

Πίνακας 5.2: Μετασχηματισμοί Fourier σημάτων ενέργειας.

Σήμα	Μετασχηματισμός Fourier
$x(t) = \begin{cases} 1, &  t  < T_1 \\ 0, &  t  > T_1 \end{cases}$	$X(\omega) = \frac{2 \sin \omega T_1}{\omega}$
$x(t) = \frac{\sin \omega_c t}{\pi t}$	$X(\omega) = \begin{cases} 1, &  \omega  < \omega_c \\ 0, &  \omega  > \omega_c \end{cases}$
$x(t) = \begin{cases} 1 -  t  &  t  < 1 \\ 0 &  t  > 1 \end{cases}$	$X(\omega) = \left[ \frac{\sin \frac{\omega}{2}}{\frac{\omega}{2}} \right]^2$
$x(t) = e^{-a t} u(t), \operatorname{Re}\{a\} > 0$	$X(\omega) = \frac{1}{a + j\omega}$
$x(t) = t e^{-a t} u(t), \operatorname{Re}\{a\} > 0$	$X(\omega) = \frac{1}{(a + j\omega)^2}$
$x(t) = \frac{t^{n-1}}{(n-1)!} e^{-a t} u(t), \operatorname{Re}\{a\} > 0$	$X(\omega) = \frac{1}{(a + j\omega)^n}$
$x(t) = e^{-a t} \sin \omega_0 t u(t), \operatorname{Re}\{a\} > 0$	$X(\omega) = \frac{\omega_0}{(a + j\omega)^2 + \omega_0^2}$
$x(t) = e^{-a t} \cos \omega_0 t u(t), \operatorname{Re}\{a\} > 0$	$X(\omega) = \frac{a + j\omega}{(a + j\omega)^2 + \omega_0^2}$