



<b>Title of Change:</b>	NCV6323/24_Datasheet Update.
<b>Effective date:</b>	18 Aug 2020
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <a href="mailto:Jana.Kubincova@onsemi.com">Jana.Kubincova@onsemi.com</a>
<b>Type of notification:</b>	This Product Bulletin is for notification purposes only. ON Semiconductor will proceed with implementation of this change upon publication of this Product Bulletin.
<b>Change Category:</b>	Datasheet update
<b>Change Sub-Category(s):</b>	Datasheet/Product Doc change

**Sites Affected:**

**ON Semiconductor Sites**

**External Foundry/Subcon Sites**

None

None

**Description and Purpose:**

Change the way the  $T_{JMAX}$  and  $T_J$  max rating are spec in the NCP/NCV6323 and NCP/NCV6324 datasheet in order to make it more comprehensive and less confusing.

The proposed modifications are:

- **In the ABSOLUTE MAXIMUM RATINGS table**
  - Remove the “Operating Ambient Temperature range” line
  - Change “Operating Junction Temperature range” by “Junction temperature range”
  - “Junction temperature range” changed to -40 °C ... TSD
- **Add a RECOMMENDED OPERATING CONDITION table**
  - This table specs the recommended operating conditions for:
    - Analog & Power input supply (2.5 ~ 5.5 V)
    - Junction temperature range (-40 °C ~ +125 °C)
    - Main and critical external components
  - A Note that applies to this table, mentions that “Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.”

**NCP6324-D**

**CURRENT VERSION**

**NEW VERSION**

**MAXIMUM RATINGS**

Rating	Symbol	Value		Unit	
		Min	Max		
Analog Pins DC non switching	AVIN, PG, FB, EN	V <sub>A-DC</sub>	-0.3	6.0	V
Power Pins DC non switching	PVIN, SW	V <sub>P-DC</sub>	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V	
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V	
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V	
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA	
Operating Junction Temperature Range (Note 3)	T <sub>J</sub>	-40	125	°C	
Operating Ambient Temperature Range	T <sub>A</sub>	-40	85	°C	
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C	
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JTC</sub>		12	°C/W	
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JTB</sub>		30	°C/W	
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JUA</sub>		62	°C/W	
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W	
Moisture Sensitivity Level (Note 6)	MSL		1	-	

125 Changed to TSD

Lines removed

**MAXIMUM RATINGS**

Rating	Symbol	Value		Unit	
		Min	Max		
Analog Pins DC non switching	AVIN, PG, FB, EN	V <sub>A-DC</sub>	-0.3	6.0	V
Power Pins DC non switching	PVIN, SW	V <sub>P-DC</sub>	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V	
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V	
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V	
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA	
Junction Temperature Range (Note 3)	T <sub>JMAX</sub>	-40	TSD	°C	
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C	
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JTC</sub>		12	°C/W	
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JTB</sub>		30	°C/W	
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JUA</sub>		62	°C/W	
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W	
Moisture Sensitivity Level (Note 6)	MSL		1	-	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- This device series contains ESD protection and passes the following tests:  
Human Body Model (HBM) ±2.0 kV per JEDEC standard: JESD22-A114.  
Machine Model (MM) ±200 V per JEDEC standard: JESD22-A115.
- Latchup Current per JEDEC standard: JESD78 Class II.
- The thermal shutdown set to 150°C (typical) avoids potential irreversible damage on the device due to power dissipation.
- The thermal resistance values are dependent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EVB board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too, R<sub>JTC</sub> = 11°C/W, R<sub>JTB</sub> = 30°C/W, and R<sub>JUA</sub> = 72°C/W.
- The maximum power dissipation (P<sub>D</sub>) is dependent on input voltage, maximum output current and external components selected.
- Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.



- Added the RECOMMENDED OPERATING CONDITION Table

**RECOMMENDED OPERATING CONDITIONS**

Rating	Symbol	Min	Typ	Max	Unit
Analog Input Supply	AV <sub>INR</sub>	2.5	–	5.5	V
Power Input Supply	PV <sub>INR</sub>	2.5	–	5.5	V
Operating Junction Temperature Range (Note 7)	T <sub>J</sub>	–40	–	+125	°C
Inductor for DC to DC Converter (Note 8)	L <sub>OUT</sub>	0.67	1.0	–	μH
Output Capacitor (Note 8, 9)	C <sub>OUT</sub>	7.0	10	–	μF
Input Capacitor for Power Supply (Note 8)	C <sub>PVIN</sub>	7.0	10	–	μF

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

- The thermal shutdown set to 170°C (typical) avoids potential irreversible damage due to power dissipation.
- Including de-ratings (Refer to the Application Information section of this document for further details).
- The output capacitor value contributes to the regulator loop stability. Special care should be taken for C<sub>OUT</sub> selection. In case of doubt, please contact your sales office.

