Power Matters

IEE802.3 4P Task Force

Figure 33A-1- Rpair_max_PD and Rpair_min_PD PD common mode input effective impedance

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Comment [Annex 33A.5 Page 172 line 31]
Requested by remedy of comment #5 from D1.3:
In Annex 33A.5 to define Rpair_max_PD, Rpair_min_PD.
Suggested Remedy

1. Update lines 20-27 per the following:

The following design guide lines may be implemented to ensure PD PI P2P_Iunb requirements are met:

For PD Type 4 class 8: RPair_PD_max[Ω] ~~RPair_max_PD~~ = 2.200 * RPair_ PD_min ~~RPair_min_PD~~ + 0.125.

For PD Type 4 class 7: RPair_PD_max[Ω] ~~RPair_max_PD~~ = 2.010 * RPair_ PD_min ~~RPair_min_PD~~ + 0.105.

For PD Type 3 class 6: RPair_PD_max[Ω] ~~RPair_max_PD~~ = 1.800 * RPair_ PD_min ~~RPair_min_PD~~ + 0.080.

For PD Type 3 class 5: RPair_PD_max[Ω] ~~RPair_max_PD~~ = 1.750 * RPair_ PD_min ~~RPair_min_PD~~ + 0.080.

For PD power above the values shown in Table 33–18 and up to PClass, stringent requirement will be needed to not exceed ICon-2P_unb by means of smaller constants α and β in the equation RPair_PD_max ~~RPair_max_PD~~ = α * RPair_ PD_min ~~RPair_min_PD~~ +β.

RPair_PD_max and RPair_ PD_min represent PD common mode input effective impedance of pairs of the same polarity.
The effective resistance Zi is the measured voltage Veff_pd_i, divided by the current through the path as described below and as shown in the example in Figure 33A-1.
Positive pairs:
Z1= RPair_ PD_min =Veff_pd1/i1
Z3= RPair_PD_max =Veff_pd3/i3
Negative pairs:
Z2= RPair_ PD_min =Veff_pd2/i2
Z4= RPair_PD_max =Veff_pd4/i4

2. Add figure 33A-1 after the above text as described in page 3 of darshan_01_1115.pdf3.
3. Delete Editor Note in lines 32-36

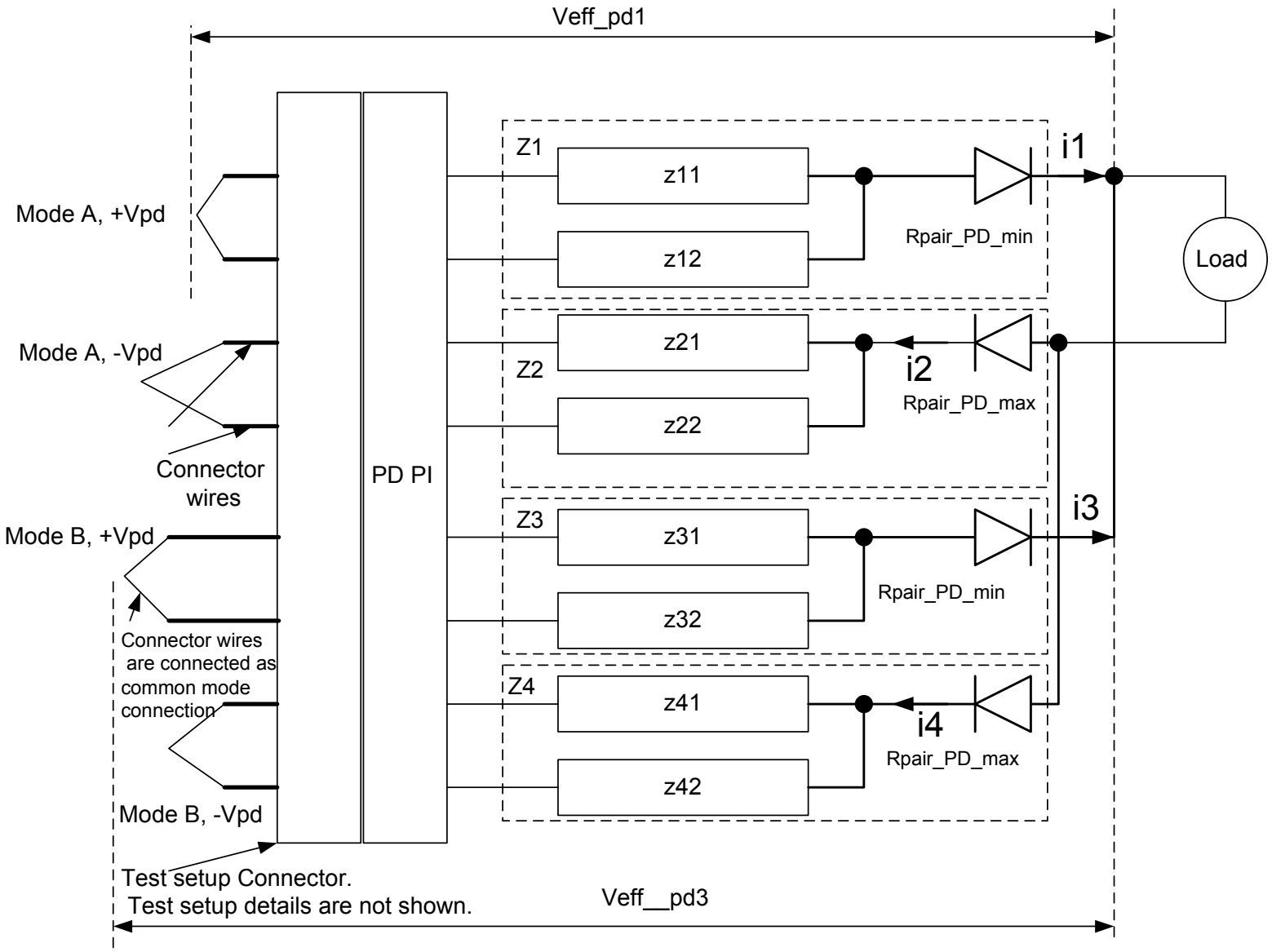

Figure 33A-1- Example for PD common mode effective impedance calculation