

Laplace Transform Table

$F(S)$	$F(T), T \geq 0$
1	$\delta(t)$ unit impulse at $t=0$
$\frac{1}{s}$	$u_s(t)$ unit step at $t=0$
$\frac{1}{s^2}$	$t u_s(t)$ ramp function
$\frac{1}{s^n}$	$\frac{1}{(n-1)!} t^{(n-1)}, n$ is +ve
$\frac{1}{s} e^{-as}$	$u_s(t-a)$ unit step starting at $t=a$
$\frac{1}{s} (1 - e^{-as})$	$u_s(t) - u_s(t-a)$ rectangular pulse
$\frac{1}{(s+a)}$	e^{-at} exponential decay
$\frac{1}{(s+a)^n}$	$\frac{1}{(n-1)!} t^{(n-1)} e^{-at}, n$ is +ve
$\frac{1}{(s(s+a))}$	$\frac{1}{a} (1 - e^{-at})$
$\frac{1}{[s(s+a)(s+b)]}$	$\frac{1}{ab} [1 - \frac{b}{(b-a)} e^{-at} + \frac{a}{(b-a)} e^{-bt}]$
$\frac{(s+\alpha)}{[s(s+a)(s+b)]}$	$\frac{1}{(ab)} [\alpha - \frac{[b(\alpha-a)]}{(b-a)} e^{-at} + \frac{[a(\alpha-b)]}{(b-a)} e^{-bt}]$
$\frac{1}{[(s+a)(s+b)]}$	$\frac{1}{(b-a)} [e^{-at} - e^{-bt}]$
$\frac{s}{[(s+a)(s+b)]}$	$\frac{1}{(a-b)} [a e^{-at} - b e^{-bt}]$