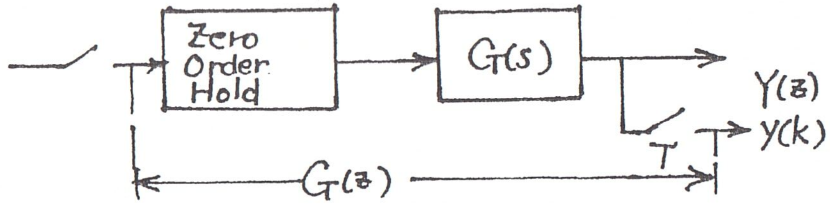

Note: If $G(s)$ includes a pure time delay larger than T, write $= (N-1)T + L$ (N: integer and $L<T$) and obtain $G'(z)$ from the table.
Then $G(z) = \frac{1}{z^{N-1}} G'(z)$

$G_T(s)$	$G(z)$	Parameters	Numerator Coefficients	Unit Step Response
e^{-Ls} $(L<T)$	$\frac{1}{z} = z^{-1}$			1 $(k \ge 1)$
$\frac{k_p}{\tau s+1}$	$\frac{b_1}{z-p}$	$p = e^{-T/\tau}$	$b_1 = k_p(1-p)$	$k_p(1-p^k)$
$\frac{k_p e^{-Ls}}{\tau s+1}$ $(L<T)$	$\frac{b_1 z + b_2}{z(z-p)}$	$p = e^{-T/\tau}$ $d = e^{L/\tau}$	$b_1 = k_p(1-pd)$ $b_2 = k_p p(d-1)$	$y(0)=0$ $y(k) = k_p(1-p^k d)$, $k \ge 1$
$\frac{k_p}{(\tau_1 s+1)(\tau_2 s+1)}$ $\tau_1 > \tau_2$	$\frac{b_1 z + b_2}{(z-p_1)(z-p_2)}$	$p_1 = e^{-T/\tau_1}$ $p_2 = e^{-T/\tau_2}$ $\lambda = \frac{\tau_2}{\tau_1}$	$b_1 = k_p[1 - \frac{p_1 - p_2\lambda}{1-\lambda}]$ $b_2 = k_p[p_1 p_2 - \frac{p_2 - p_1\lambda}{1-\lambda}]$	$k_p[1 - \frac{1}{1-\lambda} p_1^k + \frac{\lambda}{1-\lambda} p_2^k]$
$\frac{k_p e^{-Ls}}{(\tau_1 s+1)(\tau_2 s+1)}$ $\tau_1 > \tau_2$, $L<T$	$\frac{b_1 z^2 + b_2 z + b_3}{z(z-p_1)(z-p_2)}$	$p_1 = e^{-T/\tau_1}$ $p_2 = e^{-T/\tau_2}$, $\lambda = \frac{\tau_2}{\tau_1}$ $d_1 = e^{L/\tau_1}$, $d_2 = e^{L/\tau_2}$	$b_1 = k_p[1 - \frac{d_1 p_1 - \lambda d_2 p_2}{1-\lambda}]$ $b_2 = k_p[\frac{p_1 d_1(1+p_2) - \lambda p_2 d_2(1+p_1)}{1-\lambda} - (p_1+p_2)]$ $b_3 = k_p p_1 p_2 (1 - \frac{d_1 - \lambda d_2}{1-\lambda})$	$y(0)=0$ $y(k) = k_p[1 - \frac{d_1}{1-\lambda} p_1^k + \frac{d_2 \lambda}{1-\lambda} p_2^k]$ $(k \ge 1)$
$\frac{k_p}{(\tau s+1)^2}$	$\frac{b_1 z + b_2}{(z-p)^2}$	$p = e^{-T/\tau}$	$b_1 = k_p[1 - p(1 + \frac{T}{\tau})]$ $b_2 = k_p[p^2 - p + \frac{Tp}{\tau}]$	$k_p\{1 - p^k[1 + \frac{k \cdot T}{\tau}]\}$
$\frac{k_p e^{-sL}}{(\tau s+1)^2}$ $L<T$	$\frac{b_1 z^2 + b_2 z + b_3}{z(z-p)^2}$	$p = e^{-T/\tau}$ $d = e^{L/\tau}$ $f = 1 - \frac{L}{\tau}$	$b_1 = k_p[1 - pd(f + \frac{T}{\tau})]$ $b_2 = k_p[(1+p)fpd + \frac{T \cdot p \cdot d}{\tau} - 2p]$ $b_3 = k_p p^2(1 - fd)$	$y(0)=0$ $y(k) = k_p[1 - dp^k(f + \frac{k \cdot T}{\tau})]$ $(k \ge 1)$