**NCV6323-D**

**CURRENT VERSION**

**NEW VERSION**

**MAXIMUM RATINGS**

Rating	Symbol	Value		Unit
		Min	Max	
Analog Pins DC non switching: AVIN, PG, FB, EN	V <sub>A-DC</sub>	-0.3	6.0	V
Power Pins DC non switching: PVIN, SW	V <sub>P-DC</sub>	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA
Operating Junction Temperature Range (Note 3)	T <sub>J</sub>	-40	125	°C
Operating Ambient Temperature Range	T <sub>A</sub>	-40	85	°C
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JUC</sub>		12	°C/W
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JUB</sub>		30	°C/W
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JUA</sub>		62	°C/W
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W
Moisture Sensitivity Level (Note 6)	MSL		1	–

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- This device series contains ESD protection and passes the following tests: Human Body Model (HBM) ±2.0 kV per JEDEC standard: JESD22-A114. Machine Model (MM) ±200 V per JEDEC standard: JESD22-A115.
- Latchup Current per JEDEC standard: JESD78 Class II.
- The thermal shutdown set to 125°C (typical) avoids potential irreversible damage on the device due to power dissipation.
- The thermal resistance values are independent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EV6 board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too, R<sub>JUC</sub> = 11°C/W, R<sub>JUB</sub> = 30°C/W, and R<sub>JUA</sub> = 72°C/W.
- The maximum power dissipation (P<sub>D</sub>) is dependent on input voltage, maximum output current and external components selected.
- Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

125 Changed to TSD

Lines removed

150 °C Changed to 170 °C (\*)

**MAXIMUM RATINGS**

Rating	Symbol	Value		Unit
		Min	Max	
Analog Pins DC non switching: AVIN, PG, FB, EN	V <sub>A-DC</sub>	-0.3	6.0	V
Power Pins DC non switching: PVIN, SW	V <sub>P-DC</sub>	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA
Junction Temperature Range (Note 3)	T <sub>JMAX</sub>	-40	TSD	°C
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JUC</sub>		12	°C/W
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JUB</sub>		30	°C/W
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JUA</sub>		62	°C/W
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W
Moisture Sensitivity Level (Note 6)	MSL		1	–

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- This device series contains ESD protection and passes the following tests: Human Body Model (HBM) ±2.0 kV per JEDEC standard: JESD22-A114. Machine Model (MM) ±200 V per JEDEC standard: JESD22-A115.
- Latchup Current per JEDEC standard: JESD78 Class II.
- The thermal shutdown set to 170°C (typical) avoids potential irreversible damage on the device due to power dissipation.
- The thermal resistance values are independent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EV6 board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too, R<sub>JUC</sub> = 11°C/W, R<sub>JUB</sub> = 30°C/W, and R<sub>JUA</sub> = 72°C/W.
- The maximum power dissipation (P<sub>D</sub>) is dependent on input voltage, maximum output current and external components selected.
- Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

- Added the RECOMMENDED OPERATING CONDITION Table

**RECOMMENDED OPERATING CONDITIONS**

Rating	Symbol	Min	Typ	Max	Unit
Analog Input Supply	AV <sub>INR</sub>	2.5	–	5.5	V
Power Input Supply	PV <sub>INR</sub>	2.5	–	5.5	V
Operating Junction Temperature Range (Note 7)	T <sub>J</sub>	–40	–	+125	°C
Inductor for DC to DC Converter (Note 8)	L <sub>OUT</sub>	0.67	1.0	–	μH
Output Capacitor (Note 8, 9)	C <sub>OUT</sub>	7.0	10	–	μF
Input Capacitor for Power Supply (Note 8)	C <sub>PVIN</sub>	7.0	10	–	μF

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

- The thermal shutdown set to 170°C (typical) avoids potential irreversible damage due to power dissipation.
- Including de-ratings (Refer to the Application Information section of this document for further details).
- The output capacitor value contributes to the regulator loop stability. Special care should be taken for C<sub>OUT</sub> selection. In case of doubt, please contact your sales office.

It is an improvement and a refresh of the old document. The change will not impact form, fit, or function of products.

