

Remedy for Comment about pd_fault Behavior

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Presentation Objectives

• To propose changes to the PD state diagram and the PD CLASS_TYPE_INFO register that allow a PSE to clear the pd_fault variable and pd_fault bit, respectively.



Proposed Change to PD State Diagram

- Currently the pd_fault variable is set to FAULT only in the RESET state.
- Need to add pd_fault ← FALSE assignment to a state subsequent to DO_CLASSIFICATION so PSE can check for a persistent fault condition by cycling the voltage at the PI through V_{sig_disable}.

pd_reset MDI POWER1 present_det_sig \leftarrow FALSE RESET present_iwakeup ← FALSE pd_sccp_enabled \leftarrow FALSE present det sig \leftarrow TRUE present iwakeup ← TRUE present mfvs - FALSE V_{PD}<V_{sig} enable V_{PD}>V_{On} pd_sccp_enabled \leftarrow FALSE pd fault ⇐ FALSE MDI POWER DELAY start tpowerdly timer lpd reset V_{PD}<V_{Off} tpowerdly_timer_done * V_{PD}>V_{On} MDI POWER2 enable_mdi_pwr ⇐ TRUE DO DETECTION present mfvs ← TRUE present det sig ⇐ TRUE Disconnect PD + fault detected present iwakeup ← TRUE pd sccp enabled \leftarrow FALSE V_{PD}<V_{Off} FAULT !sccp_reset_pulse * V_{PD}>V_{sig_disable} sccp reset pulse pd fault ⇐ TRUE UCT DISCONNECT DO CLASSIFICATION present_mfvs ⇐ FALSE enable_mdi_pwr ⇐ FALSE pd sccp enabled \leftarrow TRUE start scop watchdog timer V_{PD}<V_{sig} enable wakeup * VPD>VOn do sccp sccp watchdog timer done V_{PD}>V_{sig disable} PD SLEEP present_det_sig ⇐ TRUE wakeup * V_{PD} ≤ V_{sig_disable} V_{PD}>V_{sig} disable

104.5.3.6 State Diagram

Figure 104–8—PD state diagram

Editor: make change to Figure 104-8 shown in red.



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Proposed Changes to Table 104-8 CLASS_TYPE_INFO register

- Currently the pd_fault bit is read only.
- Need to change behavior to latched-high clear on read. Bit is set to 1 when PD SD variable pd_fault transitions from FALSE to TRUE.
- Propose changing name of bit to pd_faulted as well.

Bit(s)	Name	Description	R/W
b[15:12]	Туре	Type: 1110 – Type A 1101 – Type B 1011 – Type C Other – Reserved	RO
b[11]	pd_fault pd_faulted	 error condition exists that prevents PD from receiving power at the PI o - no error condition exists do 	RO/LH
b[10]	Reserved	value always 0	RO
b[9:0]	Class	Class: 111111110 - Class 0 1111111101 - Class 1 111111011 - Class 1 1111110111 - Class 2 1111101111 - Class 3 1111011111 - Class 4 1110111111 - Class 5 1101111111 - Class 7 1011111111 - Class 8 0111111111 - Class 9	RO

Table 104–8—CLASS_TYPE_INFO Register Table

Change circled text to "1 error condition has occurred that prevented the PD from receiving power at the PI. Set to 1 when the pd_fault variable transitions from FALSE to TRUE."

Editor: make changes to Table 104-8 shown in red.



Questions?



Thank you!

