

Product / Process Change Notification



N° 2020-059-B !! UPDATE !!

- Updated Information marked in **BLUE TYPE**
- Original PCN N° 2020-059-A dated 2020-June-09

Dear Customer,

Attached please find an updated PCN 2020-059-B for your attention.

Implementation of matrix leadframe for Package PG-TO252-3 in Tongfu Microelectronics Co., Ltd. (TFME)

If you have any questions, please do not hesitate to contact your local Sales office.

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Product / Process Change Notification



N° 2020-059-B **!! UPDATE !!**

- Updated Information marked in **BLUE TYPE**
- Original PCN N° 2020-059-A dated 2020-June-09

► **Products affected:** Please refer to attached affected product list [1_cip20059_b](#)

► **Detailed Change Information:**

Subject: Implementation of matrix leadframe for Package PG-TO252-3 in Tongfu Microelectronics Co., Ltd. (TFME)

Device IPD90R1K2C3 (SP001117752) excluded from change.

Reason: Standardization of leadframe for package PG-TO252-3 in Tongfu Microelectronics Co., Ltd. (TFME) assembly line.
Increase of Manufacturing Capacity.

Description:

<u>Old</u>	<u>New</u>
■ Single row leadframe	■ Matrix leadframe
■ Package Outer Dimension max. value for E1 = 5.21 mm	■ Package Outer Dimension max. value for E1 = 5.50 mm. ■ Refer to 3_cip20059_a

► **Product Identification:** Traceability is ensured via Bau number, Lot number and Datecode.

► **Impact of Change:** The leadframe material and surface remains the same for both, single and matrix row leadframe. All other Bill Of Materials remain unchanged. There is no impact in footprint, product quality, performance and reliability as verified by qualification.

► **Attachments:** Affected product list [1_cip20059_b](#)

► **Time Schedule:**

- | 2020-059-A / 2020-059-B | |
|-------------------------------|--|
| ■ Final qualification report: | available |
| ■ First samples available: | on request |
| ■ Intended start of delivery: | September 2020, or earlier, depending on customer approval |

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PCN 2020-059-B

Implementation of matrix leadframe for Package PG-TO252-3 in
Tongfu Microelectronics Co., Ltd. (TFME)



