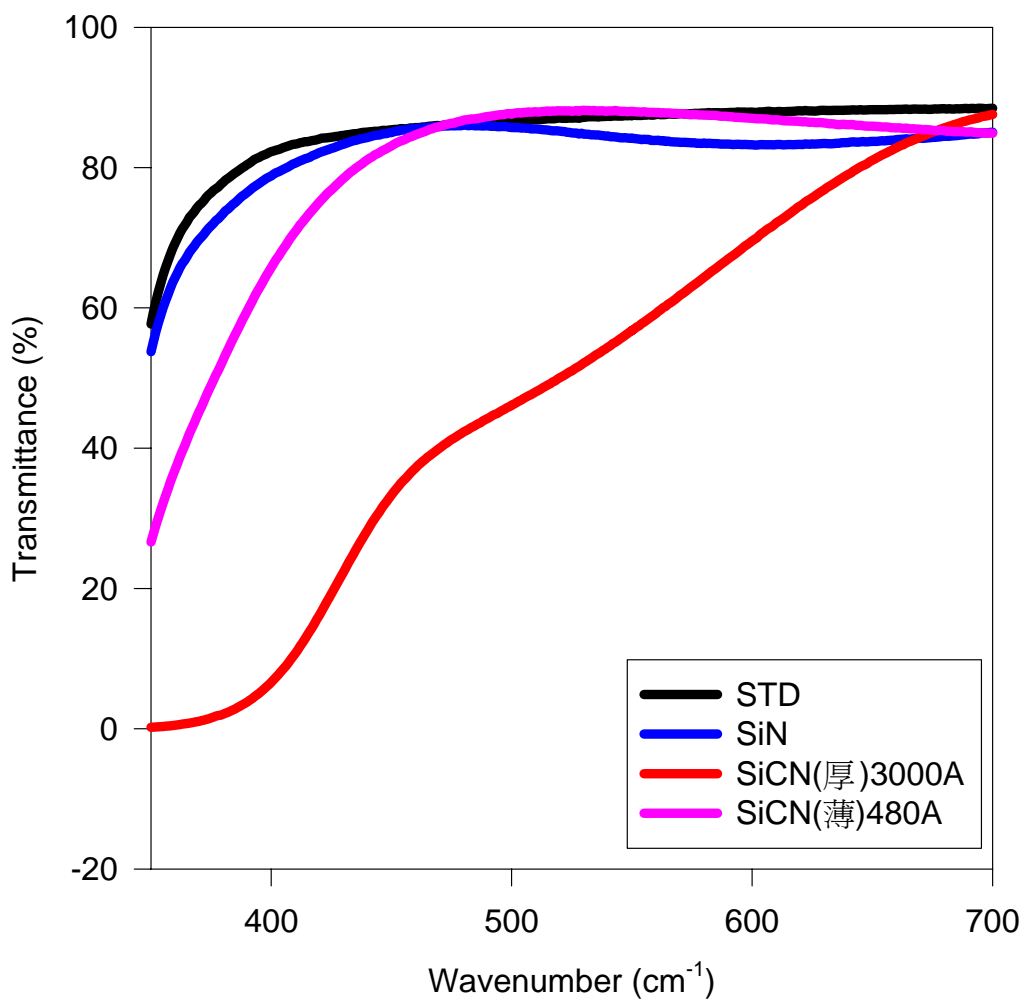
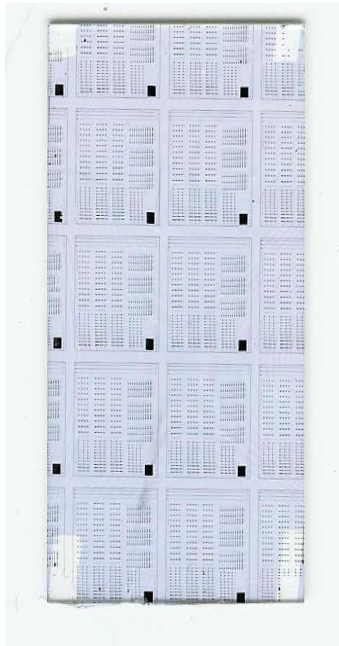


Fig. 2-6 Comparison of Transmittance



TiO₂ hard coating



Al₂O₃ hard coating

Fig.2-7 picture of the plastic with high-K dielectric hard coating

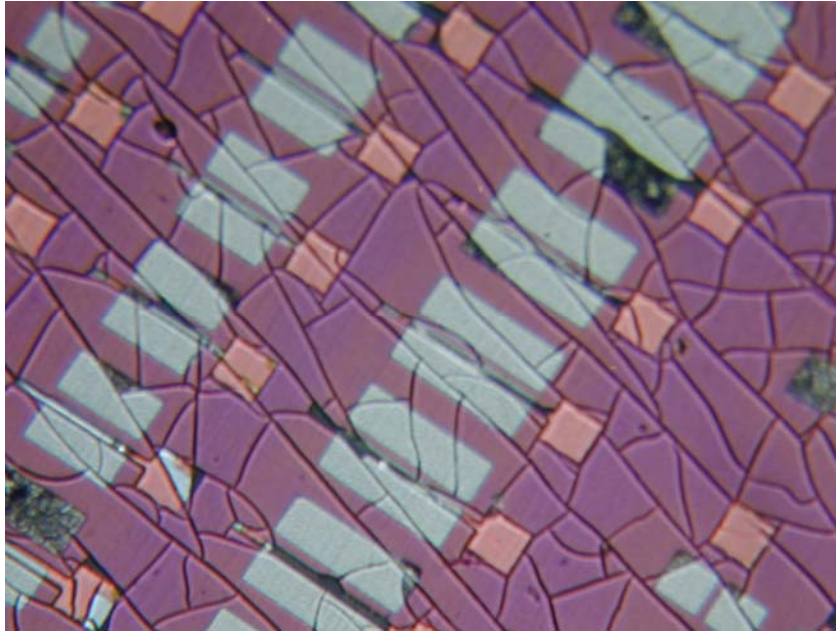


Fig. 2-8 picture of the device fabricated on the Al₂O₃ hard coating



Hot coating	SiCN	SiCN/SiN	SiCN/SiON
Transmittance	fair	good	poor
Adhesion	good	good	good

Table 2-1 the summary of the multilayer.