$$
\begin{aligned}
f_{DSCB}(x;\mu,\sigma,n_1,a_1,n_2,a_2) &= \frac{e^{-\frac{1}{2}a_1^2}}{\left[\frac{|a_1|}{n_1}\left(\frac{n_1}{|a_1|}-|a_1|-\frac{x-\mu}{\sigma}\right)\right]^{n_1}}, && \text{for} \quad \frac{x-\mu}{\sigma} < -a_1 \\
&= e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}, && \text{for} \quad -a_1 \le \frac{x-\mu}{\sigma} < a_2 \\
&= \frac{e^{-\frac{1}{2}a_2^2}}{\left[\frac{|a_2|}{n_2}\left(\frac{n_2}{|a_2|}-|a_2|+\frac{x-\mu}{\sigma}\right)\right]^{n_2}}, && \text{for} \quad \frac{x-\mu}{\sigma} \ge a_2
\end{aligned}
$$

bbA

Indefinite integral:

$$\int \frac{\exp\left(-\frac{a^2}{2}\right)}{\left(\frac{a\left(\frac{n}{|a|}-|a|+\frac{x-m}{s}\right)}{n}\right)^n}\,dx = \frac{e^{-a^2/2}\left(\frac{a\left(\frac{n}{|a|}-|a|+\frac{x-m}{s}\right)}{n}\right)^{-n}\left(|a|\,(m-x)+s\,|a|^2-n\,s\right)}{(n-1)\,|a|} + \text{constant}$$

Indefinite integral:

$$\int \exp\left(-\frac{1}{2}\left(\frac{x-m}{s}\right)^2\right)dx = -\sqrt{\frac{\pi}{2}}\, s\, \operatorname{erf}\left(\frac{m-x}{\sqrt{2}\, s}\right) + \text{constant}$$

Indefinite integral:

$$\int \frac{\exp\left(-\frac{a^2}{2}\right)}{\left(\frac{a\left(\frac{n}{|a|}-|a|-\frac{x-m}{s}\right)}{n}\right)^n} \, dx = \frac{e^{-a^2/2} \left(\frac{a\left(\frac{n}{|a|}-|a|+\frac{m-x}{s}\right)}{n}\right)^{-n} \left(|a|\,(m-x) - s\,|a|^2 + n\,s\right)}{(n-1)\,|a|} + \text{constant}$$