ON Semiconductor®

Final Product/Process Change Notification

Document #:FPCN23449X
Issue Date:15 Apr 2021

Title of Change:	Assembly and Test Transfer from AUK Dalian, China to JCET CHUZHOU, China for TO92 Products, Case Outline Change from 29-11 to 29-10 for TLV431 and NCP431 TO92 Products.
Proposed First Ship date:	23 Jul 2021 or earlier if approved by customer
Contact Information:	Contact your local ON Semiconductor Sales Office or Marquita.Jones@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com>. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or Lalan.Ortega@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Product marked with date code PM (YW) or later may be built from current factory or from JCET. On the label of the box and reel, the ASSY LOC: JC will also indicate product assembled in JCET. Please see sample label on Page 2 at the following URL http://www.onsemi.com/pub/Collateral/LABELRM-D.PDF to see the location of the ASSY LOC.
Change Category:	Assembly Change, Test Change
Change Sub-Category(s):	Manufacturing Site Transfer, Material Change

Sites Affected:

ON Semiconductor Sites	External Foundry/Subcon Sites
None	AUK Dalian, China
	JCET, China

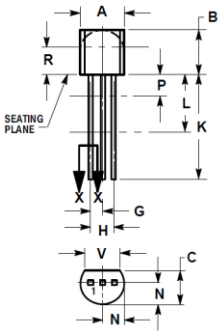
Description and Purpose:

ON Semiconductor would like to inform customers of the intent to transfer assembly and test for the TO92 products listed in this notification from the current assembly site, AUK China, China to JCET CHUZHOU, China. BOM (Bill of Materials) changes are listed below:

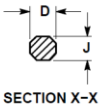
	Before Change Description	After Change Description
Site	AUK Dalian, China	JCET Chuzhou, China
LeadFrame	PMC90-1/2H	LF TO92L 3L CuAg STAMPED
Die Attach	ABLE843-001	DAD-87
Mold Compound	EME-E120G	EMG200

ON Semiconductor would also like to inform customers of the intent to change from case outline 29-11 to 29-10 for the TO92 products listed in this notification. The changes are listed below:

Before Change

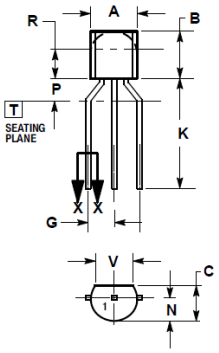


STRAIGHT LEAD

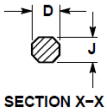


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---



BENT LEAD



NOTES:
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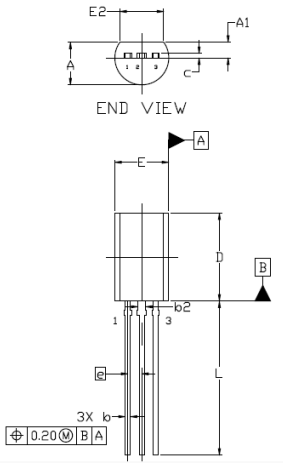
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	MILLIMETERS	
DIM	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---

After Change

STRAIGHT LEAD



NOTES:
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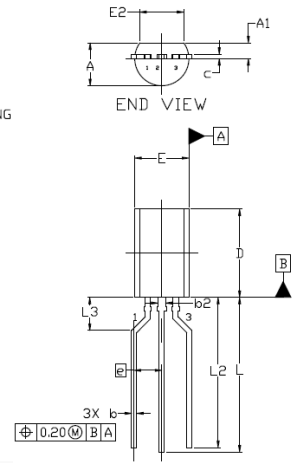
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH OR GATE PROTRUSIONS.
4. DIMENSION b AND b2 DOES NOT INCLUDE DAMBAR PROTRUSION. LEAD WIDTH INCLUDING PROTRUSION SHALL NOT EXCEED 0.20. DIMENSION b2 LOCATED ABOVE THE DAMBAR PORTION OF MIDDLE LEAD.

