

DATASHEET (ADDENDUM)

High Temperature Operation (125°C)

This data sheet addendum is to be used in conjunction with the existing AT45DB041E datasheet specifications. The Adesto AT45DB041E 4Mbit DataFlash 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) '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# 'HT' ordering code or the above caveats. The standard [AT45DB041E datasheet](http://www.adestotech.com) is available at <http://www.adestotech.com>.

1. Electrical Specifications

1.1 DC and AC Operating Range

		AT45DB041E-xxxHT
Operating Temperature		-40°C to +125°C
Endurance (Maximum)		10,000 Cycles

1.2 DC Characteristics

Symbol	Parameter	Condition	1.65V to 3.6V			2.3V to 3.6V			Units
			Min	Typ	Max	Min	Typ	Max	
I _{DPD}	Deep Power-Down Current	$\overline{CS}, \overline{RESET}, \overline{WP} = V_{IH}$ All inputs at CMOS levels		4.5	20		5	20	μA
I _{SB}	Standby Current	$\overline{CS}, \overline{RESET}, \overline{WP} = V_{IH}$ All inputs at CMOS levels		25	45		25	45	μA
I _{CC3}	Active Current, Program Operation	$\overline{CS} = V_{CC}$		14	20		14	20	mA

1.3 AC Characteristics

Symbol	Parameter	1.65V to 3.6V		2.3V to 3.6V		Units
		Min	Max	Min	Max	
f_{CAR1}	SCK Frequency for Continuous Read (0x0B)		70		70	MHz
f_{CAR2}	SCK Frequency for Continuous Read (0x03) (Low Frequency)		33		33	MHz
t_{CS}	Minimum \overline{CS} High Time	24		24		ns
t_V	Output Valid		8		6	ns

1.4 Program and Erase Characteristics

Symbol	Parameter	1.65V to 3.6V		2.3V to 3.6V		Units
		Typ	Max	Typ	Max	
t_{BE}	Block Erase Time	30	50	30	50	ms
t_{SE}	Sector Erase Time	.7	1.3	.7	1.3	s

- Notes: 1. Values are based on device characterization, not 100% tested in production.
2. Not 100% tested (value guaranteed by design and characterization).

2. Ordering Code

2.1 Ordering Code Detail

Ordering Code ⁽¹⁾	Package	Operating Voltage	Max. Freq. (MHz)	Operation Range
AT45DB041E-SHNHT-T	8S2	1.65V to 3.6V	85MHz	Extended (-40°C to +125°C)
AT45DB041E-SHNHT-B				
AT45DB041E-SSHNT-T	8S1			
AT45DB041E-SSHNT-B				

1. The shipping carrier option code is not marked on the devices.

Package Type	
8S1	8-lead, 0.150" Wide, Plastic Gull Wing Small Outline Package (JEDEC SOIC)
8S2	8-lead, 0.208" Wide, Plastic Gull Wing Small Outline Package (EIAJ SOIC)

1. Revision History

Revision Level – Release Date	History
A – January 2015	Initial release.
B – October 2015	Corrected package type in Ordering Code Detail table.
C – August 2017	Updated corporate address information.



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