Product/Process Change Notice - PCN 22_0212 Rev. -

Analog Devices, Inc. One Analog Way, Wilmington, MA 01887, USA

This notice is to inform you of a change that will be made to certain ADI products (see Appendix A) that you may have purchased in the last 2 years. **Any inquiries or requests with this PCN (additional data or samples) must be sent to ADI within 30 days of publication date.** ADI contact information is listed below.

PCN Title: LTC4270 Datasheet Limit Change

Publication Date: 29-Aug-2022

Effectivity Date: 01-Dec-2022 *(the earliest date that a customer could expect to receive changed material)*

Revision Description:
Initial Release

Description Of Change:

Please be advised that Analog Devices has made a minor change to the LTC4270 product datasheet to facilitate improvement in manufacturing capability. The changes are shown on the attached pages of the marked-up datasheet.

Electrical Characteristics table changes (page 4 of datasheet):
1. GATE Pin Pull-Down Current Port off, VGATEn = VEE + 5v, minimum spec limit changed from 0.4mA to 0.3mA. Also, temperature condition changed from Tri-temperature to Room temperature only.
2. GATE Pin Pull-Down Current Port off, VGATEn = VEE + 1v, minimum spec limit changed from 0.08mA to 0.06mA.Also, temperature condition changed from Tri-temperature to Room temperature only.

Reason For Change:

To facilitate improvement in manufacturing capability.

Impact of the change (positive or negative) on fit, form, function & reliability:

This datasheet change does not impact the fit, form, function, or reliability of the LTC4270

Product Identification *(this section will describe how to identify the changed material)*

Product shipped after effectivity date will be tested to the new limits.
Can be identified with date code and lot traceability identification.

Summary of Supporting Information:

Changes will be reflected on the new product datasheet. See changes on Electrical Characteristics table on page 4.

Supporting Documents

Attachment 1: Type: Datasheet Specification Comparison

ADI_PCN_22_0212_Rev_-_LTC4270 Datasheet Marked-up Page.pdf

For questions on this PCN, please send an email to the regional contacts below or contact your local ADI sales representatives.			
Americas:	**Europe:**	**Japan:**	**Rest of Asia:**
PCN_Americas@analog.com	PCN_Europe@analog.com	PCN_Japan@analog.com	PCN_ROA@analog.com

Appendix A - Affected ADI Models				
Added Parts On This Revision - Product Family / Model Number (10)				
LTC4270 / LTC4270AIUKG#PBF	LTC4270 / LTC4270AIUKG#TRPBF	LTC4270 / LTC4270BIUKG#PBF	LTC4270 / LTC4270BIUKG#TRMPBF	LTC4270 / LTC4270BIUKG#TRPBF
LTC4270 / LTC4270CIUKG#PBF	LTC4270 / LTC4270CIUKG#TRPBF	LTC4271_70 / LTC4271IUF#PBF	LTC4271_70 / LTC4271IUF#TRMPBF	LTC4271_70 / LTC4271IUF#TRPBF

Appendix B - Revision History			
Rev	**Publish Date**	**Effectivity Date**	**Rev Description**
Rev. -	29-Aug-2022	01-Dec-2022	Initial Release

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C. AGND – V_{EE} = 54V and V_{DD} – DGND = 3.3V unless otherwise noted. (Notes 3 & 4)

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
V_{EE}	Main PoE Supply Voltage	AGND – V_{EE}					
		For IEEE Type 1 Compliant Output	●	45		57	V
		For IEEE Type 2 Compliant Output	●	51		57	V
		For LTPoE++ Compliant Output	●	54.75		57	V
	Undervoltage Lock-Out	AGND – V_{EE}	●	20	25	30	V
V_{DD}	V_{DD} Supply Voltage	V_{DD} – DGND	●	3.0	3.3	3.6	V
	Undervoltage Lock-Out	V_{DD} – DGND			2.7		V
V_{CAP1}	Internal Regulator Supply Voltage	V_{CAP1} – DGND			1.84		V
V_{CAP2}	Internal Regulator Supply Voltage	V_{CAP2} – V_{EE}			4.3		V
I_{EE}	V_{EE} Supply Current	(AGND – V_{EE}) = 55V	●		9	15	mA
R_{EE}	V_{EE} Supply Resistance	V_{EE} < 15V	●			12	kΩ
I_{DD}	V_{DD} Supply Current	(V_{DD} – DGND) = 3.3V	●		10	15	mA
Detection							
	Detection Current – Forced Current	First Point, AGND – V_{OUTn} = 9V	●	220	240	260	µA
		Second Point, AGND – V_{OUTn} = 3.5V	●	143	160	180	µA
	Detection Voltage – Forced Voltage	AGND – V_{OUTn}, 5µA ≤ I_{OUTn} ≤ 500µA					
		First Point	●	7	8	9	V
		Second Point	●	3	4	5	V
	Detection Current Compliance	AGND – V_{OUTn} = 0V	●		0.8	0.9	mA
V_{OC}	Detection Voltage Compliance	AGND – V_{OUTn}, Open Port	●		10.4	12	V
	Detection Voltage Slew Rate	AGND – V_{OUTn}, C_{PORT} = 0.15µF	●			0.01	V/µs
	Min. Valid Signature Resistance		●	15.5	17	18.5	kΩ
	Max. Valid Signature Resistance		●	27.5	29.7	32	kΩ
Classification							
V_{CLASS}	Classification Voltage	AGND – V_{OUTn}, 0mA ≤ I_{OUTn} ≤ 50mA	●	16.0		20.5	V
	Classification Current Compliance	V_{OUTn} = AGND	●	53	61	67	mA
	Classification Threshold Current	Class 0-1	●	5.5	6.5	7.5	mA
		Class 1-2	●	13.5	14.5	15.5	mA
		Class 2-3	●	21.5	23	24.5	mA
		Class 3-4	●	31.5	33	34.9	mA
		Class 4-Overcurrent	●	45.2	48	50.8	mA
V_{MARK}	Classification Mark State Voltage	AGND – V_{OUTn}, 0.1mA ≤ I_{CLASS} ≤ 5mA	●	7.5	9	10	V
	Mark State Current Compliance	V_{OUTn} = AGND	●	53	61	67	mA
Gate Driver							
	GATE Pin Pull-Down Current	Port Off, V_{GATEn} = V_{EE} + 5V	X	~~0.4~~ 0.3			mA
		Port Off, V_{GATEn} = V_{EE} + 1V	X	~~0.08~~ 0.06	0.12		mA
	GATE Pin Fast Pull-Down Current	V_{GATEn} = V_{EE} + 5V			30		mA
	GATE Pin On Voltage	V_{GATEn} – V_{EE}, I_{GATEn} = 1µA	●	8	12	14	V