



Title of Change:	MT9M021_MT9M031 Datasheet Update.
Effective date:	7 September 2018
Contact information:	Contact your local ON Semiconductor Sales Office or < Sonya.Yip@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:	<input type="checkbox"/> Wafer Fab <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input checked="" type="checkbox"/> Other <u>Documentation</u>

Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Addition <input type="checkbox"/> Material Change <input checked="" type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Site Transfer <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Other: _____
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Sites Affected:	ON Semiconductor Sites: None	External Foundry/Subcon Sites: None
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Description and Purpose:

MT9M021_MT9M031 datasheet was updated. These changes do not affect form, fit, or function of the product.

MT9M021_MT9M031 Datasheet Changes:

- In Table 2, added CFA/CRA information to "Orderable Product Attribute" column.

Old Table 2:

ORDERING INFORMATION

Table 2. AVAILABLE PART NUMBERS

Part Number	Product Description	Orderable Product Attribute Description
MT9M021A3XTC-DPBR1	1.2 MP 1/3" GS CIS	Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTC-DRBR	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTM-DPBR1	1.2 MP 1/3" GS CIS	Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTM-DRBR1	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-DPBR	1.2 MP 1/3" GS CIS	Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-DRBR	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-TPBR	1.2 MP 1/3" GS CIS	Tape & Reel with Protective Film, Double Side BBAR Glass
MT9M031D005TMC24BC1-200	1 MP 1/8" SOC	Die Sales, 200 μm Thickness
MT9M03112STC-DPBR1	1 MP 1/8" SOC	Dry Pack with Protective Film, Double Side BBAR Glass
MT9M03112STC-DRBR	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass
MT9M03112STM-DPBR	1.2 MP 1/3" GS CIS	Dry Pack with Protective Film, Double Side BBAR Glass
MT9M03112STM-DRBR1	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass
MT9M03112STMZ-DRBR	1.2 MP 1/3" GS CIS	Dry Pack without Protective Film, Double Side BBAR Glass

See the ON Semiconductor Device Nomenclature document ([TND310/D](#)) for a full description of the naming convention used for image sensors. For reference

documentation, including information on evaluation kits, please visit our web site at www.onsemi.com.

New Table 2:

ORDERING INFORMATION

Table 2. AVAILABLE PART NUMBERS

Part Number	Product Description	Orderable Product Attribute Description
MT9M021A3XTC-DPBR1	1.2 MP 1/3" GS CIS	Bayer- IBGA; CRA = 0°; Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTC-DRBR	1.2 MP 1/3" GS CIS	Bayer- IBGA; CRA = 0°; Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTM-DPBR1	1.2 MP 1/3" GS CIS	Mono- IBGA; CRA = 0°; Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTM-DRBR1	1.2 MP 1/3" GS CIS	Mono- IBGA; CRA = 0°; Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-DPBR	1.2 MP 1/3" GS CIS	Mono- IBGA; CRA 25°; Dry Pack with Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-DRBR	1.2 MP 1/3" GS CIS	Mono- IBGA; CRA 25°; Dry Pack without Protective Film, Double Side BBAR Glass
MT9M021A3XTMZ-TPBR	1.2 MP 1/3" GS CIS	Mono- IBGA; CRA 25°; Tape & Reel with Protective Film, Double Side BBAR Glass
MT9M031D005TMC24BC1-200	1.2 MP 1/3" GS CIS	Mono; CRA= 0°; Die Sales, 200 μm Thickness
MT9M03112STC-DPBR1	1.2 MP 1/3" GS CIS	Bayer- ILCC; CRA = 0°; Dry Pack with Protective Film, Double Side BBAR Glass
MT9M03112STC-DRBR	1.2 MP 1/3" GS CIS	Bayer- ILCC; CRA = 0°; Dry Pack without Protective Film, Double Side BBAR Glass
MT9M03112STM-DPBR	1.2 MP 1/3" GS CIS	Mono- ILCC; CRA = 0°; Dry Pack with Protective Film, Double Side BBAR Glass
MT9M03112STM-DRBR1	1.2 MP 1/3" GS CIS	Mono- ILCC; CRA = 0°; Dry Pack without Protective Film, Double Side BBAR Glass
MT9M03112STMZ-DRBR	1.2 MP 1/3" GS CIS	Mono- ILCC; CRA = 25°; Dry Pack without Protective Film, Double Side BBAR Glass

See the ON Semiconductor Device Nomenclature document ([TND310/D](#)) for a full description of the naming

documentation, including information on evaluation kits, please visit our web site at www.onsemi.com.



