

Gain Margin:

$K = \frac{1}{\int_{-\infty}^{\infty} \mu(t) dt}$ is the gain margin

$$G.M. \triangleq \left(\frac{K_{cr}}{K} \right) = \frac{1}{a}$$

$$G.M._{dB} \triangleq 20 \log \left(\frac{K_{cr}}{K} \right)$$