

Kernel driver xdpe122

Supported chips:

- Infineon XDPE11280
Prefix: 'xdpe11280'
- Infineon XDPE12254
Prefix: 'xdpe12254'
- Infineon XDPE12284
Prefix: 'xdpe12284'

Authors:

Vadim Pasternak <vadimp@mellanox.com>

Description

This driver implements support for Infineon Multi-phase XDPE112 and XDPE122 family dual loop voltage regulators. These families include XDPE11280, XDPE12284 and XDPE12254 devices. The devices from this family compliant with:

- Intel VR13 and VR13HC rev 1.3, IMVP8 rev 1.2 and IMPVP9 rev 1.3 DC-DC converter specification.
- Intel SVID rev 1.9. protocol.
- PMBus rev 1.3 interface.

Devices support linear format for reading input voltage, input and output current, input and output power and temperature. Device supports VID format for reading output voltage. The below modes are supported: - VR12.0 mode, 5-mV DAC - 0x01. - VR12.5 mode, 10-mV DAC - 0x02. - IMVP9 mode, 5-mV DAC - 0x03. - AMD mode 6.25mV - 0x10.

Devices support two pages for telemetry.

The driver provides for current: input, maximum and critical thresholds and maximum and critical alarms. Critical thresholds and critical alarm are supported only for current output. The driver exports the following attributes for via the sysfs files, where indexes 1, 2 are for "iin" and 3, 4 for "iout":

curr[3-4]_crit

curr[3-4]_crit_alarm

curr[1-4]_input

curr[1-4]_label

curr[1-4]_max

curr[1-4]_max_alarm

The driver provides for voltage: input, critical and low critical thresholds and critical and low critical alarms. The driver exports the following attributes for via the sysfs files, where indexes 1, 2 are for "vin" and 3, 4 for "vout":

in[1-4]_crit

in[1-4]_crit_alarm

in[1-4]_input

in[1-4]_label

in[1-4]_lcrit

in[1-4]_lcrit_alarm

The driver provides for power: input and alarms. Power alarm is supported only for power input. The driver exports the following attributes for via the sysfs files, where indexes 1, 2 are for "pin" and 3, 4 for "pout":

power[1-2]_alarm

power[1-4]_input

power[1-4]_label

The driver provides for temperature: input, maximum and critical thresholds and maximum and critical alarms. The driver exports the following attributes for via the sysfs files:

temp[1-2]_crit

temp[1-2]_crit_alarm

temp[1-2]_input
temp[1-2]_max
temp[1-2]_max_alarm