Cl **33** *SC* **33.2.9.6** *P* **62** *L* **42** # 26

Darshan, Yair — Microsemi Corporation

Comment Type **ER** *Comment Status* **R** *pics*

Draft D4.0 (SA):
33.2.9.6 Defines the conditions required to meet the specifications for Iinrush but are not addressing the conditions for meeting Tinrush as well.
Tinrush minimum is 50msec which was originally calculated as long as Iinrush (0.4A to 0.45A) is kept at any port voltage from zero to Vport.
If implementer uses items (d) and (e) for Foldback current limit implementation in which PSE is allowed to supply Iinrush=60mA minimum (and not 0.4 to 0.45A) as long as 10V<=Vport<=30V as Tinrush may result with much higher time duration >75msec which is not permitted.
Example:
If the PD input capacitor is 150uF and PSE uses Iinrush=60mA from 0V to 30V and 0.4A from 30V to 57V, We get Tinrush=150uF*(30V/0.06A + (57V-30V)/0.4)=85ms>75msec.(After 75msec, port must turn OFF).
It became worse with higher capacitors value which also supported by this specifications.
So the question is: What are the conditions in which Tinrush should be tested.
It is obvious that it is the same conditions as Iinrush is tested i.e. the minimum requirement for the PSE is to test Iinrush and Tinrush from 30V to Vport if implementer chooses to implement 33.2.9.6 (d) and (e).

SuggestedRemedy

Suggested Remedy:
Replace the text of line 42:
"The specification for IInrush in Table 33-11 shall be met under the following conditions:"
With:
"The specification for Iinrush and Tinrush in Table 33-11 shall be met at initial port voltage of at least 30V and under the following conditions:"

It means that pending the implementation being used it can also be met at port voltage from 0V to Vport but this is not the minimum requirement.

Response *Response Status* **U**

REJECT.

Duscussed and could not reach consensus, rejected by default

Cl **33** *SC* **33.2.9.8** *P* **64** *L* **48** # 58

Landry, David — Silicon Laboratories

Comment Type **TR** *Comment Status* **R** *pics*

0.025 A^2s as an energy limitation constant is deprecated. It was originally derived from 802.3af current levels, which are exceeded even at DC in Type 2 systems. It seems unnecessarily limiting to enforce the same empirical constant.

SuggestedRemedy

Change the value of K from (0.5A * 0.5A * 100ms) to [(600mA*450/350)^2 * 75ms] = 0.045 A^2s. Recalculate the intercepts with the 50A and 1.75A segments accordingly.

Response *Response Status* **U**

REJECT.

Vote to accept the comment
Y: 4 N: 5 A:4
fails
no consensus to change and comment is rejected by default

Cl **33** *SC* **33.6.5** *P* **100** *L* **26** # 160

Schindler, Frederick — Cisco Systems, Inc.

Comment Type **ER** *Comment Status* **R**

p100, 26. Normally PSE can meet the timing requirements.

SuggestedRemedy

Replace "A Type 2 PSE shall send .." with "Under normal operation, a Type 2 PSE shall send .."

Response *Response Status* **U**

REJECT.

This was discussed in the past. For Type 2 devices, the consensus was that there was no issue in meeting the requirements over all conditions

Cl **33** *SC* **33.4.1** *P* **82** *L* **34** # 177

Maytum, Michael — Bourns, Inc.

Comment Type **TR** *Comment Status* **R**

Subclause 5.2.2 of IEC 60950-1 specifies an insulation test voltage of a)1500 V rms or a DC voltage at least equal to the peak AC voltage e.g. b)2250 V dc. Impulse test of c)1500 V, 10/700 completely fails to reach the 2250 V peak stress voltage of tests a) and b). The TNV-1 CIRCUIT or a TNV-3 CIRCUIT voltage level of 1.5 kV is based on ITU-T K.21 Resistibility of telecommunication equipment installed in customer premises to overvoltages and overcurrents. In K.21 the assumed primary protector let-through voltage of 1.5 kV sets the 1.5 kV test level of K.21 test 2.1.1.b (basic). In the case of Ethernet circuits primary protectors are not installed, which will increase the inherent impulse voltage level. Conversely most Ethernet wiring is internal, which will decrease the impulse voltage level. For unprotected TNV-1 interfaces ITU-T K.21 specifies a higher level 6 kV (enhanced). A US telecommunication supplier has found it necessary to increase internal port withstand test level from 1.5 kV to 6 kV for their fibre to the home installations to reduce failures.

SuggestedRemedy

Change the option c) 1500 V 10/700 test level to 2250 V 10/700

Response *Response Status* **U**

REJECT.

These are well established parameters set forth by the IEEE as minimum functional requirements and are not replacements for safety (or other) requirements that may need to be met by a specific product in a specific jurisdiction. IEC 60950-1 is only referenced for the methodologies.

See 178, which is the identical comment without a remedy.

Cl **00** *SC* **0** *P* *L* # 178

Maytum, Michael — Bourns, Inc.

Comment Type **GR** *Comment Status* **R**

The impulse value of 1.5 kV 10/700 is too low for the above reasons. Compliance only to the lower 1.5 kV 10/700 condition allows manufacturers to reduce insulation withstand voltage and potentially expose users to greater hazards.

SuggestedRemedy

Response *Response Status* **U**

REJECT.

Comment makes reference to another comment and offers no solution. Contexually, this is a duplicate of comment 177 (the referred to comment) and therefore this comment is unneccessary.

4/3/09: commentor replied that the two comments are actually one comment and that this should prepend the other comment (177). This is an artifact of a problem with the web based comment entry tool.

Cl **33** *SC* **33.3.1** *P* **69** *L* **42** # 247

Patoka, Martin — Texas Instruments

Comment Type **TR** *Comment Status* **R**

Information in the note is critical to maintain interoperability with the PSE devices specified.

SuggestedRemedy

Remove the text "Note-" making it clear this is a requirement. Although the text is clear in this, the "Note" might be confusing.

Response *Response Status* **U**

REJECT.

Discussed and could not come to consensus. Default action is to reject.

Cl **00** *SC* **0** *P* *L* # 333

McCormack, Michael Texas Instruments

Comment Type **GR** *Comment Status* **R** *mgmt*

I am unsure where to fix this, but, it appears to me that we have made all type 2 PDs managed devices and have triggered support for management for all clauses implemented by a Type 2 PD. This is, I believe, and unintended consequence of using LLDP for handshaking.

SuggestedRemedy

Not sure how to fix.

Response *Response Status* **U**

REJECT.

discussed but no concensus, rejected by default

Some snips from offline discussions:

"So either we need to change IEEE 802.3at to match IEEE 802.3bc or IEEE P802.3bc to match IEEE 802.3at next week. If we decide to go with LLDP being a separate containment tree as IEEE P802.3bc is at the moment we have solved the above problem - if we don't we need to change the packages in IEEE P802.3at to allow LLDP to be separate from the other attributes."

"Since we voted to make 802.3at contingent on 802.3bc, I think we should change 802.3at to match 802.3bc. Otherwise we will have a mismatch. Also the attributes corresponding to the legacy Power TLV presently follow the containment in 802.3bc. So it makes sense to put all the attributes related to PoE within the same containment."