

Revision of Figure 33-14 v102

Lennart Yseboodt, Matthias Wendt

Philips Research

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Introduction

Figure 33-14 together with Equations 33-6 and 33-7 tie together many parameters from Table 33-11. This Figure has been mostly untouched, except for the '-2p' addition. Some issues need to be addressed.

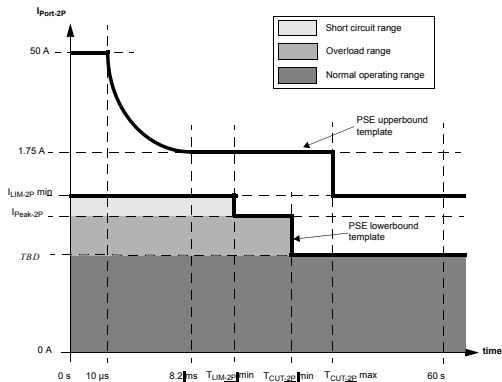


Figure 33-14—POWER_ON state, per pairset operating current templates

Issues

1. There is a TBD in the lowerbound template. We need a way to express unbalance effects in a clear way.
2. $T_{LIM-2Pmin}$ has a value of less than 8.2ms for Type 4
3. Type 4 is limited to sourcing no more than 99.9W, this cannot be expressed by constant current
4. Single and Dual Signature PDs will have a different lowerbound template
5. $I_{LIM-2P(min)}$ is used twice in the Figure, for both the lower and upper template. By making $I_{LIM-2P(min)}$ class-based, the optional I_{CUT-2P} limit is no longer optional.

Variables

The following set of variables allows expressing unbalance in an elegant way:

I_{Port}

Total output current (see 33.2.7.6)

$I_{\text{Port-2P}}$

Output current on a pairset (see 33.2.7.6)

$I_{\text{Port-2P-other}}$

Output current on the other pairset.

$$I_{\text{Port-2P-other}} = I_{\text{Port}} - I_{\text{Port-2P}}$$

Note: $I_{\text{Port-2P}}$ and $I_{\text{Port-2P-other}}$ are relative references to each other.

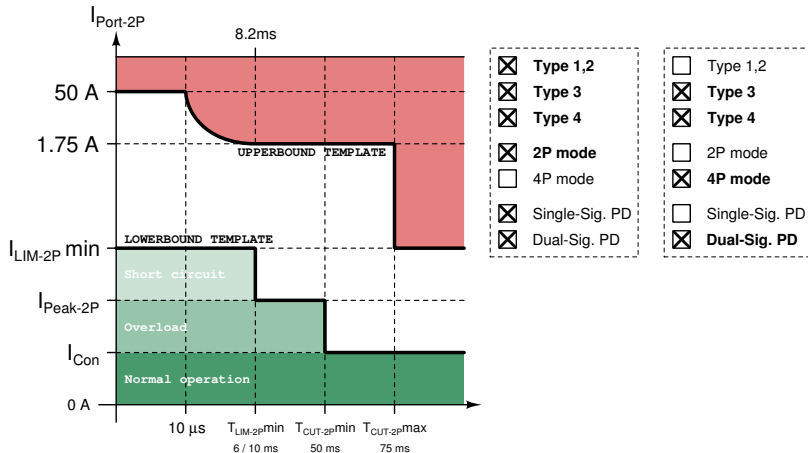
I_{Con} definition

~~PSEs shall meet I_{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. (Draft 1.2)~~

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

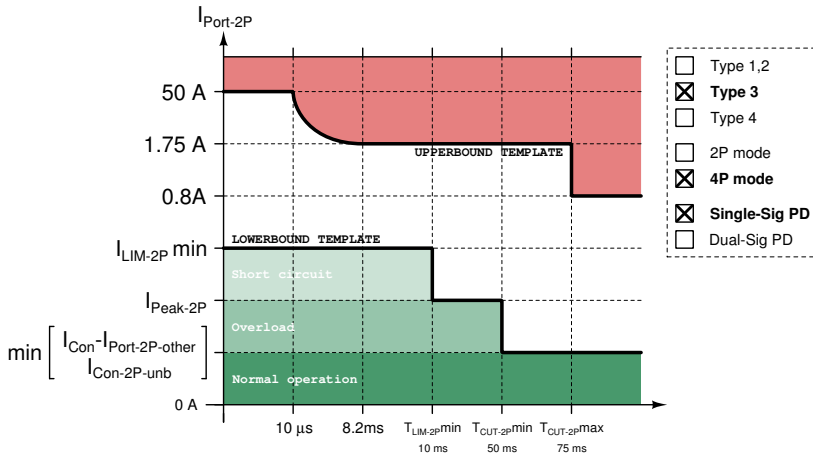
P_{Class} applies to the full power at the PI, but is treated on a per pairset basis for dual signature PDs. The same method is appropriate for I_{Con} , it applies to each pairset independently when connected to a dual signature PD.

Figure 33-14a (2 pair & dual-signature)



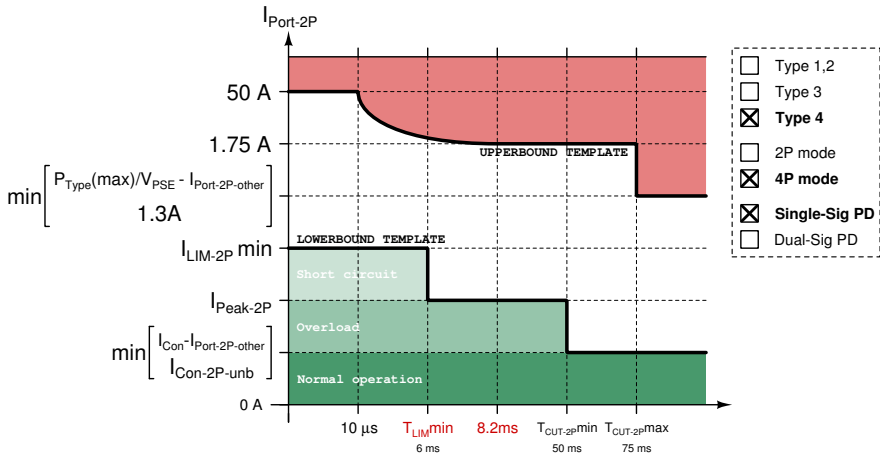
Applies to all PSEs in 2-pair mode, as well as PSEs connected to dual-signature PDs.

Figure 33-14b (Type 3, 4-pair, single-signature)



Applies to Type 3 PSEs, operating 4-pair mode, connected to single-signature PDs.

Figure 33-14c (Type 4, 4-pair, single-signature)



Applies to Type 4 PSEs, operating 4-pair mode, connected to single-signature PDs.

Overview

- ▶ Three new Figures presented to replace Figure 33-14
- ▶ Covers all cases (4 Types, 2 Signatures, 2/4 pair mode)
- ▶ Unbalance is shown in a simple intuitive way
- ▶ All issues on slide 3 are addressed

- ▶ This is a starting point for further refinement in task force review
- ▶ See baseline → [yseboodt_2_0915_baseline_v101.pdf](#)