Sales name	SP number	OPN	Package
IPD50R399CP	SP001117700	IPD50R399CPATMA1	PG-TO252-3
IPD50R520CP	SP001117706	IPD50R520CPATMA1	PG-TO252-3
IPD60R145CFD7	SP001715664	IPD60R145CFD7ATMA1	PG-TO252-3
IPD60R170CFD7	SP001617934	IPD60R170CFD7ATMA1	PG-TO252-3
IPD60R180C7	SP001277630	IPD60R180C7ATMA1	PG-TO252-3
IPD60R180P7	SP001606052	IPD60R180P7ATMA1	PG-TO252-3
IPD60R1K4C6	SP001292870	IPD60R1K4C6ATMA1	PG-TO252-3
IPD60R210CFD7	SP001715662	IPD60R210CFD7ATMA1	PG-TO252-3
IPD60R280CFD7	SP001634124	IPD60R280CFD7ATMA1	PG-TO252-3
IPD60R280P7	SP001658316	IPD60R280P7ATMA1	PG-TO252-3
IPD60R2K0C6	SP001117714	IPD60R2K0C6ATMA1	PG-TO252-3
IPD60R360CFD7	SP002621084	IPD60R360CFD7ATMA1	PG-TO252-3
IPD60R360P7	SP001606048	IPD60R360P7ATMA1	PG-TO252-3
IPD60R380C6	SP001117716	IPD60R380C6ATMA1	PG-TO252-3
IPD60R380P6	SP001135814	IPD60R380P6ATMA1	PG-TO252-3
IPD60R385CP	SP000680638	IPD60R385CPATMA1	PG-TO252-3
IPD60R3K3C6	SP001117718	IPD60R3K3C6ATMA1	PG-TO252-3
IPD60R600C6	SP001117726	IPD60R600C6ATMA1	PG-TO252-3
IPD60R600E6	SP001117094	IPD60R600E6ATMA1	PG-TO252-3
IPD60R600P6	SP001178242	IPD60R600P6ATMA1	PG-TO252-3
IPD60R600P7	SP001606046	IPD60R600P7ATMA1	PG-TO252-3
IPD60R950C6	SP001117730	IPD60R950C6ATMA1	PG-TO252-3
IPD65R190C7	SP000928648	IPD65R190C7ATMA1	PG-TO252-3
IPD65R1K4C6	SP001107078	IPD65R1K4C6ATMA1	PG-TO252-3
IPD65R1K4CFD	SP001117732	IPD65R1K4CFDATMA1	PG-TO252-3
IPD65R1K4CFD	SP001977046	IPD65R1K4CFDATMA2	PG-TO252-3
IPD65R225C7	SP000929430	IPD65R225C7ATMA1	PG-TO252-3
IPD65R380C6	SP001117734	IPD65R380C6ATMA1	PG-TO252-3
IPD65R380E6	SP001117736	IPD65R380E6ATMA1	PG-TO252-3
IPD65R420CFD	SP001117738	IPD65R420CFDATMA1	PG-TO252-3
IPD65R420CFD	SP001977048	IPD65R420CFDATMA2	PG-TO252-3
IPD65R600E6	SP001117096	IPD65R600E6ATMA1	PG-TO252-3
IPD65R660CFD	SP001117748	IPD65R660CFDATMA1	PG-TO252-3
IPD65R660CFD	SP001977050	IPD65R660CFDATMA2	PG-TO252-3



Sales name	SP number	OPN	Package
IPD65R950C6	SP001107082	IPD65R950C6ATMA1	PG-TO252-3
IPD65R950CFD	SP001977060	IPD65R950CFDATMA2	PG-TO252-3
IPD65R950CFD	SP001117750	IPD65R950CFDATMA1	PG-TO252-3
IPD80R1K0CE	SP001130974	IPD80R1K0CEATMA1	PG-TO252-3
IPD80R1K2P7	SP001644252	IPD80R1K2P7ATMA1	PG-TO252-3
IPD80R1K4CE	SP001130972	IPD80R1K4CEATMA1	PG-TO252-3
IPD80R1K4P7	SP001422564	IPD80R1K4P7ATMA1	PG-TO252-3
IPD80R2K0P7	SP001634906	IPD80R2K0P7ATMA1	PG-TO252-3
IPD80R2K4P7	SP001644284	IPD80R2K4P7ATMA1	PG-TO252-3
IPD80R2K8CE	SP001130970	IPD80R2K8CEATMA1	PG-TO252-3
IPD80R360P7	SP001633516	IPD80R360P7ATMA1	PG-TO252-3
IPD80R3K3P7	SP001636440	IPD80R3K3P7ATMA1	PG-TO252-3
IPD80R450P7	SP001422626	IPD80R450P7ATMA1	PG-TO252-3
IPD80R4K5P7	SP001422632	IPD80R4K5P7ATMA1	PG-TO252-3
IPD80R600P7	SP001644246	IPD80R600P7ATMA1	PG-TO252-3
IPD80R750P7	SP001644282	IPD80R750P7ATMA1	PG-TO252-3
IPD80R900P7	SP001633484	IPD80R900P7ATMA1	PG-TO252-3
IPD95R1K2P7	SP001792314	IPD95R1K2P7ATMA1	PG-TO252-3
IPD95R2K0P7	SP001819720	IPD95R2K0P7ATMA1	PG-TO252-3
IPD95R750P7	SP001792316	IPD95R750P7ATMA1	PG-TO252-3
SPD02N80C3	SP001117754	SPD02N80C3ATMA1	PG-TO252-3
SPD03N50C3	SP001117756	SPD03N50C3ATMA1	PG-TO252-3
SPD03N60C3	SP001117760	SPD03N60C3ATMA1	PG-TO252-3
SPD04N50C3	SP001117762	SPD04N50C3ATMA1	PG-TO252-3
SPD04N60C3	SP001117764	SPD04N60C3ATMA1	PG-TO252-3
SPD04N80C3	SP001117768	SPD04N80C3ATMA1	PG-TO252-3
SPD06N60C3	SP001117770	SPD06N60C3ATMA1	PG-TO252-3
SPD06N80C3	SP001117772	SPD06N80C3ATMA1	PG-TO252-3
SPD07N60C3	SP001117774	SPD07N60C3ATMA1	PG-TO252-3
SPD08N50C3	SP001117776	SPD08N50C3ATMA1	PG-TO252-3

