

#### 33.2.4.4 Variables

$I_{\text{Inrush-2P}}$	Output current per pairset during POWER_UP (see Table 33-11 and Figure 33-13).
$I_{\text{Port-2P}}$	Output current on a pairset (see 33.2.7.6)
$I_{\text{Port-2P-other}}$	Output current on the other pairset, defined as $I_{\text{Port-2P-other}} = I_{\text{Port}} - I_{\text{Port-2P}}$
$I_{\text{Port}}$	Total output current (see 33.2.7.6)

#### 33.2.7.4 Continuous output current capability in the POWER\_ON state

~~PSEs shall meet  $I_{\text{Con}}$  as specified in Table 33-11. Type 3 and Type 4 PSEs when connected to a single-signature PD shall meet  $I_{\text{Con-2P}}$  as specified in Table 33-11 item 4a.~~

PSEs connected to a single-signature PD shall be able to source  $I_{\text{Con}}$  and  $I_{\text{Con-2P\_unb}}$  as specified in Table 33-11. PSEs connected to a dual-signature PD shall be able to source  $I_{\text{Con}}$  on each pairset as specified in Table 33-11.

~~$I_{\text{Con}}$  is the total current of both pairs with the same polarity that a PSE has to support.  $I_{\text{Con-2P\_unb}}$  is the maximum current the PSE is required to support over one of the pairs of same polarity under E2EP2P<sub>unb</sub> condition in the POWER\_ON state.~~

When connected to single-signature PDs,  $I_{\text{Con}}$  is the total current of both pairs with the same polarity that a PSE must be able to source.  $I_{\text{Con-2P\_unb}}$  is the maximum current the PSE must be able to source over one of the pairs of same polarity at maximum current unbalance condition in the POWER\_ON state.

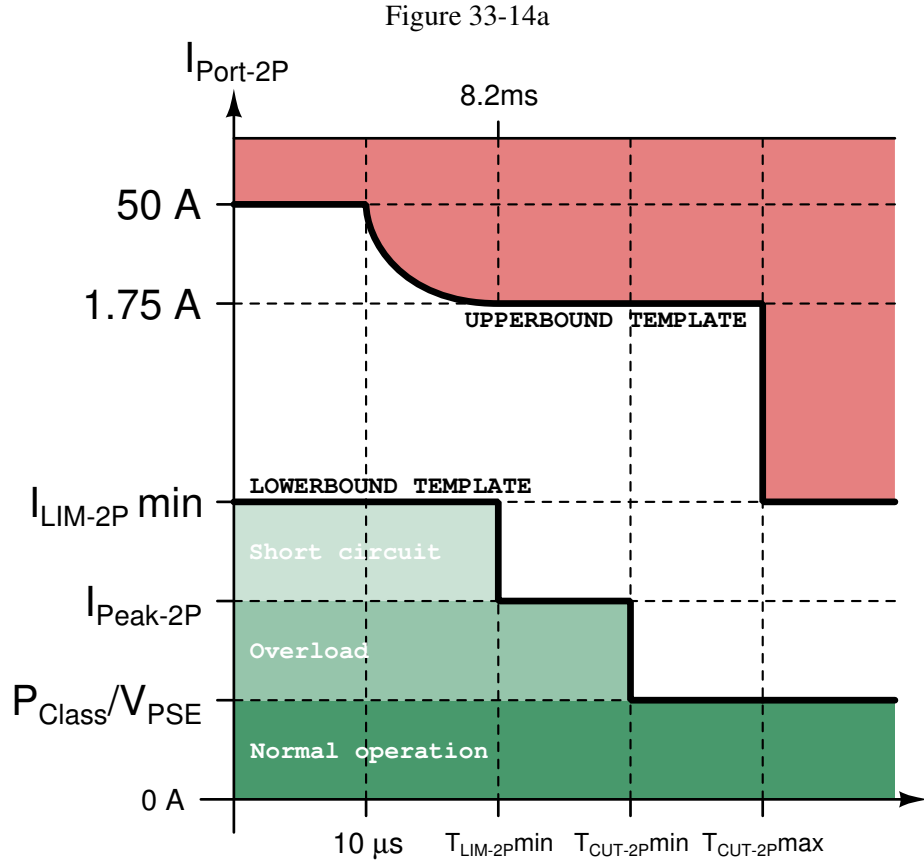
### 33.2.7.7 Output current at short circuit condition

**Replace Figure 33-14 by:**

Equation 33-6a, Equation 33-7a and Figure 33-14a apply to PSEs that operate in 2-pair mode, as well as to Type 3 and Type 4 PSEs connected to dual-signature PDs.

Equation 33-6b, Equation 33-7b and Figure 33-14b apply to Type 3 PSEs connected to single-signature PDs, operating in 4-pair mode.

