The inverse Bernstein inequality for polynomials with roots on the unit circle

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Theorem. *Let b be a separable polynomial of degree n with roots on $\mathbb{T}$ and m_b be the smallest local maximum of $|b|$ on $\mathbb{T}$. Then*

$$\inf_{\mathbb{T}} |b'| \geqslant 0.5 \cdot m_b \cdot n.$$

We are going to sketch a proof which is based on the logarithmic potential theory on the complex plane.