	MILLIMETERS		
DIM	MIN.	NOM.	MAX.
A	3.75	3.90	4.05
A1	1.28	1.43	1.58
b	0.38	0.465	0.55
b2	0.62	0.70	0.78
c	0.35	0.40	0.45
D	7.85	8.00	8.15
E	4.75	4.90	5.05
E2	3.90	---	---
e	1.27 BSC		
L	13.80	14.00	14.20

FORMED LEAD



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A1	1.28	1.43	1.58
b	0.38	0.465	0.55
b2	0.62	0.70	0.78
c	0.35	0.40	0.45
D	7.85	8.00	8.15
E	4.75	4.90	5.05
E2	3.90	---	---
e	2.50 BSC		
L	13.80	14.00	14.20
L2	13.20	13.60	14.00
L3	3.00 REF		

Product marking changes are shown here:

	From	To
Product marking change	Trace Code Assembly Location Line 3: **W**(LYW) L: Wafer Lot Number YW: Assembly Start Week	Trace Code Assembly Location Line 3: **JC**(LYW) L: Wafer Lot Number YW: Assembly Start Week Note: No Pb Free Microdot

Reliability Data Summary:

QV DEVICE NAME: NCP431AVLPRAG
RMS : S68562, O74138
PACKAGE : TO-92

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta = 125°C, 100 % max rated Vcc	1008 hrs	0 / 231
HTSL	JESD22-A103	Ta = 150°C	1008 hrs	0 / 231
TC	JESD22-A104	Ta = -65°C to +150°C	500 cyc	0 / 231
HAST	JESD22-A110	110°C, 85% RH, 18.8psig, bias	264 hrs	0 / 231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0 / 231
DPA	AEC Q101 -004	Destructive Physical Analysis Following HTOL, TC and HAST		0/18
RSH	JESD22-B106	Ta = 265°C, 10 sec		0 /90
SD	JESD22-B102E	Ta = 245°C, 5 sec		0 / 45
PD	JESD22-B100B	Per case outline		0 / 30
LI	JESD22-B105D	Lead Fatigue (10 units, 15 leads)		0 / 30
ED	AEC-Q100-009	Electrical Distribution / Characterization		0 / 30

QV DEVICE NAME: TLV431BLPRAG
RMS : S68561, S76276, O74137
PACKAGE : TO-92

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta = 125°C, 100 % max rated Vcc	1008 hrs	0 / 231
HTSL	JESD22-A103	Ta = 150°C	1008 hrs	0 / 231
TC	JESD22-A104	Ta = -65°C to +150°C	500 cyc	0 / 231
THB	JESD22-A101D	85°C, 85% RH, biased	504 hrs 1008 hrs	0 / 231 On-going
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0 / 231
DPA	AEC Q101 -004	Destructive Physical Analysis Following HTOL, TC and THB		0/18
RSH	JESD22-B106	Ta = 265°C, 10 sec		0 /90
SD	JESD22-B102E	Ta = 245°C, 5 sec		0 / 45
PD	JESD22-B100B	Per case outline		0 / 30
LI	JESD22-B105D	Lead Fatigue (10 units, 15 leads)		0 / 30
ED	AEC-Q100-009	Electrical Distribution / Characterization		0 / 30

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

List of Affected 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.***

Part Number	Qualification Vehicle
NCP431AILPRAG	NCP431AVLPRAG
NCP431ACLPRAG	NCP431AVLPRAG
NCP431AVLPRAG	NCP431AVLPRAG
TLV431ALPRAG	TLV431BLPRAG
TLV431ALPG	TLV431BLPRAG
TLV431BLPRAG	TLV431BLPRAG

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.

