Abstract：Polytetrafluoroethylene (PTFE) films with a void structure are prepared by the sintering process. Such void PTFE films are piezoelectric after proper corona charging. The quasi-static piezoelectric $d_{33}$ coefficients up to 250 pC/N are obtained. Pre-ageing treatment is an effective method to further improve the thermal stability. For the samples with pre-ageing treatment, the the $d_{33}$ coefficients are very stable when exposed to 120°C. The values of $d_{33}$ are slightly applied pressure dependent in the range of 50 kPa.