**List of Affected Standard Parts:**

**Note:** Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the **PCN Customized Portal**.

NCV6323BMTAATBG	NCV6323DMTAATBG	NCV6323BMTAAWTBG
NCV6323DMTAAWTBG	NCP6323DMTAATBG	NCP6324BMTAATBG
NCV6324BMTAATBG	NCP6324CMTAATBG	NCV6324CMTAATBG
NCV6324BMTAAWTBG	NCV6324CMTAAWTBG	

Japanese translation of the notification starts here.  
通知の日本語訳はここから始まります。

*Note: The Japanese version is for reference only. In case of any differences between the English and Japanese version, the English version shall control.*

注：日本語版は参照用です。英語版と日本語版の違いがある場合は、英語版が優先されます。

変更件名:	NCV6323/24 データシート更新
発効日:	18 Aug 2020
連絡先情報:	現地のオン・セミコンダクター営業所または <a href="mailto:Jana.Kubincova@onsemi.com">Jana.Kubincova@onsemi.com</a> にお問い合わせください。
通知種別:	本製品速報は通知目的のみのものです。オン・セミコンダクターは本製品速報の発行により本変更を実行します。
変更カテゴリ:	データシート更新
変更サブカテゴリ:	データシート/製品資料の変更

影響を受ける拠点:

オン・セミコンダクター拠点:

外部製造工場 / 下請業者拠点:

なし

なし

説明および目的:

より包括的で分かりやすくするために NCP/NCV6323 および NCP/NCV6324 データシートにおける  $T_{JMAX}$  および  $T_J$  最大定格の記載方法を変更します。

提案された変更は以下のとおりです。

- 絶対最大定格表について
  - 「動作周囲温度範囲」行を削除
  - 「動作接合部温度範囲」を「接合部温度範囲」に変更
  - 「接合部温度範囲」を  $-40^{\circ}\text{C} \sim \text{TSD}$  に変更
- 推奨動作条件表を追加
  - この表には以下の推奨動作条件が記載してあります。
    - アナログおよびパワー入力電源 ( $2.5 \sim 5.5\text{V}$ )
    - 接合部温度範囲 ( $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ )
    - 主要かつ重要な外付け部品
  - この表に適用する注意書きは、「推奨動作範囲を上回るストレス下での機能動作を想定したものではありません。推奨動作範囲を超えたストレスに長時間さらすと、製品の信頼性に影響します。」と言及します。

NCP6324-D

CURRENT VERSION

NEW VERSION

MAXIMUM RATINGS

Rating	Symbol	Value		Unit	
		Min	Max		
Analog Pins DC non switching	AVIN, PG, FB, EN	$V_{A-CC}$	-0.3	6.0	V
Power Pins DC non switching	PVIN, SW	$V_{P-CC}$	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz		$V_{P-TR}$	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM			2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM			200	V
Latchup Current (Note 2)	$I_{LU}$	-100	100	mA	
Operating Junction Temperature Range (Note 3)	$T_J$	-40	125	$^{\circ}\text{C}$	
Operating Ambient Temperature Range	$T_A$	-40	85 125	$^{\circ}\text{C}$	
Storage Temperature Range	$T_{STG}$	-55	150	$^{\circ}\text{C}$	
Thermal Resistance Junction-to-Top Case (Note 4)	$R_{\theta JC}$		12	$^{\circ}\text{C}/\text{W}$	
Thermal Resistance Junction-to-Board (Note 4)	$R_{\theta JB}$		30	$^{\circ}\text{C}/\text{W}$	
Thermal Resistance Junction-to-Ambient (Note 4)	$R_{\theta JA}$		62	$^{\circ}\text{C}/\text{W}$	
Power Dissipation (Note 5)	$P_D$		1.6	W	
Moisture Sensitivity Level (Note 6)	MSL		1	-	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- This device series contains ESD protection and passes the following tests:  
Human Body Model (HBM)  $\pm 20\text{ kV}$  per JEDEC standard: JESD22-A114.  
Machine Model (MM)  $\pm 200\text{ V}$  per JEDEC standard: JESD22-A115.
- Latchup Current per JEDEC standard: JESD78 Class II.
- The thermal shutdown set to  $150^{\circ}\text{C}$  (typical) avoids potential irreversible damage on the device due to power dissipation.
- The thermal resistance values are dependent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EVB board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too,  $R_{\theta JC} = 11^{\circ}\text{C}/\text{W}$ ,  $R_{\theta JB} = 30^{\circ}\text{C}/\text{W}$ , and  $R_{\theta JA} = 72^{\circ}\text{C}/\text{W}$ .
- The maximum power dissipation ( $P_D$ ) is dependent on input voltage, maximum output current and external components selected.
- Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