最終製品 / プロセス変更通知

文書番号#：FPCN23449X
発行日:15 Apr 2021

変更件名:	TO92 製品の組立および検査を AUK 大連（中国）から JCET 滁州（中国）に移管、TO92 製品の TLV431 および NCP431 についてはケースアウトラインを 29-11 から 29-10 に変更
初回出荷予定日:	22 Jul 2021 またはお客様からの承認が得られた場合はそれ以前.
連絡先情報:	現地のオン・セミコンダクター営業所または < Marquita.Jones@onsemi.com > にお問い合わせください。
サンプル:	現地のオン・セミコンダクター営業所または <PCN.Samples@onsemi.com> にお問い合わせください。 サンプルは、この変更の初回通知、初回 PCN の日付から 30 日以内に要求してください。 サンプル納入時は、依頼日、数量、特別梱包材/ラベル条件によって異なります。
追加の信頼性データ:	最寄りのオン・セミコンダクター営業所または < Lalan.Ortega@onsemi.com >にお問い合わせください
通知種別:	これは、お客様宛の最終製品 / プロセス変更通知（FPCN）です。FPCN は、変更実施の 90 日前に発行されます。オン・セミコンダクターは、この通知の送付から 30 日以内に書面による問い合わせがない限り、この変更が承諾されたものとみなします。 お問い合わせは、<PCN.Support@onsemi.com> 宛てにお願いします。
変更部品の識別:	日付コードが PM (YW) 以降の製品は、現在の工場または JCET で製造されたことになります。梱包箱およびリールのラベル上の ASSY LOC: JC は、製品が JCET で組み立てられたことを示します。ASSY LOC の場所を確認するには、http://www.onsemi.com/pub/Collateral/LABELRM-D.PDF の 2 ページ目にあるサンプルラベルを参照してください。
変更カテゴリ:	組立の変更, 検査の変更
変更サブカテゴリ:	製造拠点の移管, 材料の変更

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**:
None	AUK Dalian, China
	JCET, China

説明および目的:

オン・セミコンダクターは、本通知に記載されている TO92 製品の組立および検査拠点を現在の AUK 大連 (中国) から JCET 滁州(中国) に移管する意向であることをお客様にお知らせいたします。BOM (部品表) の変更は以下に記載した通りです。

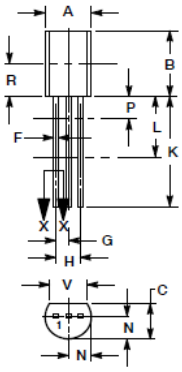
材料	変更前の表記	変更後の表記
地点	AUK Dalian, China	JCET Chuzhou, China
リードフレーム	PMC90-1/2H	LF TO92L 3L CuAg スタンプ
ダイ接着剤	ABLE843-001	DAD-87
モールド・コンパウンド	EME-E120G	EMG200

オン・セミコンダクターは、本通知に記載されている TO92 製品のケースアウトライン 29-11 を変更する意向があることもお客様にお知らせいたします。 変更内容については以下をご覧ください。

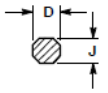
最終製品 / プロセス変更通知

文書番号#：FPCN23449X
発行日:15 Apr 2021

変更前:



STRAIGHT LEAD



SECTION X–X

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCHES.
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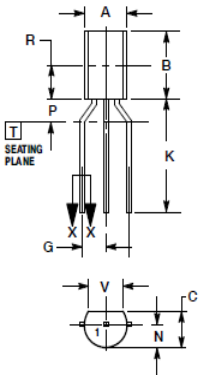
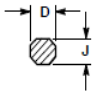
4. DIMENSION F APPLIES BETWEEN DIMENSIONS P AND L. DIMENSIONS D AND J APPLY BETWEEN DIMENSIONS L AND K MINIMUM. THE LEAD DIMENSIONS ARE UNCONTROLLED IN DIMENSION P AND BEYOND DIMENSION K MINIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.175	0.205	4.44	5.21
B	0.290	0.310	7.37	7.87
C	0.125	0.165	3.18	4.19
D	0.018	0.021	0.46	0.53
F	0.016	0.019	0.41	0.48
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.018	0.024	0.46	0.61
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.135	---	3.43	---
V	0.135	---	3.43	---



BENT LEAD



SECTION X–X

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変更後:

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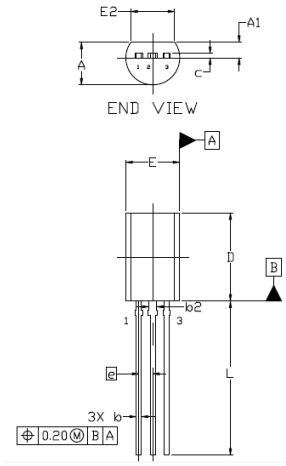

