Page 98, equation (3.110)

Substituting from (3.68) and (3.23) into (3.108) we get:

$$\int_{\mathcal{V}} \rho\dot{s}\,\mathrm{d}v \geq -\int_{\mathcal{V}} \mathrm{div}(\mathbf{q}/T)\,\mathrm{d}v + \int_{\mathcal{V}} (Q/T)\,\mathrm{d}v. \tag{1}$$

Eq. (1) can be rewritten as follows:

$$\begin{aligned}\int_{\mathcal{V}} \rho\dot{s}\,\mathrm{d}v + \int_{\mathcal{V}} \mathrm{div}(\mathbf{q}/T)\,\mathrm{d}v - \int_{\mathcal{V}} (Q/T)\,\mathrm{d}v &= \int_{\mathcal{V}} \left[\rho\dot{s} + \mathrm{div}(\mathbf{q}/T) - Q/T\right]\,\mathrm{d}v \\ &= \int_{\mathcal{V}} \sigma\,\mathrm{d}v \geq 0 \end{aligned} \tag{2}$$

where definition (3.109) was used in the last identity. Eq. (2) is equation (3.110).