pSemi Mirafra sync

PE24103 GUI

February 24, 2022

Topics for Discussion

- Support/modification of dual PMBus and I2C (16-bit addressing) protocols (Mirafra).
- New device creation : PE24104 (Mirafra).
- Modifications to existing GUI (pSemi).

23 February 2022

PMBus/I2C Protocol Tab

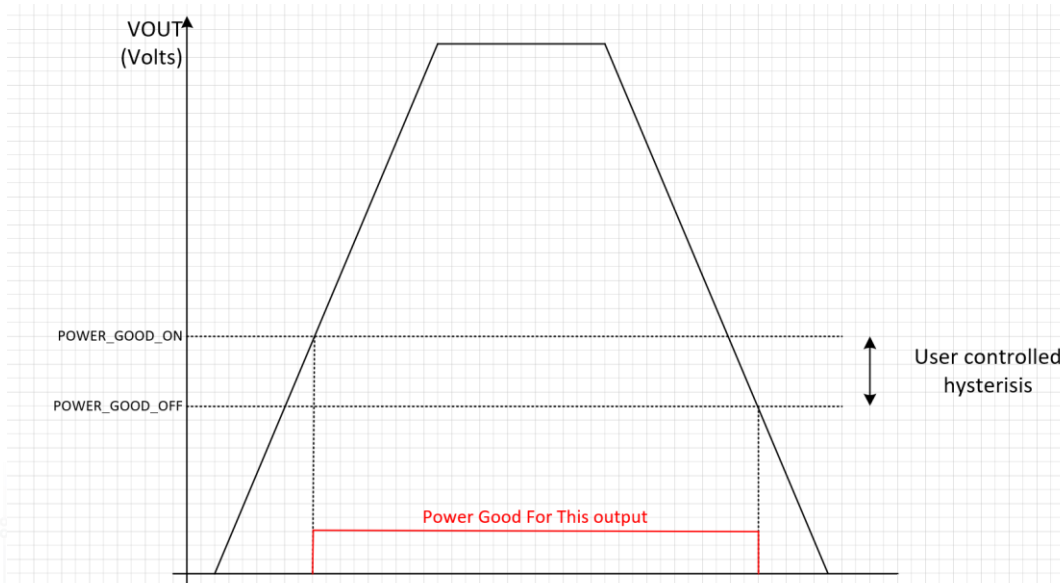Can Read Count be set to '2' by default?

I2C Register Tab

Registers 0x000 thru 0x1FE are Read Only (not controlled by I2C)
Suggest that the pencil (write) be removed and changed
to book (read), locked (🔒) or grayed out.

PMBus Power Good On/Off Functionality

- An output voltage above POWER_GOOD_ON will (in the absence of other faults) allow the internal good status for that BUCK to be set.

- An output voltage below POWER_GOOD_OFF will clear the good status. The difference between ON and OFF are intended to allow some measure of user-controlled hysteresis.

PMBus POWER_GOOD Flag

Vout	0.6005859375	V
Iout	0	A
Operation	Buck On, Ramp Shutdown	⌄
Vout Command	... 0.60009765625	V
Vout Margin High	... 0	V
Vout Margin Low	... 0	V
Vout Trans Rate	... 1.998046875	uV/us
Vout OVF Limit	... 2.10009765625	V
Vout UVF Limit	... 0.2998046875	V
Iout OCF Limit	... 31.96875	A
Iout UCF Limit	... -32	A
Power Good On	... 1.21484375	V
Power Good Off	... 1.18505859375	V
TON Delay	... 20	ms
TON Rise	... 4	ms
TOFF Delay	... 0	ms
TOFF Fall	... 10	ms
	POWER_GOOD	

1. Read this voltage

2. Compare reading to these numbers (set by user)

3. If reading is above Power Good On, no fault

4. If reading is below Power Good Off, POWER_GOOD flag is activated (red)

MFR_SPECIFIC_PGOOD (Command Code C4h)

- This logic does not appear to work. There should be separate channel control of POWER_GOOD fault. Can you verify? (Refer to R2D2_PMBus_IOS_Latest.pdf document)

Table 42 PE24103 MFR_SPECIFIC_PGOOD Command Data Bytes

Bits	Description	PE24103 Value	Meaning
15:12	FALLING VOUT Logical OR enable for outputs 4 to 1		FALLING VOUT Logical OR enable for outputs 4 to 1
11:8	FALLING VOUT Logical AND enable for outputs 4 to 1		FALLING VOUT Logical AND enable for outputs 4 to 1
7:4	RISING VOUT Logical OR enable for outputs 4 to 1		RISING VOUT Logical OR enable for outputs 4 to 1
3:0	RISING VOUT Logical AND enable for outputs 4 to 1		RISING VOUT Logical AND enable for outputs 4 to 1

THANK YOU

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