Assume that input is $f(t)$ and $L[f(t)] = F(s)$

Assume shaping transfer function is T(s).

The input has finite integral $Q = \int_{0-}^{\infty} f(t)dt$

$$L[\int_{0-}^{t} f(x)dx] = \frac{1}{s}F(s)$$

$$Q = \lim_{t\to\infty} \int_{0-}^{t} f(x)dx = \lim_{s\to 0} s \times \frac{1}{s}F(s)$$

$$Q = \lim_{s\to 0} F(s)$$