Following the acquisition of Adesto Technologies, Dialog Semiconductor offers memory products as part of its product portfolio. The existing content from datasheets, including part numbers and codes should be used. Terms of Purchase are provided on the Dialog website

https://www.dialog-semiconductor.com/general-terms-and-conditions-purchase

View our Dialog memory products portfolio:

www.dialog-semiconductor.com/products/memory

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AT25DF021A

2-Mbit, 1.7V-3.6V Minimum SPI Serial Flash Memory

DATASHEET (ADDENDUM)

High Temperature Operation (125°C)

This data sheet addendum is to be used in conjunction with the existing AT25DF021A datasheet specifications. The Adesto AT25DF021A 2Mbit Serial Flash devices will operate @ 125°C with the following datasheet caveats. All other parameters will meet the existing datasheet specifications.

The ordering code suffix (CAN# Code) 'HR' or 'HT' must be used to ensure correct operation at this extended temperature range. Adesto will not modify and republish the current datasheet to reflect the CAN# ordering code or the above caveats.The standard AT25DF021A datasheet is available at http://www.adestotech.com.

1. Electrical Specifications

1.1 DC and AC Operating Range

		AT25DF021A-xxxHR
Operating Temperature		-40°C to +125°C
Endurance (Maximum)		20,000 Cycles

1.2 DC, AC, Program and Erase Characteristics

Symbol	Parameter	1.7V to 3.6V			2.3V to 3.6V			Units
		Min	Typ	Max	Min	Typ	Max	
I_{UDPD}	Ultra Deep Power-Down Current		.2	1		.3	1	µA
I_{DPD}	Deep Power-Down Current		5	40		8	40	µA
I_{SB}	Standby Current		25	65		25	65	µA
I_{CC3} (1)(2)	Active Current, Program Operation		11	14.5		12	14.5	mA
I_{CC4} (1) (2)	Active Current, Erase Operation		11	14.5		12	14.5	mA
f_{SCK}	Maximum Clock Frequency for All Operation (including 0Bh Opcode)			85			85	MHz
f_{RDLF}	Maximum Clock Frequency for 03h			25			25	MHz
f_{RDDO}	Maximum Clock Frequency for 3Bh Opcode			40			40	MHz
t_{PP}	Page Program Time (256 Bytes)		2	6		2	5	ms
t_{PE}	Page Erase Time		6	20		6	20	ms
t_{BP}	Byte Program Time		12			12		µs
t_{BLKE}	Block Erase Time (4K)		45	100		45	100	ms
	Block Erase Time (32K)		300	700		300	700	ms
	Block Erase Time (64K)		500	1400		500	1400	ms
t_{CHPE}	Chip Erase Time		2.5	6		2.5	6	s

1. Typical values measured at 1.8V @ 25°C for the 1.7V to 3.6V range.
2. Typical values measured at 3.0V @ 25°C for the 2.3V to 3.6V range.

2. Ordering Code

2.1 Green Package Options (Pb/Halide-free/RoHS Compliant)

Ordering Code [1]	Package	Operating Voltage	Max. Freq. (MHz)	Operation Range
AT25DF021A-SSHNHR-T	8S1	1.7V to 3.6V	85MHz	Extended (-40°C to +125°C)
AT25DF021A-SSHNHR-B				
AT25DF021A-XMHNHR-T	8X			
AT25DF021A-XMHNHR-B				
AT25DF021A-MHNHR-T	8MA1			
AT25DF021A-MHNHR-Y				
AT25DF021A-MAHNHR-T	8MA3			
AT25DF021A-DWFHT [2]	DWF			

1. The shipping carrier option code is not marked on the devices.
2. Contact Adesto for mechanical drawing or Die Sales information.

Package Type	
8S1	8-lead, 0.150" Wide, Plastic Gull Wing Small Outline Package (JEDEC SOIC)
8X	8-lead, Thin Shrink Small Outline Package
8MA1	8-pad, 5 x 6 x 0.6mm, Thermally Enhanced Plastic Ultra Thin Dual Flat No-lead (UDFN)
8MA3	8-pad, 2 x 3 x 0.6mm, Thermally Enhanced Plastic Ultra Thin Dual Flat No Lead Package (UDFN)
DWF	Die in Wafer Form

3. Revision History

Revision Level – Release Date	History
A – January 2015	Initial release.
B – May 2015	Updated AC and DC Characteristics.
C – May 2015	Added tray option to 5x6 UDFN.
D – November 2015	Removed preliminary package note.

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