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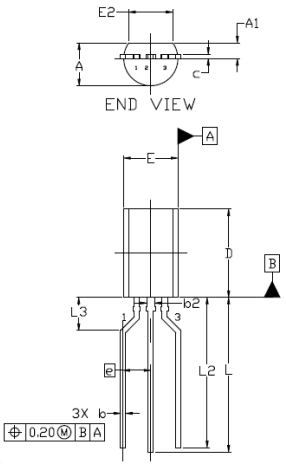
E	4.75	4.90	5.05
E2	3.90	---	---
e	1.27 BSC		
L	13.80	14.00	14.20

FORMED LEAD



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c	0.35	0.40	0.45
D	7.85	8.00	8.15
E	4.75	4.90	5.05
E2	3.90	---	---
e	2.50 BSC		
L	13.80	14.00	14.20
L2	13.20	13.60	14.00
L3	3.00 REF		

製品マーキングの変更について

	変更前	変更後
製品マーキングの変更	3 行目にマークされるトレースコードの組立場所: **W**(LYW) L: ウェハロット番号 YW: 組立開始週	3 行目にマークされるトレースコードの組立場所: **JC**(LYW) L: ウェハロット番号 YW: 組立開始週

信頼性データの要約:

デバイス名: NCP431AVLPRAG
RMS : S68562, O74138
パッケージ : TO-92

テスト	仕様	条件	間隔	結果
HTOL	JESD22-A108	Ta = 125°C, 100 % max rated Vcc	1008 hrs	0 / 231
HTSL	JESD22-A103	Ta = 150°C	1008 hrs	0 / 231
TC	JESD22-A104	Ta = -65°C to +150°C	500 cyc	0 / 231
HAST	JESD22-A110	110°C, 85% RH, 18.8psig, bias	264 hrs	0 / 231
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0 / 231
DPA	AEC Q101 -004	Destructive Physical Analysis Following HTOL, TC and HAST		0/18
RSH	JESD22-B106	Ta = 265°C, 10 sec		0 /90
SD	JESD22-B102E	Ta = 245°C, 5 sec		0 / 45
PD	JESD22-B100B	Per case outline		0 / 30
LI	JESD22-B105D	Lead Fatigue (10 units, 15 leads)		0 / 30
ED	AEC-Q100-009	Electrical Distribution / Characterization		0 / 30

デバイス名: TLV431BLPRAG
RMS : S68561, S76276, O74137
パッケージ : TO-92

テスト	仕様	条件	間隔	結果
HTOL	JESD22-A108	Ta = 125°C, 100 % max rated Vcc	1008 hrs	0 / 231
HTSL	JESD22-A103	Ta = 150°C	1008 hrs	0 / 231
TC	JESD22-A104	Ta = -65°C to +150°C	500 cyc	0 / 231
THB	JESD22-A101D	85°C, 85% RH, biased	504 hrs 1008 hrs	0 / 231 On-going
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0 / 231
DPA	AEC Q101 -004	Destructive Physical Analysis Following HTOL, TC and THB		0/18
RSH	JESD22-B106	Ta = 265°C, 10 sec		0 /90
SD	JESD22-B102E	Ta = 245°C, 5 sec		0 / 45
PD	JESD22-B100B	Per case outline		0 / 30
LI	JESD22-B105D	Lead Fatigue (10 units, 15 leads)		0 / 30
ED	AEC-Q100-009	Electrical Distribution / Characterization		0 / 30

電気的特性の要約:

電気的特性への影響はありません。

影響を受ける部品の一覧:

注: 部品一覧には標準部品番号 (既製品) のみが記載されています。本 PCN の影響を受けるカスタム部品番号は、PCN メールで提供される顧客個別の付録、または PCN カスタマイズポータルに記載されています。

部品番号	認定試験用ビークル
NCP431AILPRAG	NCP431AVLPRAG
NCP431ACLPRAG	NCP431AVLPRAG
NCP431AVLPRAG	NCP431AVLPRAG
TLV431ALPRAG	TLV431BLPRAG
TLV431ALPG	TLV431BLPRAG
TLV431BLPRAG	TLV431BLPRAG