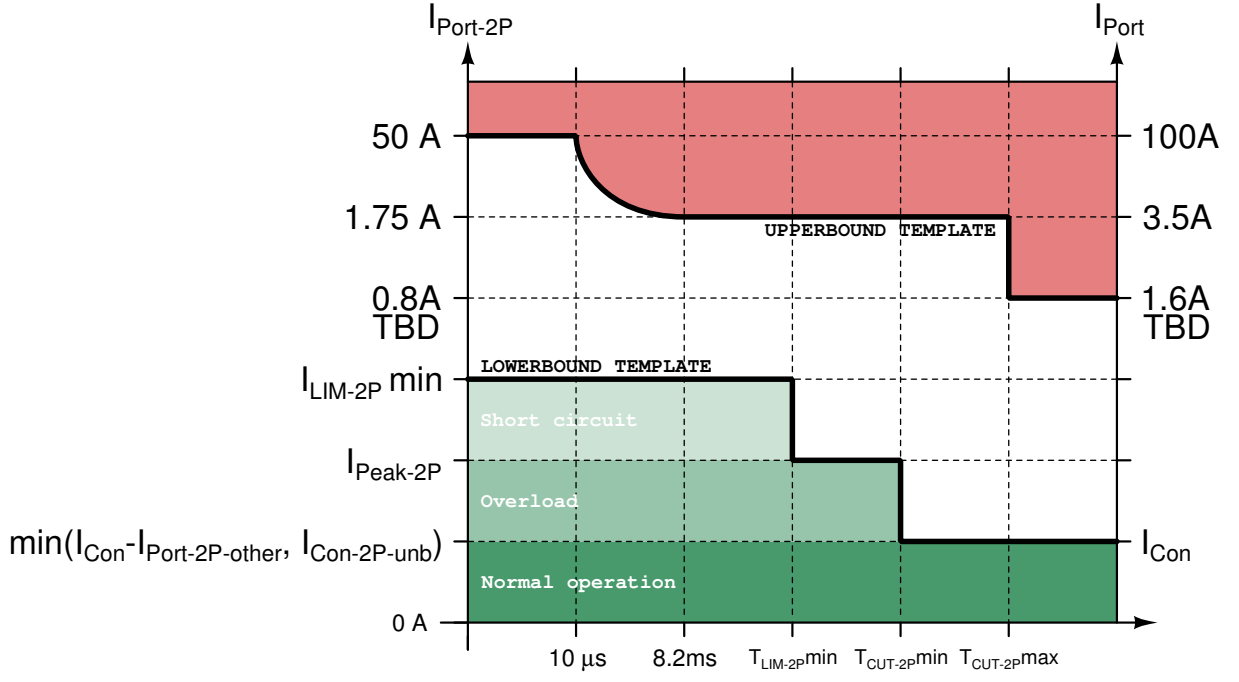
Equation 33-6c, Equation 33-7c and Figure 33-14c apply to Type 4 PSEs connected to single-signature PDs, operating in 4-pair mode.



$$I_{PSEUT-2P} = \left\{ \begin{array}{ll} 50 & \text{for } (0 \leq t < 10.0 \times 10^{-6}) \\ \sqrt{\frac{K}{t}} & \text{for } (10.0 \times 10^{-6} \leq t < 8.20 \times 10^{-3}) \\ 1.75 & \text{for } (T_{LIM-2P \min} \leq t < T_{CUT-2P \max}) \\ I_{LIM-2P \min} & \text{for } (T_{CUT-2P \max} \leq t) \end{array} \right\} \quad (33-6a)$$

$$I_{PSELT-2P} = \left\{ \begin{array}{ll} I_{LIM-2P \min} & \text{for } (0 \leq t < T_{LIM-2P \min}) \\ I_{Peak-2P} & \text{for } (T_{LIM-2P \min} \leq t < T_{CUT-2P \min}) \\ I_{Con} & \text{for } (T_{CUT-2P \min} \leq t) \end{array} \right\} \quad (33-7a)$$

