

SN74/54x6969

32KB RAM with EEPROM CONSTANTS

Description

When it comes to choosing the right microcontroller for your project, there are numerous options available on the market. One of the most popular choices is the 6969 chip, which comes with a wealth of features that can make your project run more smoothly.

One of the standout features of the 6969 chip is its internal RAM capacity of 32K, which provides ample memory for storing and retrieving data quickly and efficiently. Additionally, this chip offers the option to connect an external EEPROM, allowing you to store even more data and easily access it when needed.

However, one of the most impressive aspects of the 6969 chip is its internal storage of constants, which can greatly streamline your code and ensure that critical variables are always accessible without needing to be updated or modified. This feature allows for more efficient use of your time and resources, as you won't have to spend time searching for or updating these variables throughout the project lifecycle.

It is worth noting that the 6969 chip does not allow for direct modification of external EEPROM data, but the internal storage of constants provides an invaluable resource that can significantly enhance your project's performance and productivity. Overall, the 6969 chip is a versatile piece of hardware that is well-worth considering when looking to optimize your project's efficiency and functionality.

Technical specification

Guaranteed operating ranges

Symbol	Parameter	Type	Min	Normal	Max	Unit
VCC	Supply voltage	54	4.5	5.0	5.5	V
VCC	Supply voltage	74	4.75	5.0	5.25	V
TA	Operating ambient temperature range	54	-55	25	125	°C
TA	Operating ambient temperature range	74	0	25	70	°C
IOH	Output current - High	54, 74			-0.4	mA
IOL	Output current - Low	54			4.0	mA

Symbol	Parameter	Type	Min	Normal	Max	Unit
IOL	Output current - Low		74		8.0	mA

DC Characteristics over temperating temperature range (unless otherwise specified)

Symbol	Parameter	Type	Lim Min	Normal	Lim Max	Unit	Test conditions
VIH	Input HIGH voltage		2.0			V	Guaranteed input HIGH voltage for all inputs
VIL	Input LOW voltage	54			0.7	V	Guaranteed input LOW voltage for alla inputs
VIL	Input LOW voltage	74			0.8	V	Guaranteed input LOW voltage for alla inputs
VIK	Input clamp diode voltage			-0.65	-1.5	V	VCC=MIN, IIN=-18mA
VOH	Output HIGH voltage	54	2.5	3.5		V	VCC = MIN, IOH = MAX, VIN = VIH or VIL per Truth Table
VOH	Output HIGH voltage	74	2.7	3.5		V	VCC = MIN, IOH = MAX, VIN = VIH or VIL per Truth Table
VOL	Output LOW voltage	54, 74		0.25	0.4	V	IOL = 4.0 mA
VOL	Output LOW voltage	74		0.35	0.5	V	IOL = 8.0 mA
IIH	Input HIGH current				20	μA	VCC = MAX, VIN = 2.7 V
IIL	Input LOW current				-0.4	mA	VCC = MAX, VIN = 0.4 V
IOS	Short circuit current		-20		-100	mA	VCC=MAX
ICC	Power supply current (output HIGH)				6.2	mA	VCC=MAX

Symbol	Parameter	Type	Lim Min	Normal	Lim Max	Unit	Test conditions
ICC	Power supply current (output LOW)				9.8	mA	VCC=MAX

Pinout

Pin name	Function	Note
clk	The clock signal used to synchronize the operation of the device. This signal is used to control the timing and execution of operations within the device	
data_in(8)	The input data signal for an 8-bit data transfer, which is used to read data from an external EEPROM.	
addr(32)	The address signal for a 32-bit address space, which is used as an output signal to indicate the location in memory of an external EEPROM that the device is accessing.	
rw	The read/write signal, which is used to indicate whether the device is reading from or writing to the external EEPROM. This signal is used to determine the direction of data transfer and the operation that the device performs on the EEPROM. When the value of this signal is LOW, it indicates that the device is reading data from the EEPROM, and when the value is HIGH, it indicates that the device is writing data to the EEPROM.	
op(32)	The operation signal for a 32-bit operation space, which specifies the specific operation that the device is performing on data. The first 4 bits of this signal represent the opcode, which determines the type of operation to be performed. The next 8 bits represent the address of the register. The remaining 20 bits represent the value of the register.	
data_out(8)	The output data signal for an 8-bit data transfer. This signal carries the data that has been processed by the device and is available to read.	
status	A status signal that indicates the current state of the device and any errors or exceptions that have occurred during operation. The value of this signal can be either LOW, which indicates that the operation was successful and there were no errors, or HIGH, which indicates that an error has occurred during operation.	
avb	The availability bit, which indicates when the data is available on the signal for use by other processes or devices. This signal can be used to synchronize data transfers between different	

Pin name	Function	Note
	components of a system and ensure that data is transferred in a timely and efficient manner.	

OPCODES

Command	OPCODE format	Info	Stable
Reserved	0000	Reserved for future use	Yes
Get constant values	0001	This command sends the names of constants stored in the internal memory section dedicated to constants (96B) one byte at a time	Yes
Empty cells	0010	This command erases the contents of cells located at addresses specified in bytes 25 to 18	Yes
Flush of cache	0011	This command clear the cache memory	Partially
Enable status pin	0100	This command enables the behavior of the status pin	Partially
Disable status pin	0101	This command disables the behavior of the status pin	Partially
Integrity check	0110	This command check if the RAM integrity is OK	Partially
Set value in ram	0111	This command set the given value into the given RAM address	No
Get value in ram	1000	This command return the value located in the given address	No
Copy value	1001	This command copy value from one address to another	No
Is empty?	1010	This command checks if the given address ha value of none	No
Enable data watcher	1011	This command enables the data watcher technology	Partially
Read from external EEPROM	1100	This command reads byte from the external EEPROM. To do this is necessary to define the byte target address into the bits from 18 to 0	Yes

Command	OPCODE format	Info	Stable
Disable data watcher	1101	This command disables the data watcher	Partially
Get value of data watcher	1110	This command returns the value from data watcher	No
Reserved	1111	Reserved for future use	Yes

Disclaimer & legal notice

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