Date: 2020-02-24

PCN-2020-059-A Implementation of matrix leadframe for package PG-TO252-3 in Tongfu Microelectronics Co. Ltd (TFME)

Reason for choosing following test vehicle:

IPD80R1K0CE Largest chip in TO252
 SPD06N60C3 Medium chip in TO252
 IPD80R4K5P7 smallest chip in TO252

Extension of qualification: All CoolMOS™ products produced at TFME DPAK

Assessment of Q-Results pass

Reference Products				IPD80R1K0CE	SPD06N60C3	IPD80R4K5P7
IFX Package type				PG-TO252	PG-TO252	PG-TO252
Test description	Abbr.	Condition	Readout			
Pre-Conditioning J-STD020 / JESD22 A113	PC	MSL and 3 x reflow at 260°C		MSL1, 260°C	MSL1, 260°C	MSL1, 260°C
Temperature Cycling JESD22 A104	TC*	-55°C - +150°C	0 c PC 500 c 1000 c	0 / 77 0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77 0 / 77
Unbiased Highly Accelerated Stress Test JESD22 A118	UHAST*	130°C / 85% rh	0 h precon 96 h	0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77
Intermittent Operational Life Test MIL-STD 750/Meth.1037	IOL*	Delta T = 100 K n = 15000 cyc	0 c precon 7500 c 15000 c	0 / 77 0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77 0 / 77	0 / 77 0 / 77 0 / 77 0 / 77
Lead Solderability MIL-STD-202 Method 208, JESD22-B102E	SD	100°C / 93 % rh 10s / 1 x [SD]@ 245 °C 8 hrs steam aging	visual inspection	0 / 30	ref TV1	ref TV1
Electrical Distribution	ED	-55 °C +25 °C +150 °C		0 / 50 0 / 50 0 / 50	0 / 50 0 / 50 0 / 50	0 / 50 0 / 50 0 / 50