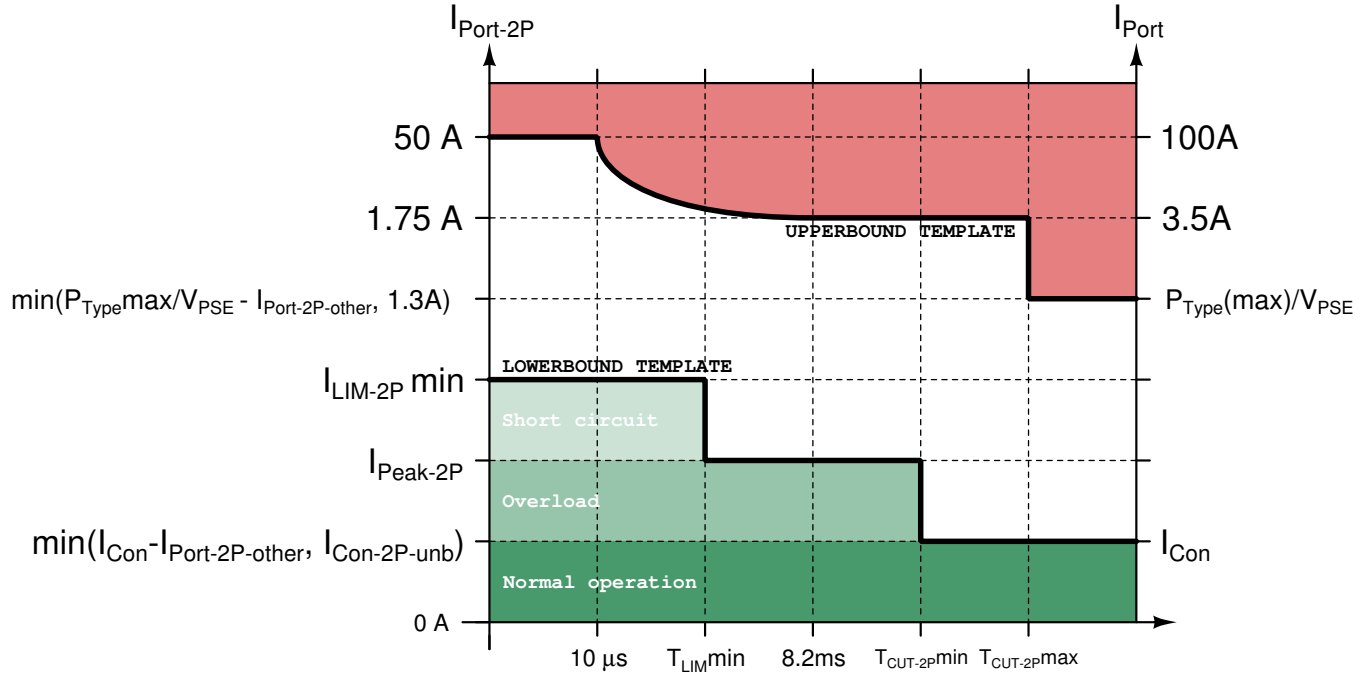
Figure 33-14b



$$I_{PSEUT-2P} = \left\{ \begin{array}{ll} 50 & \text{for } (0 \leq t < 10.0 \times 10^{-6}) \\ \sqrt{\frac{K}{t}} & \text{for } (10.0 \times 10^{-6} \leq t < 8.20 \times 10^{-3}) \\ 1.75 & \text{for } (8.20 \times 10^{-3} \leq t < T_{CUT-2P \max}) \\ 0.8 & \text{for } (T_{CUT-2P \max} \leq t) \end{array} \right\} \quad (33-6b)$$

$$I_{PSELT-2P} = \left\{ \begin{array}{ll} I_{LIM-2P \min} & \text{for } (0 \leq t < T_{LIM-2P \min}) \\ I_{Peak-2P} & \text{for } (T_{LIM-2P \min} \leq t < T_{CUT-2P \min}) \\ \min(I_{Con} - I_{Port-2P-other}, I_{Con-2P-unb}) & \text{for } (T_{CUT-2P \min} \leq t) \end{array} \right\} \quad (33-7b)$$

Figure 33-14c



$$I_{\text{PSEUT-2P}} = \left\{ \begin{array}{ll} 50 & \text{for } (0 \leq t < 10.0 \times 10^{-6}) \\ \sqrt{\frac{K}{t}} & \text{for } (10.0 \times 10^{-6} \leq t < 8.20 \times 10^{-3}) \\ 1.75 & \text{for } (8.20 \times 10^{-3} \leq t < T_{\text{CUT-2P max}}) \\ \min\left(\frac{P_{\text{Type max}}}{V_{\text{PSE}}} - I_{\text{Port-2P-other}}, 1.3\right) & \text{for } (T_{\text{CUT-2P max}} \leq t) \end{array} \right\} \quad (33-6c)$$

$$I_{\text{PSELT-2P}} = \left\{ \begin{array}{ll} I_{\text{LIM-2P min}} & \text{for } (0 \leq t < T_{\text{LIM-2P min}}) \\ I_{\text{Peak-2P}} & \text{for } (T_{\text{LIM-2P min}} \leq t < T_{\text{CUT-2P min}}) \\ \min(I_{\text{Con}} - I_{\text{Port-2P-other}}, I_{\text{Con-2P-unb}}) & \text{for } (T_{\text{CUT-2P min}} \leq t) \end{array} \right\} \quad (33-7c)$$