2. In Features Overview section, updated "Temperature Sensor"

Old Features Overview:

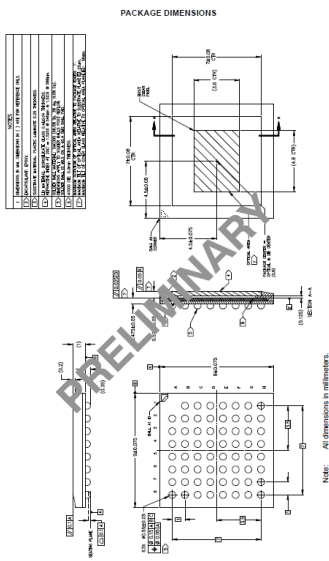
- PLL
 An on chip PLL provides reference clock flexibility and supports spread spectrum sources for improved EMI performance.
- Reset
 The MT9M021/MT9M031 may be reset by a register write, or by a dedicated input pin.
- Output Enable
 The MT9M021/MT9M031 output pins may be tri-stated using a dedicated output enable pin.
- Temperature Sensor
- Black Level Correction
- Row Noise Correction
- Column Correction
- Test Patterns
 Several test patterns may be enabled for debug purposes. These include a solid color, color bar, fade to grey, and a walking 1s test pattern.

New Features Overview:

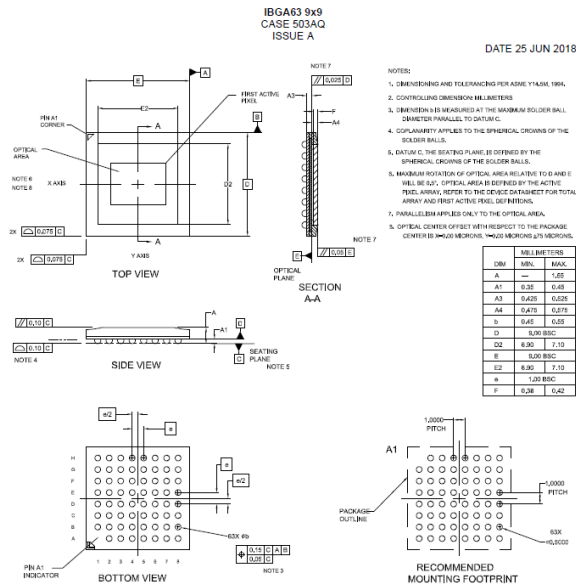
- PLL
 An on chip PLL provides reference clock flexibility and supports spread spectrum sources for improved EMI performance.
- Reset
 The MT9M021/MT9M031 may be reset by a register write, or by a dedicated input pin.
- Output Enable
 The MT9M021/MT9M031 output pins may be tri-stated using a dedicated output enable pin.
- Temperature Sensor
 The temperature sensor is only guaranteed to be functional when the MT9M021/MT9M031 is initially powered-up or is reset at temperatures at or above 0°C.
- Black Level Correction
- Row Noise Correction
- Column Correction
- Test Patterns
 Several test patterns may be enabled for debug purposes. These include a solid color, color bar, fade to grey, and a walking 1s test pattern.

3. Changed Figure 15, Preliminary 63-Ball iBGA Package Outline Drawing (CASE 503AQ) with released CASE 503AQ

Old CASE 503CE



New CASE 503AQ



List of Affected Parts:

- MT9M021IA3XTC-DPBR1
- MT9M021IA3XTC-DRBR
- MT9M021IA3XTM-DPBR1
- MT9M021IA3XTM-DRBR1
- MT9M021IA3XTMZ-DPBR
- MT9M021IA3XTMZ-DRBR
- MT9M021IA3XTMZ-TPBR
- MT9M031D00STMC24BC1-200
- MT9M031I12STC-DPBR1
- MT9M031I12STC-DRBR
- MT9M031I12STM-DPBR
- MT9M031I12STM-DRBR1
- MT9M031I12STMZ-DRBR

Appendix A: Changed Products

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Product	Customer Part Number
MT9M021IA3XTC-DPBR1	
MT9M021IA3XTC-DRBR	
MT9M021IA3XTM-DPBR1	
MT9M021IA3XTM-DRBR1	
MT9M031I12STC-DPBR1	
MT9M031I12STC-DRBR	
MT9M031I12STM-DPBR	
MT9M031I12STM-DRBR1	