MAXIMUM RATINGS

Rating	Symbol	Value		Unit	
		Min	Max		
Analog Pins DC non switching	AVIN, PG, FB, EN	$V_{A-CC}$	-0.3	6.0	V
Power Pins DC non switching	PVIN, SW	$V_{P-CC}$	-0.3	6.0	V
Between PVIN, PGND pins, transient 3 ns - 3 MHz		$V_{P-TR}$	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM			2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM			200	V
Latchup Current (Note 2)	$I_{LU}$	-100	100	mA	
Junction Temperature Range (Note 3)	$T_J$	-40	TSD	$^{\circ}\text{C}$	
Storage Temperature Range	$T_{STG}$	-55	150	$^{\circ}\text{C}$	
Thermal Resistance Junction-to-Top Case (Note 4)	$R_{\theta JC}$		12	$^{\circ}\text{C}/\text{W}$	
Thermal Resistance Junction-to-Board (Note 4)	$R_{\theta JB}$		30	$^{\circ}\text{C}/\text{W}$	
Thermal Resistance Junction-to-Ambient (Note 4)	$R_{\theta JA}$		62	$^{\circ}\text{C}/\text{W}$	
Power Dissipation (Note 5)	$P_D$		1.6	W	
Moisture Sensitivity Level (Note 6)	MSL		1	-	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- This device series contains ESD protection and passes the following tests:  
Human Body Model (HBM)  $\pm 20\text{ kV}$  per JEDEC standard: JESD22-A114.  
Machine Model (MM)  $\pm 200\text{ V}$  per JEDEC standard: JESD22-A115.
- Latchup Current per JEDEC standard: JESD78 Class II.
- The thermal shutdown set to  $150^{\circ}\text{C}$  (typical) avoids potential irreversible damage on the device due to power dissipation.
- The thermal resistance values are dependent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EVB board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too,  $R_{\theta JC} = 11^{\circ}\text{C}/\text{W}$ ,  $R_{\theta JB} = 30^{\circ}\text{C}/\text{W}$ , and  $R_{\theta JA} = 72^{\circ}\text{C}/\text{W}$ .
- The maximum power dissipation ( $P_D$ ) is dependent on input voltage, maximum output current and external components selected.
- Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

125 Changed to TSD

Lines removed

追加された推奨動作条件表

RECOMMENDED OPERATING CONDITIONS

Rating	Symbol	Min	Typ	Max	Unit
Analog Input Supply	AV <sub>INR</sub>	2.5	-	5.5	V
Power Input Supply	PV <sub>INR</sub>	2.5	-	5.5	V
Operating Junction Temperature Range (Note 7)	T <sub>J</sub>	-40	-	+125	°C
Inductor for DC to DC Converter (Note 8)	L <sub>OUT</sub>	0.67	1.0	-	μH
Output Capacitor (Note 8, 9)	C <sub>OUT</sub>	7.0	10	-	μF
Input Capacitor for Power Supply (Note 8)	C <sub>PVIN</sub>	7.0	10	-	μF

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

7. The thermal shutdown set to 170°C (typical) avoids potential irreversible damage due to power dissipation.

8. Including de-ratings (Refer to the Application Information section of this document for further details).

9. The output capacitor value contributes to the regulator loop stability. Special care should be taken for C<sub>OUT</sub> selection. In case of doubt, please contact your sales office.

NCV6323-D

CURRENT VERSION

NEW VERSION

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		Min	Max	
Analog Pins DC non switching	AV <sub>IN</sub> , PG, FB, EN	-0.3	6.0	V
Power Pins DC non switching	PV <sub>IN</sub> , SW	-0.3	6.0	V
Between PV <sub>IN</sub> , PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA
Operating Junction Temperature Range (Note 3)	T <sub>J</sub>	-40	125	°C
Operating Ambient Temperature Range	T <sub>A</sub>	-40	85	°C
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JC</sub>		12	°C/W
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JB</sub>		30	°C/W
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JA</sub>		62	°C/W
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W
Moisture Sensitivity Level (Note 6)	MSL		1	-

