

C4282

! For an efficient use of these tables, first read [HowTo.pdf](#).

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T3.21B. Integrands involving exponentials of exponential functions on the interval $(-\infty, \infty)$.

$$1. \int_{-\infty}^{\infty} \exp(-e^x) e^{\mu x} dx = \Gamma(\mu), \quad \Re\{\mu\} > 0.$$

$$2. \int_{-\infty}^{\infty} \frac{e^{-\mu x} dx}{\exp(e^{-x}) - 1} = \Gamma(\mu) \zeta(\mu), \quad \Re\{\mu\} > 1.$$

$$3. \int_{-\infty}^{\infty} \frac{e^{-\mu x} dx}{\exp(e^{-x}) + 1} = \begin{cases} (1 - 2^{1-\mu}) \Gamma(\mu) \zeta(\mu), & \mu \neq 1, \\ \ln 2, & \mu = 1, \end{cases} \quad \Re\{\mu\} > 0.$$

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