

**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](http://www.adestotech.com) 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 <sub>UDPD</sub>	Ultra Deep Power-Down Current		.2	1		.3	1	µA
I <sub>DPD</sub>	Deep Power-Down Current		5	40		8	40	µA
I <sub>SB</sub>	Standby Current		25	65		25	65	µA
I <sub>CC3</sub> <sup>(1)(2)</sup>	Active Current, Program Operation		11	14.5		12	14.5	mA
I <sub>CC4</sub> <sup>(1)(2)</sup>	Active Current, Erase Operation		11	14.5		12	14.5	mA
f <sub>SCK</sub>	Maximum Clock Frequency for All Operation ( including 0Bh Opcode)			85			85	MHz
f <sub>RDLF</sub>	Maximum Clock Frequency for 03h			25			25	MHz
f <sub>RDDO</sub>	Maximum Clock Frequency for 3Bh Opcode			40			40	MHz
t <sub>PP</sub>	Page Program Time (256 Bytes)		2	6		2	5	ms
t <sub>PE</sub>	Page Erase Time		6	20		6	20	ms
t <sub>BP</sub>	Byte Program Time		12			12		µs
t <sub>BLKE</sub>	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 <sub>CHPE</sub>	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 <sup>(1)</sup>	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 <sup>(2)</sup>	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	
<b>8S1</b>	8-lead, 0.150" Wide, Plastic Gull Wing Small Outline Package (JEDEC SOIC)
<b>8X</b>	8-lead, Thin Shrink Small Outline Package
<b>8MA1</b>	8-pad, 5 x 6 x 0.6mm, Thermally Enhanced Plastic Ultra Thin Dual Flat No-lead (UDFN)
<b>8MA3</b>	8-pad, 2 x 3 x 0.6mm, Thermally Enhanced Plastic Ultra Thin Dual Flat No Lead Package (UDFN)
<b>DWF</b>	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.

