"Type-2 PD/PSE Behavior under Overload/Shortcircuit"

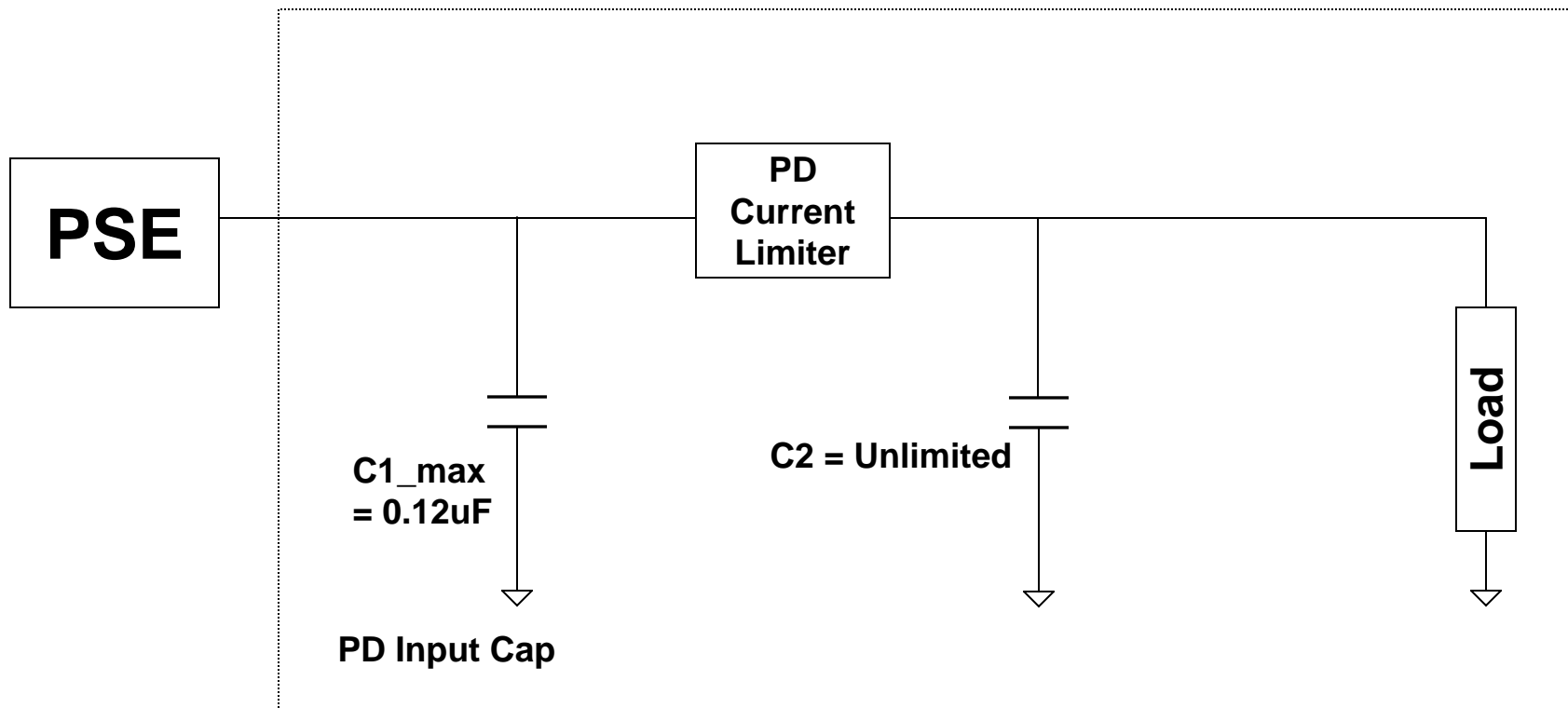Anoop Vetteth and Fred Schindler

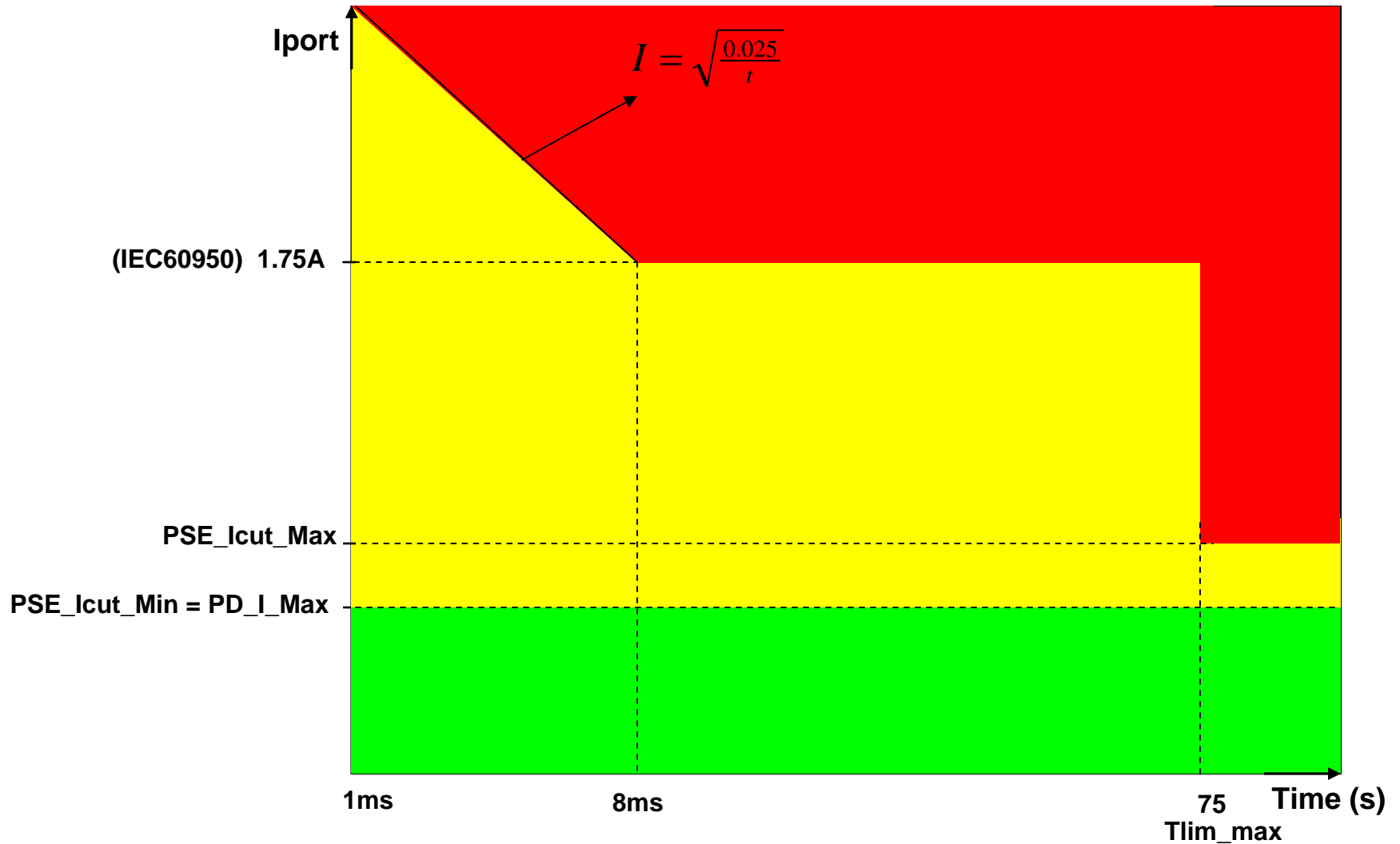Cisco

San Jose CA, USA

May 2007, Geneva

New look at Type-2 PD

- **Mandate current limiting for Type-2 PDs**

- **It is logical to have current limiting at the PD**

- **All known PDs already limit current.**

- **Solves many of the problems and holes identified in the AF spec**

- **Resolves the stalemate surrounding the PD model to be used during overload conditions.**

Type-2 PD architecture

PSE

PD
Current
Limiter

C1_max
= 0.12uF

PD Input Cap

C2 = Unlimited

Load

PSE Mask

$$I = \sqrt{\frac{0.025}{t}}$$

(IEC60950) 1.75A

PSE_Icut_Max

PSE_Icut_Min = PD_I_Max

Iport

1ms

8ms

75

Tlim_max

Time (s)

Shall and May

- **PSE shall turn off power before entering the red region**

- **Normal PSE operation in the green region.**

- **PSE may operate in the yellow region**

- **PD shall not draw current greater than PD_I_Max**