ON Semiconductor®

Product Bulletin

Document #:PB23547X
Issue Date:02 Sep 2020

Title of Change:	Data sheet update for SPS3LC 4x5 Parts (FDMF5075 and FDMF5076)
Effective date:	02 Sep 2020
Contact information:	Contact your local ON Semiconductor Sales Office or Ravi.Savanur@onsemi.com
Type of notification:	This Product Bulletin is for notification purposes only. ON Semiconductor will proceed with implementation of this change upon publication of this Product Bulletin.
Change Category:	Data sheet update
Change Sub-Category(s):	Datasheet/Product Doc change

Sites Affected:

ON Semiconductor Sites	**External Foundry/Subcon Sites**
None	None

Description and Purpose:

FDMF5075, and FDMF5076 datasheet on page 3 currently has N/C listed for pin 2 and 3. It has to be changed as shown below.

From:

PIN CONNECTIONS

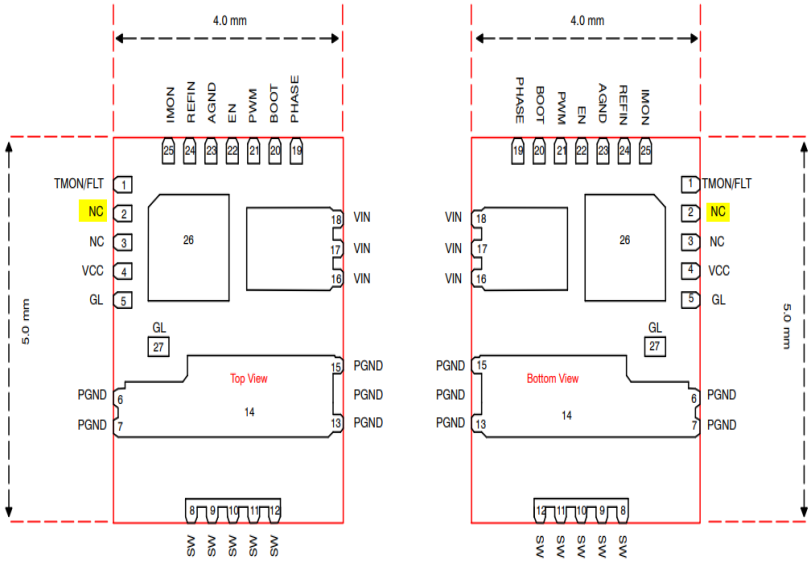

Figure 3. Pin Connections – (Top View)

Figure 4. Pin Connections – (Bottom View)

PIN FUNCTION DESCRIPTION

Pin	Name	Description
1	Tmon/Fault	Temperature and FAULT Reporting Pin. Pin sources a (PTAT) voltage of 0.6 V at 0°C with an 8 mV/°C slope when no module FAULT is present. In the event of a module FAULT, this pin pulls HIGH to an internal driver IC rail = 3.0 V typ. This pin will be pulled low under UVLO condition
2, 3	NC	No Connection
4	VCC	Power Supply input for LS gate drivers, Boot Diode and all analog control functions

To:

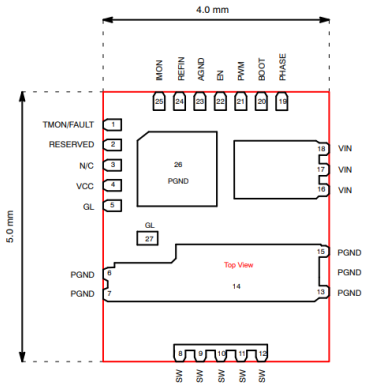

Figure 3. Top View

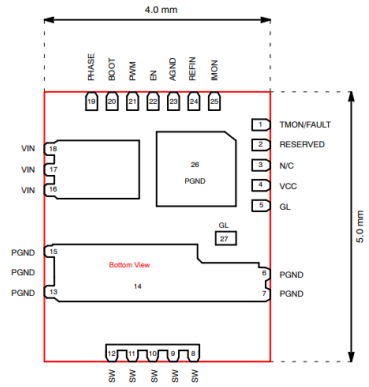

Figure 4. Bottom View

PIN DESCRIPTION

Pin	Name	Description
1	TMON/FAULT	Temperature and fault reporting pin. Pin sources a voltage of 0.6 V at 0°C with an 8 mV/°C slope when no module fault is present. In the event of a module fault, this pin pulls HIGH to 3.0 V typical.
2	RESERVED	Tie to VCC, leave open, or short to GND.
3	N/C	No connect. Leave open. May tie to VCC or short to GND.

- FDMF5075, and FDMF5076 datasheet on page 4 currently has a DC only specification in the absolute maximum rating table. We have to add AC specs and change the table as shown below.