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		Min	Max	
Analog Pins DC non switching	AV <sub>IN</sub> , PG, FB, EN	-0.3	6.0	V
Power Pins DC non switching	PV <sub>IN</sub> , SW	-0.3	6.0	V
Between PV <sub>IN</sub> , PGND pins, transient 3 ns - 3 MHz	V <sub>P-TR</sub>	-0.3	7.5	V
Human Body Model (HBM) ESD Rating are (Note 1)	ESD HBM		2000	V
Machine Model (MM) ESD Rating (Note 1)	ESD MM		200	V
Latchup Current (Note 2)	I <sub>LU</sub>	-100	100	mA
Junction Temperature Range (Note 3)	T <sub>J</sub>	-40	170	°C
Storage Temperature Range	T <sub>STG</sub>	-55	150	°C
Thermal Resistance Junction-to-Top Case (Note 4)	R <sub>JC</sub>		12	°C/W
Thermal Resistance Junction-to-Board (Note 4)	R <sub>JB</sub>		30	°C/W
Thermal Resistance Junction-to-Ambient (Note 4)	R <sub>JA</sub>		62	°C/W
Power Dissipation (Note 5)	P <sub>D</sub>		1.6	W
Moisture Sensitivity Level (Note 6)	MSL		1	-

125 Changed to TSD

Lines removed

150 °C Changed to 170 °C (\*)

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.  
 1. This device series contains ESD protection and passes the following tests:  
 Human Body Model (HBM) ±2.0 kV per JEDEC standard: JESD22-A114.  
 Machine Model (MM) ±200 V per JEDEC standard: JESD22-A115.  
 2. Latchup Current per JEDEC standard: JESD78 Class II.  
 3. The thermal shutdown set to 170°C (typical) avoids potential irreversible damage on the device due to power dissipation.  
 4. The thermal resistance values are dependent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EVB board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too, R<sub>JC</sub> = 11°C/W, R<sub>JB</sub> = 30°C/W, and R<sub>JA</sub> = 72°C/W.  
 5. The maximum power dissipation (P<sub>D</sub>) is dependent on input voltage, maximum output current and external components selected.  
 6. Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.  
 1. This device series contains ESD protection and passes the following tests:  
 Human Body Model (HBM) ±2.0 kV per JEDEC standard: JESD22-A114.  
 Machine Model (MM) ±200 V per JEDEC standard: JESD22-A115.  
 2. Latchup Current per JEDEC standard: JESD78 Class II.  
 3. The thermal shutdown set to 170°C (typical) avoids potential irreversible damage on the device due to power dissipation.  
 4. The thermal resistance values are dependent of the PCB heat dissipation. The board used to drive this data was an 80x50 mm NCP6324EVB board. It is a multilayer board with 1 ounce internal power and ground planes and 2-1 ounce copper traces on top and bottom of the board. If the copper traces of top and bottom are 1 ounce too, R<sub>JC</sub> = 11°C/W, R<sub>JB</sub> = 30°C/W, and R<sub>JA</sub> = 72°C/W.  
 5. The maximum power dissipation (P<sub>D</sub>) is dependent on input voltage, maximum output current and external components selected.  
 6. Moisture Sensitivity Level (MSL): 1 per IPC/JEDEC standard: J-STD-020A.

追加された推奨動作条件表

RECOMMENDED OPERATING CONDITIONS

Rating	Symbol	Min	Typ	Max	Unit
Analog Input Supply	AV <sub>INR</sub>	2.5	-	5.5	V
Power Input Supply	PV <sub>INR</sub>	2.5	-	5.5	V
Operating Junction Temperature Range (Note 7)	T <sub>J</sub>	-40	-	+125	°C
Inductor for DC to DC Converter (Note 8)	L <sub>OUT</sub>	0.67	1.0	-	μH
Output Capacitor (Note 8, 9)	C <sub>OUT</sub>	7.0	10	-	μF
Input Capacitor for Power Supply (Note 8)	C <sub>PVIN</sub>	7.0	10	-	μF

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

7. The thermal shutdown set to 170°C (typical) avoids potential irreversible damage due to power dissipation.

8. Including de-ratings (Refer to the Application Information section of this document for further details).

9. The output capacitor value contributes to the regulator loop stability. Special care should be taken for C<sub>OUT</sub> selection. In case of doubt, please contact your sales office.



## 製品速報

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旧文書が改善、そして更新されています。

この変更は製品の形状、適合性、または機能に影響を及ぼしません。

### 影響を受ける部品の一覧：

注：標準の部品番号（既製品）のみが部品一覧に記載されます。本 PCN に影響を受けるカスタム 部品は、PCN メールのお客様の特定の PCN の付属文書、または PCN カスタマイズポータルに記載されています。

NCV6323BMTAATBG	NCV6323DMTAATBG	NCV6323BMTAAWTBG
NCV6323DMTAAWTBG	NCP6323DMTAATBG	NCP6324BMTAATBG
NCV6324BMTAATBG	NCP6324CMTAATBG	NCV6324CMTAATBG
NCV6324BMTAAWTBG	NCV6324CMTAAWTBG	