

# pSemi Mirafra sync

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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).

# PMBus/I2C Protocol Tab

**PMBus**

**Control**

Address (0x)

Command (0x)

Write Data (0x)

Read Count

**I2C**

**Control**

Address (0x)

Command (0x)

Write Data (0x)

Read Count

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

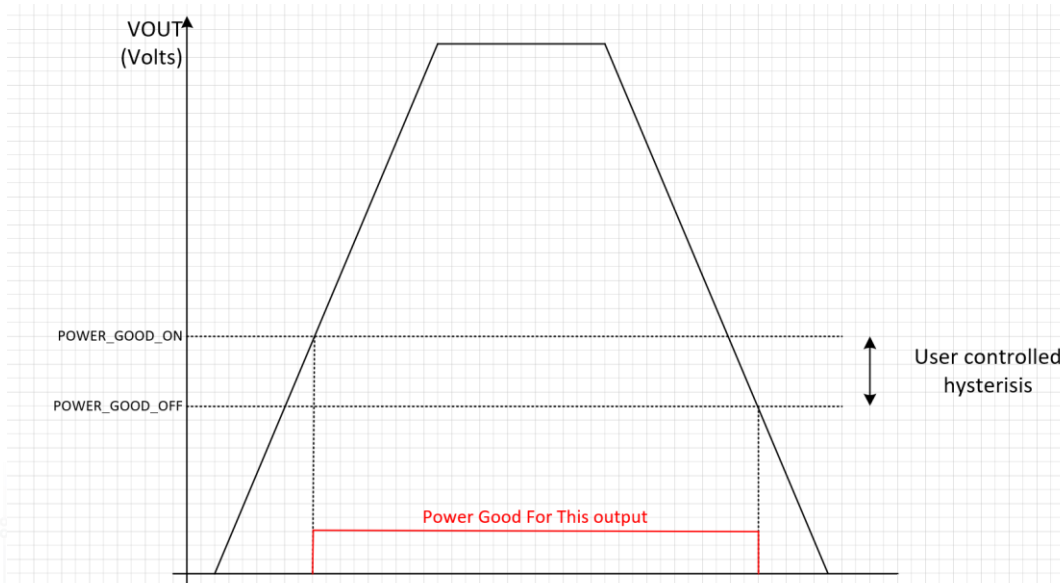
# I2C Register Tab

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.

Name	Address	Data	Value	Unit
VOUT1_TRANS_RATE	0x000	BBFF	BBFF	Hex
TON1_DLY	0x002	014	014	Hex
TON1_RISE	0x004	004	004	Hex
VOUT1_MODE	0x006	015	015	Hex
TOFF1_DLY	0x008	000	000	Hex
TOFF1_FALL	0x00A	00A	00A	Hex
MFR_OP1_BEH	0x00C	000	000	Hex
VOUT1_OPERATION	0x00E	0C4	0C4	Hex
VOUT2_TRANS_RATE	0x010	BBFF	BBFF	Hex
TON2_DLY	0x012	014	014	Hex
TON2_RISE	0x014	004	004	Hex
VOUT2_MODE	0x016	015	015	Hex
TOFF2_DLY	0x018	000	000	Hex
TOFF2_FALL	0x01A	00A	00A	Hex
MFR_OP2_BEH	0x01C	000	000	Hex
VOUT2_OPERATION	0x01E	044	044	Hex
VOUT3_TRANS_RATE	0x020	BBFF	BBFF	Hex
TON3_DLY	0x022	014	014	Hex

# 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

[www.psemi.com](http://www.psemi.com)

