

**FORMULA 3.524.7**

$$\int_0^{\infty} \frac{\cosh ax}{\cosh bx} \frac{dx}{x^p} = \Gamma(1-p) \sum_{k=0}^{\infty} (-1)^k \left( \frac{1}{[b(2k+1)-a]^{1-p}} + \frac{1}{[b(2k+1)+a]^{1-p}} \right)$$