$\frac{1}{(2\pi)^{m/2} \|\mathbf{\Sigma}\|^{1/2}} \exp \left[-\frac{1}{2} \left(\mathbf{x}_{j} - \mu_{j}\right)^{T} \mathbf{\Sigma}_{j}^{-1} \left(\mathbf{x}_{j} - \mu_{j}\right)\right]$

