$$\frac{2}{\epsilon_0 c_*} G_0\left(\varepsilon_0 E_1(t)\right) \leq \left(\frac{1}{c_*} + c_3\right) \frac{G_0\left(\varepsilon_0 E_1(t)\right)}{\varepsilon_0 E_1(t)} \int_0^\infty g(s) \left(\|\nabla \eta^t\|^2 + \|\nabla \eta_{tt}^t\|^2\right) \, ds$$