Final Product/Process Change Notification

Document #:FPCN24896Z
Issue Date:30 Apr 2024

Title of Change:	The addition of JCET, China as an assembly and test operation for the DPAK package (Case Outline 369C) to provide capacity flexibility.
Proposed Changed Material First Ship Date:	30 Oct 2024 or earlier if approved by customer
Current Material Last Order Date:	N/A *Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability*.
Current Material Last Delivery Date:	N/A *The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory*
Product Category:	Active components – Integrated circuits
Contact information:	Contact your local onsemi Sales Office or Jolo.Manga@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. Sample requests are to be submitted no later than 45 days after publication of this change notification. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Sample Availability Date:	31 May 2024
PPAP Availability Date:	19 Apr 2024
Additional Reliability Data:	Contact your local onsemi Sales Office or MohdAzizi.Azman@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com.

Change Category

Category	**Type of Change**
Test Flow	Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor
Process - Assembly	Move of all or part of assembly to a different location/site/subcontractor., Change of mold compound, Die attach material, Change in process technology (e.g., die attach, bonding, moulding, plating, trim and form, lead frame preperation, …), Change of lead frame finishing material / area (internal)

Description and Purpose:

onsemi would like to inform our customers of the addition of JCET, China for assembly and test of the DPAK package (Case Outline 369C) to enable capacity flexibility. Product bill of material changes are shown in the table below, and all products continue to meet electrical specification requirements listed in the product datasheet. This change is for capacity flexibility, so future deliveries will be sourced from JCET, China, or any of the previously qualified assembly & test locations at the discretion of our supply chain.

Description	Before Change	After Change	
Assembly / Test Site	onsemi, Seremban, Malaysia	onsemi, Seremban, Malaysia	JCET Semiconductor Co.Ltd., Suqian, China
LeadFrame	ICDPAK 3 lead Bare Copper C19210	ICDPAK 3 lead Bare Copper C19210	TO-252-2L(6R)-B Bare Copper A194

Die Attach	Solder: 95% Pb 5%Sn	Solder: 95% Pb 5%Sn	Solder: 92.5%Pb, 5%Sn,2.5%Ag
Mold Compound	G700HF GE 8000CH4ES	G700HF GE 8000CH4ES	G700HF

Reason / Motivation for Change:	Source/Supply/Capacity Changes Process/Materials Change
Anticipated impact on fit, form, function, reliability, product safety or manufacturability:	The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by onsemi in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
None	JCET, China

Marking of Parts/ Traceability of Change:	Changed material can be identified by assembly plant code.

Reliability Data Summary:

QV DEVICE NAME: NCV4274ADT50RKG-IR01
RMS: S88331/S93280
PACKAGE: DPAK 369C

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/231
Low Temperature Storage Life	JESD22-A119	Ta= -40°C	168 hrs	0/75
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2400
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260 °C, Pre TC, uHAST, HAST, PTC for surface mount pkgs only		0/828
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C, mount on board	500 cyc	0/231
Power Temperature Cycling	JESD22-A105	Ta= -40°C to +125°C, mount on board	500 cyc	0/135
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45

QV DEVICE NAME: NCV4274CDT50RKG
RMS: S88333
PACKAGE: DPAK 369C

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/77
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/77
Low Temperature Storage Life	JESD22-A119	Ta= -40°C	168 hrs	0/25
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/800
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260 °C, Pre TC, uHAST, HAST, PTC for surface mount pkgs only		0/308
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/77
Power Temperature Cycling	JESD22-A105	Ta= -40°C to +125°C, mount on board	1000 cyc	0/45
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only		0/30
Solderability	JSTD002	Ta = 245°C, 5 sec		0/15

QV DEVICE NAME: NCV1117DT50RKG
RMS: S88309/S94782
PACKAGE: DPAK 369C

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/231
Low Temperature Storage Life	JESD22-A119	Ta= -40°C	168 hrs	0/75
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2400
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260 °C, Pre TC, uHAST, HAST, PTC for surface mount pkgs only		0/828
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C, mount on board	500 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec Required for through hole devices only		0/90
Solderability	JSTD002	Ta = 245°C, 5 sec		0/45

NOTE: AEC-1pager is attached.

To view attachments:
1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file

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****.*

Current Part Number	New Part Number	Qualification Vehicle
NCV7805BDTRKG	#NONE	NCV1117DT50RKG
NCV317MBDTRKG	#NONE	NCV1117DT50RKG
NCV1117DT15RKG	#NONE	NCV1117DT50RKG
NCV1117DT18RKG	#NONE	NCV1117DT50RKG
NCV1117DT18T5G	#NONE	NCV1117DT50RKG
NCV1117DT33T5G	#NONE	NCV1117DT50RKG
NCV1117DT50RKG	#NONE	NCV1117DT50RKG
NCV1117DTARKG	#NONE	NCV1117DT50RKG
NCV2931ADT5.0RKG	#NONE	NCV1117DT50RKG
NCV5501DT15RKG	#NONE	NCV1117DT50RKG
NCV5501DT33RKG	#NONE	NCV1117DT50RKG
NCV5501DT50RKG	#NONE	NCV1117DT50RKG
NCV33269DTRK3.3G	#NONE	NCV1117DT50RKG
NCV33269DTRK5.0G	#NONE	NCV1117DT50RKG
NCV33269DTRKG	#NONE	NCV1117DT50RKG
NCV78M05ABDTRKG	#NONE	NCV1117DT50RKG
NCV78M05BDTRKG	#NONE	NCV1117DT50RKG
NCV78M08BDTRKG	#NONE	NCV1117DT50RKG
NCV78M12BDTRKG	#NONE	NCV1117DT50RKG
NCV317MABDTRKG	#NONE	NCV1117DT50RKG
NCV7808BDTRKG	#NONE	NCV1117DT50RKG
SA317MBDTRKG	#NONE	NCV1117DT50RKG
SA317MDTRKG	#NONE	NCV1117DT50RKG
NCV1117DT12RKG	#NONE	NCV1117DT50RKG
NCV8664CDT50RKG	#NONE	NCV4274CDT50RKG
NCV8664CDT33RKG	#NONE	NCV4274CDT50RKG
NCV4274CDT50RKG	#NONE	NCV4274CDT50RKG

NCV4274CDT33RKG	#NONE	NCV4274CDT50RKG
NCV8664DT50RKG	#NONE	NCV4274ADT50RKG-IR01
NCV4274ADT50RKG-IR01	#NONE	NCV4274ADT50RKG-IR01
NCV4274ADT50RKG	#NONE	NCV4274ADT50RKG-IR01