

C4282

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

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T3.31C. Integrands involving hyperbolic functions and exponentials on the interval $(-\infty, \infty)$.

$$1. \int_{-\infty}^{\infty} e^{-\mu x} \frac{\sinh \mu x}{\sinh \beta x} dx = \frac{\pi}{2\beta} \tan \frac{\mu\pi}{\beta}, \quad \Re\{\beta\} > 2|\Re\{\mu\}|.$$

$$2. \int_{-\infty}^{\infty} \frac{e^{-i bx} dx}{\sinh x + \sinh t} = -\frac{i\pi e^{i tb}}{\sinh \pi b \cosh t} (\cosh \pi b - e^{-2i tb}), \quad t > 0.$$

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