From:

ABSOLUTE MAXIMUM RATINGS (T_A = T_J = 25°C)

Symbol	Parameter		Min	Max	Unit
V_{CC}	Supply Voltage	Referenced to AGND	−0.3	6.0	V
V_{EN}	Module Enable	Referenced to AGND	−0.3	6.0	V
V_{PWM}	PWM Signal Input	Referenced to AGND	−0.3	VCC +0.3	V
V_{GL}	Low Gate Manufacturing Test Pin	Referenced to AGND	−0.3	6.0	V
V_{IMON}	Current Monitor Output	Referenced to AGND	−0.3	6.0	V
V_{REFIN}	Current Monitor Output Reference	Referenced to AGND	−0.3	6.0	V
$V_{TMON/FAULT}$	Thermal Monitor Output	Referenced to AGND	−0.3	6.0	V
$I_{TMON/FAULT}$	TMON/ FAULT Source Current		–	5.0	mA
V_{IN}	Power Input	Referenced to PGND, AGND	−0.3	25.0	V
V_{PHASE}	PHASE	Referenced to PGND, AGND (DC Only)	−0.3	25.0	V
		Referenced to PGND, AC < 2 ns	−12.0	25.0	V
V_{SW}	Switch Node Input	Referenced to PGND, AGND (DC Only)	−0.3	25.0	V
		Referenced to PGND, AC duration < 2 ns	−7.0	25.0	V
V_{BOOT}	Bootstrap Supply	Referenced to AGND (DC Only)	−0.3	30.0	V
		Referenced to AGND, AC duration < 2 ns	−9	30.0	V
$V_{BOOT-PHASE}$	Boot to PHASE Voltage		−0.3	7.0	V
$I_{O(peak)}$	Instantaneous Peak Output Current	V_{IN} = 12V (ON Semiconductor SPS Evaluation board)	–	20	A
θ_{J-A}	Junction−to−Ambient Thermal Resistance	Natural Convection	–	13	°C/W
θ_{J-PCB}	Junction−to−PCB Thermal Resistance (ON Semiconductor SPS Evaluation Board)		–	1.7	°C/W
T_A	Ambient Temperature Range		−40	+125	°C
T_J	Maximum Junction Temperature		–	+150	°C
T_{STG}	Storage Temperature Range		−55	+150	°C
ESD	Electrostatic Discharge Protection		2000	–	V
			1000	–	V

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.

To:

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Min.	Max.	Unit
V_{VCC}	Supply Voltage	Referenced to AGND	−0.3	6.0	V
V_{EN}	Module Enable	Referenced to AGND	−0.3	6.0	V
V_{PWM}	PWM Signal Input	Referenced to AGND	−0.3	VCC+0.3	V
V_{GL}	Low Gate Manufacturing Test Pin	Referenced to AGND	−0.3	6.0	V
		Referenced to AGND, AC duration < 5 ns	−1.0	–	V
V_{IMON}	Current Monitor Output	Referenced to AGND	−0.3	6.0	V
V_{REFIN}	Current Monitor Output Reference	Referenced to AGND	−0.3	6.0	V
$V_{TMON/FAULT}$	Thermal Monitor Output	Referenced to AGND	−0.3	6.0	V
$I_{TMON/FAULT}$	TMON/FAULT Source Current		–	5.0	mA
V_{VIN}	Power Input	Referenced to PGND, AGND (DC only)	−0.3	25.0	V
		Referenced to PHASE, AC duration < 5 ns	–	35.0	V
V_{PHASE}	PHASE	Referenced to PGND, AGND (DC only)	−0.3	25.0	V
		Referenced to PGND, AC duration < 5 ns	−15.0	25.0	V
V_{SW}	Switch Node Input	Referenced to PGND, AGND (DC only)	−0.3	25.0	V
		Referenced to PGND, AC duration < 5 ns	−7.0	30.0	V
V_{BOOT}	Bootstrap Supply	Referenced to AGND (DC only)	−0.3	30.0	V
		Referenced to PGND, AC duration < 5 ns	−9.0	30.0	V
		Referenced to PHASE (DC only)	−0.3	7.0	V
		Referenced to PHASE, AC duration < 5 ns	–	9.0	V
θ_{J-A}	Junction−to−Ambient Thermal Resistance (Natural Convection, ON Semiconductor SPS Evaluation RevA Board)		–	13	°C/W
θ_{J-PCB}	Junction−to−PCB Thermal Resistance (ON Semiconductor SPS Evaluation RevA Board, Referenced to PGND)		–	1.7	°C/W
θ_{J-C}	Junction−to−Case Thermal Resistance (Based on Calculation)		–	5.2	°C/W
T_A	Ambient Temperature Range		−40	+125	°C
T_J	Maximum Junction Temperature		–	+150	°C
T_{STG}	Storage Temperature Range		−55	+150	°C
ESD	Electrostatic Discharge Protection	Human Body Model. JESD22−A114	2000	–	V
		Charged Device Model, JESD22−C101	1000	–	V

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.

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**.*

FDMF5075	FDMF5076	