

Appendix B. Table of Fourier Transforms

$f(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} \hat{f}(\omega) e^{i\omega x} d\omega$		$\hat{f}(\omega) = \mathcal{F}(f)(\omega) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\infty} f(x) e^{-i\omega x} dx$
1.	$\begin{cases} 1 & \text{if } x < a \\ 0 & \text{if } x > a \end{cases}$	$\sqrt{\frac{2}{\pi}} \frac{\sin a\omega}{\omega}$
⋮		
13.	$e^{-a x }, a > 0$	$\sqrt{\frac{2}{\pi}} \frac{a}{a^2 + \omega^2}$
⋮		
18.	$e^{-ax^2}, a > 0$	$\frac{1}{\sqrt{2a}} e^{-\frac{\omega^2}{4a}}$
⋮		