$$Inrush(t)\_\max = \begin{cases} 50 \;\; for \;\; (0 \le t \le 10x10^{-6}) \\ -50050.5 \cdot t + 50.500051 \;\; for \;\; (10x10^{-6} < t \le 1x10^{-3}) \\ 0.45 \;\; for \;\; (1x10^{-3} < t \le 75x10^{-3}) \end{cases}$$

To be placed under figure 33-14.

Derivation of the equation segment from 10usec to 1msec:
(using linear regression for simplifying equation)

Derivation of Maximum Inrush Current at the range of 10usec to 1msec

By using Polynomial Regression

---

x=time [sec] y=Iinrush [A].

data :=

$1 \cdot 10^{-5}$	50
0.001	0.45

$X := data^{\langle 0 \rangle}$

$Y := data^{\langle 1 \rangle}$

$n := rows(data)$

Enter degree of polynomial to fit:

$k := 1$

Number of data points:

$n = 2$

$z := regress(X, Y, k)$

Polynomial fitting function:

$fit(x) := interp(z, X, Y, x)$

$coeffs := submatrix(z, 3, length(z) - 1, 0, 0)$

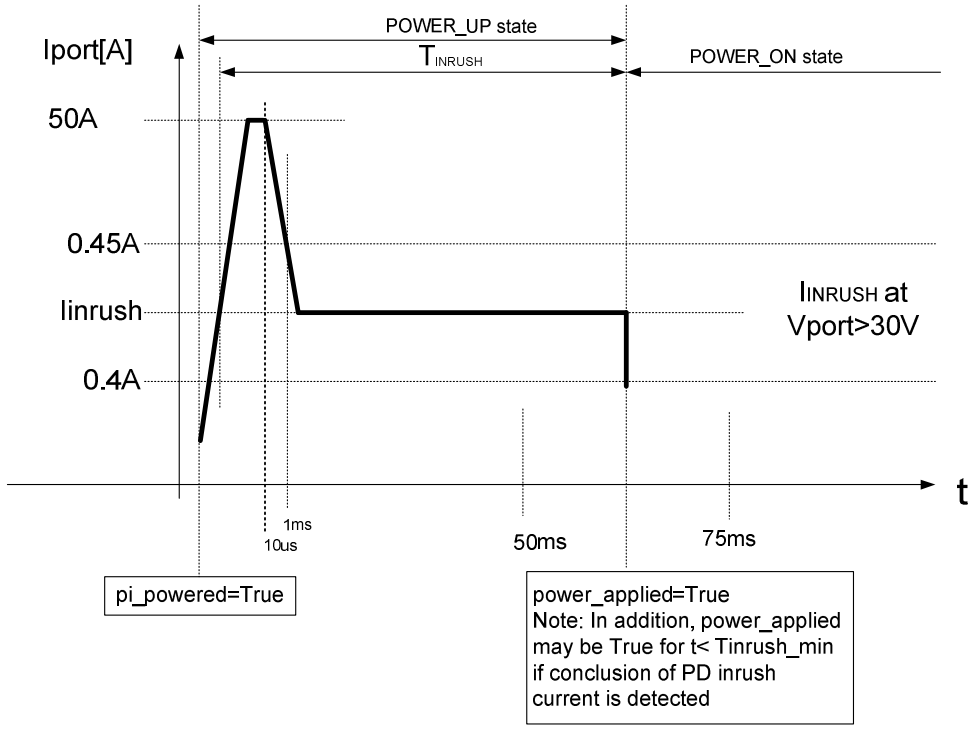
Coefficients:

$coeffs^{T} = (50.501 \;\; -5.005 \times 10^{4})$

Revised Figure 33-14:

Few errors were corrected and additional information was added:

1. POWER_ON state label was replaced with the correct one , POWER_UP
2. Dash lines for Tinrush were synchronized with Iinrush
3. State machine variables added for clarification



Part of comment resolution documentation for Draft D3.1.
Date August 1, 2008.
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