EEPROM Series

Difference between BR93HR-2C and BR93HR-WC

Pin Configuration and Function

Pin6 and Pin7 are NC terminals on BR93HR-2C.

Pin No.	BR93HR-2C			BR93HR-WC		
	Pin name	I/O	Function	Pin name	I/O	Function
1	CS	I	Chip select input	CS	I	Chip select input
2	SK	I	Serial clock input	SK	I	Serial clock input
3	DI	I	Start bit, Opcode, address and serial data input.	DI	I	Start bit, Opcode, address and serial data input.
4	DO	O	Serial data output	DO	O	Serial data output
5	GND	–	All input/output reference voltage, 0V.	GND	–	All input/output reference voltage, 0V.
6	NC	–	NC (No Connection) terminate to VCC,GND or OPEN	TEST/TEST1	–	TEST pin (please see datasheet regarding pin termination)
7	NC	–	NC (No Connection) terminate to VCC,GND or OPEN	NC/TEST2	–	NC/TEST pin (please see datasheet regarding pin termination)
8	VCC	–	Supply voltage	VCC	–	Supply voltage
Pin assignment						

Comparison of Electrical Characteristics

BR93HR-2C is characteristically upward compatible with BR93HR-WC.

Parameter		Symbol	BR93HR-2C		BR93HR-WC	
			Limits	Condition	Limits	Condition
Recommended Operating Ratings	Power Source Voltage	VCC	2.5V to 5.5V	-	2.7V to5.5V	-
DC characteristics	Supply Current (WRITE)	ICC1	<3mA	VCC=2.5 to 5.5V f=2MHz	<3mA	VCC=2.7 to 5.5V f=1.25MHz
	Supply Current (READ)	ICC2	<1.5mA	VCC=2.5 to 5.5V f=2MHz	<1.5mA	VCC=2.7 to 5.5V f=1.25MHz
	Supply Current (WRAL)	ICC3	<3mA	VCC=2.5 to 5.5V f=2MHz	<4.5mA	VCC=2.7 to 5.5V f=1.25MHz
AC characteristics	SK frequency	fSK	<2MHz	VCC=2.5 to 5.5V	<1.25MHz	VCC=2.7 to 5.5V
	SK high time	tKH	>200ns		>250ns	
	SK low time	tSKL	>200ns		>250ns	
	CS low time	tCS	>200ns		>200ns	
	CS setup time	tCSS	>50ns		>200ns	
	DI setup time	tDIS	>50ns		>100ns	
	CS hold time	tCSH	>0ns		>0ns	
	DI hold time	tDIH	>50ns		>100ns	
	Data "1" output delay	tPD1	<200ns		<300ns	
	Data "0" output delay	tPD0	<200ns		<300ns	
	Time from CS to output establishment	tSV	<150ns		<200ns	
	Time from CS to High-Z	tDF	<150ns		<200ns	
	Write cycle time	tE/W	<4ms		<10ms	
					<5ms (4Kbit product)	
Write cycles		–	>1,000,000 times	Ta≦85℃	>1,000,000 times	Ta≦85℃
			>500,000 times	Ta≦105℃	>500,000 times	Ta≦105℃
			>300,000 times	Ta≦125℃	>300,000 times	Ta≦125℃
Data retention		–	>100 years	Ta≦25℃	>40 years	Ta≦25℃
			>60 years	Ta≦105℃	—	—
			>50 years	Ta≦125℃	>20 years	Ta≦125℃

N o t e s

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