* PC is done only for SMD Packages before UHAST, TC, IOL stress tests

Abbreviations: - not performed

Customer Information Package

3_cip20059_a

PCN 2020-059-A

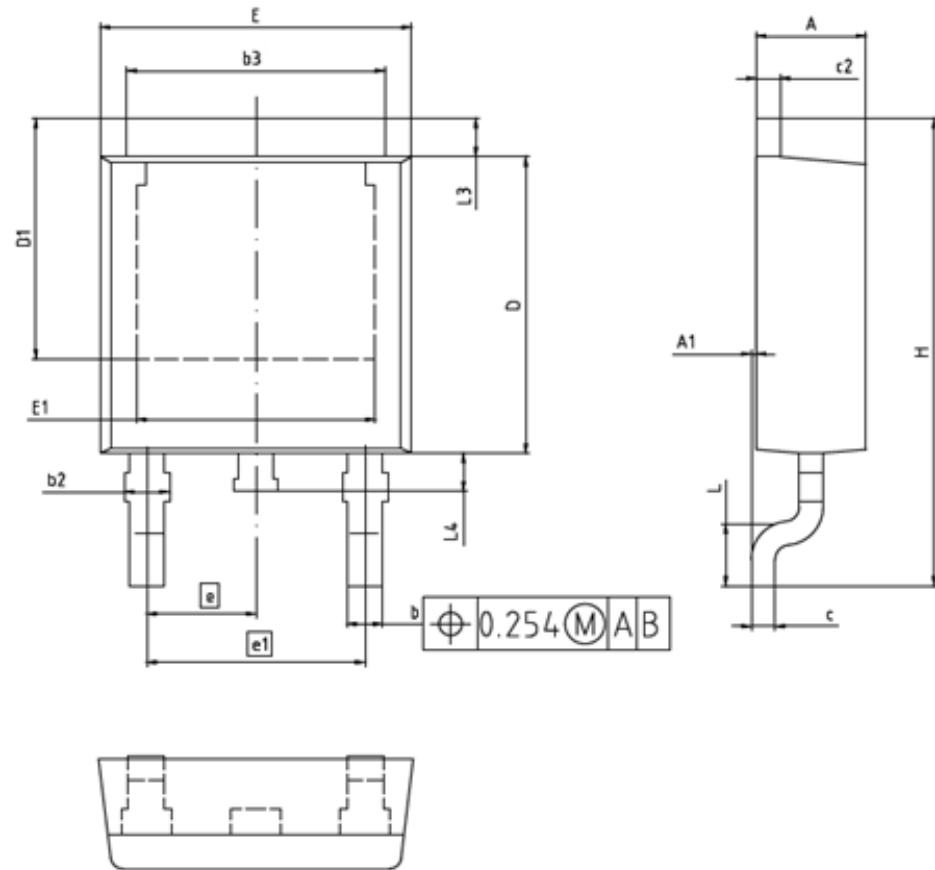
Implementation of matrix leadframe for Package PG-TO252-3 in Tongfu Microelectronics Co., Ltd. (TFME)



Package Outer Dimensions



SYMBOL	TO252-3 TFME single row Leadframe		TO252-3 TFME matrix Leadframe		TO252-3 Infineon Data sheet	
	[mm]		[mm]		[mm]	
	MIN	MAX	MIN	MAX	MIN	MAX
A	2.20	2.38	2.20	2.38	2.16	2.41
A1	0.00	0.10	0.00	0.10	0.00	0.15
b	0.77	0.89	0.72	0.85	0.64	0.89
b2	0.77	1.10	0.72	0.90	0.65	1.15
b3	5.23	5.43	5.13	5.46	4.95	5.50
c	0.47	0.60	0.47	0.60	0.46	0.61
c2	0.47	0.60	0.47	0.60	0.40	0.98
D	6.00	6.20	6.00	6.20	5.97	6.22
D1	5.25	5.50	5.25	5.50	5.02	5.84
E	6.50	6.70	6.50	6.70	6.35	6.73
E1	4.70	5.21	5.20	5.50	4.32	5.50
e	2.29 (BSC)		2.29 (BSC)		2.29 (BSC)	
e1	4.57 (BSC)		4.57 (BSC)		4.57 (BSC)	
N	3		3		3	
H	9.80	10.40	9.80	10.40	9.40	10.48
L	1.40	1.70	1.40	1.70	1.18	1.78
L3	0.90	1.25	0.90	1.25	0.89	1.27
L4	0.60	1.00	0.60	1.00	0.51	1.02



ALL DIMENSIONS REFER TO JEDEC STANDARD TO-252 AND DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS.

- > All package outer dimension are within the existing Infineon datasheet drawing with the exception of E1.(E1 updated from 5.21mm to 5.50 mm)
- > There is no impact in footprint, product quality, performance and reliability as verified by qualification.



Visual Appearance for TFME TO252-3

TFME TO252-3 single row leadframe		TFME TO252-3 matrix leadframe	
Front of package	Rear of package	Front of package	Rear of package



Part of your life. Part of tomorrow.