L

A

$L(A(p_i), D_A, t),$

A

p

d_i

D_A

A

$$D_A = \sum_{i=1}^{p} d_i$$

$U(A(p_i), d_i)$

A

D_A

$W(A(p_i), d_i)$

A

D_A

$$U(A(p_i), d_i) = \lim_{n \to k_e} n \times W(A(p_i), d_i) \times L_n(A(p_i), d_i, t)$$

$L_n(k, d_i)$

n

k_e

L_n

A

$$\begin{aligned}\Theta_A(A(p_i), d_i, T, t) &= \frac{U(A(p_i), d_i)}{\lim\limits_{T \to T_{th}} J_e \times (T - T_{nominal})} \\ &= \frac{\lim\limits_{n \to k_e} n \times W(A(p_i), d_i) \times L_n(A(p_i), d_i, t)}{\lim\limits_{T \to T_{th}} J_e \times (T - T_{nominal})}\end{aligned}$$

T_{th}

$T_{nominal}$

J_e

$A(p_i)$

$\eta(A(p_i), d_i, T)$

$$\eta(A(p_i), d_i, T, t) = \frac{\Theta_A(A(p_i), d_i, T, t)}{\Theta_A(A_e(p_i), d_i, T_{me}, t_e)}$$

$T_(me)$

A_e

T_e

A_e

$\eta(A(p_i), d_i, T)$

η

$$
\begin{aligned}
C_\theta(A(p_i), d_i, T, t) &= \frac{\Theta_A(A(p_i), d_i, T, t)}{P(A(p_i), d_i)} \\
&= \frac{\Theta_A(A(p_i), d_i, T, t)}{\displaystyle\sum^{chip,DRAM,HT,HDD} \int_{t=0}^{t=L_A} v(t)i(t)dt}
\end{aligned}
$$

$$P(A(p_i), d_i)$$

$$\int_{t=0}^{t=L_A} v(t)i(t)dt$$

L_A

$v(t)$

$i(t)$

C_θ

$$\frac{\partial^2 C_\theta(A(p_i),d_i,T,t)}{\partial T\partial t} = \frac{\partial^2}{\partial T\partial t}\frac{\lim\limits_{n\to k_e} n\times W(A(p_i),d_i)\times L_n(A(p_i),d_i,t)}{\lim\limits_{T\to T_{th}} J_e\times \left(T-T_{nominal}\right)}\times\frac{1}{\overset{chip,DRAM,HT,HDD}{\sum} \int}$$