

Smart Dual Output Load Switch with Current Regulation

Features

- Low Input Voltage: 2.2V to 5.5V
- Enable/Disable and current regulation setting from ISNS pins.
- ACMD single wire communication supporting.
- 24uA Supply Current
- 500nA Shutdown Current
- Ultra-Low On-State Resistance (R_{ON})
 - $R_{ON} = 100m\Omega$ at $V_{IN} = 5.0V$
- 2A Maximum Total Continuous Current
- Quick Output Discharge
- Reverse Current Blocking for both channels.
- Tiny 0.67mm x 1.02mm 6-pin WLP with 0.35mm pitch

Applications

- Wearables
- Smartphones
- Tablets
- Portable Device

General Description

YHM2510 is a dual output, ultra-small, low R_{ON} and active low load switch. The device contains a N-channel MOSFET that operates over an input voltage range of 2.2V to 5.5V. The switch is controlled by ISNS pin and internal register.

YHM2510 device limits the output current to a safe level by using a constant current mode when the output load exceeds the current regulation threshold. The current regulation threshold is adjusted by an internal or external resistor added to ISNS pin. It has hard short protection for some abnormal situation at OUTx pins.

An internal reverse voltage comparator disables the power switch when the output voltage is driven higher than the input to protect devices on the input side of the switch.

Level shift function is integrated into YHM2510 for UART communication. Low side voltage can be set by internal registers.

YHM2510 support ACMD protocol and MCU can access internal registers and control the actions of the device. At this time, ISNS1 pin is served as ACMD command pin. ISNS2 pin is analog output and UART communication pin.

YHM2510 is available in a 6-bump, 0.35mm pitch, 0.67mm x 1.02mm wafer-level package (WLP).

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Internal Block diagram

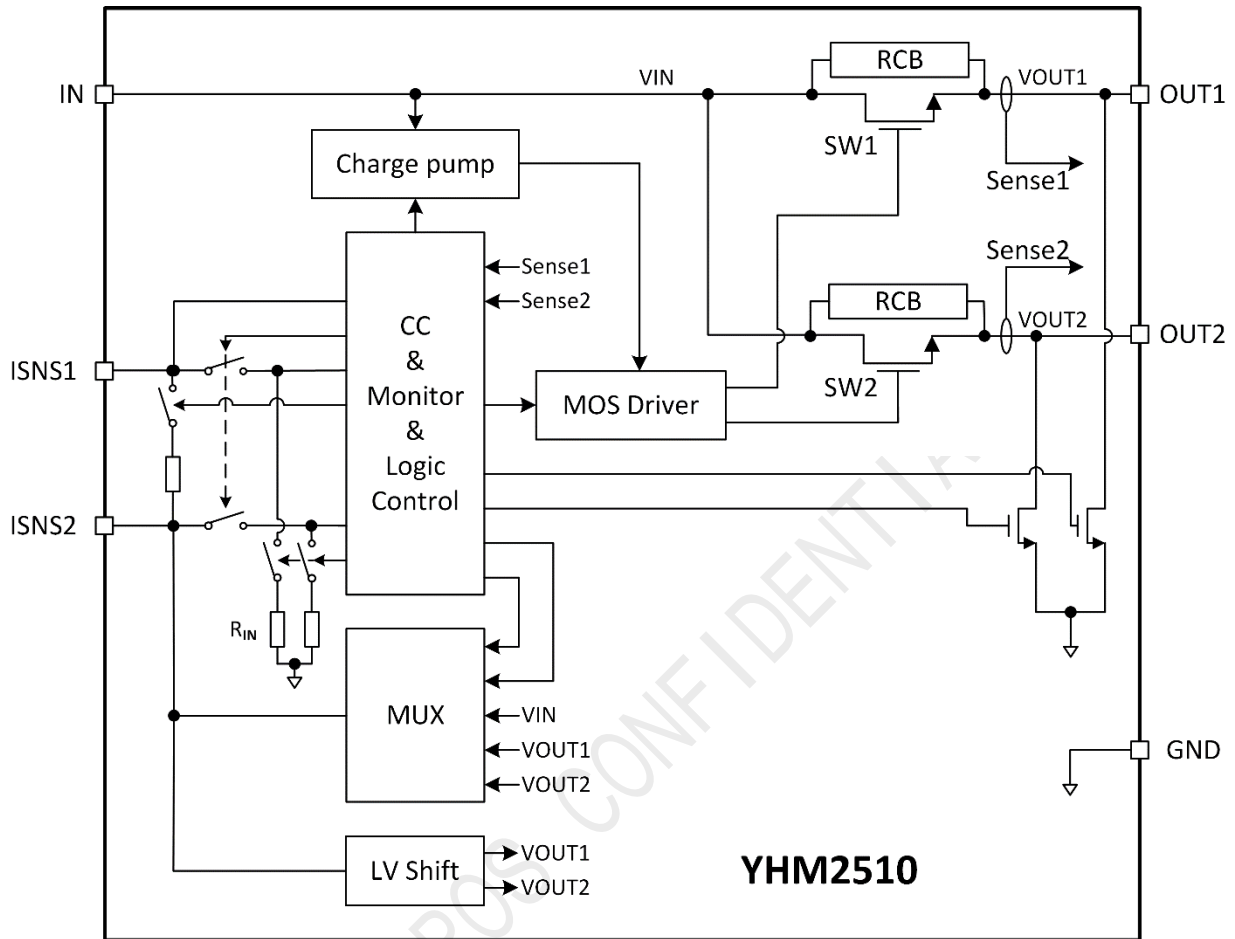


Figure 1. YHM2510 Internal Block Diagram

Pin Configurations

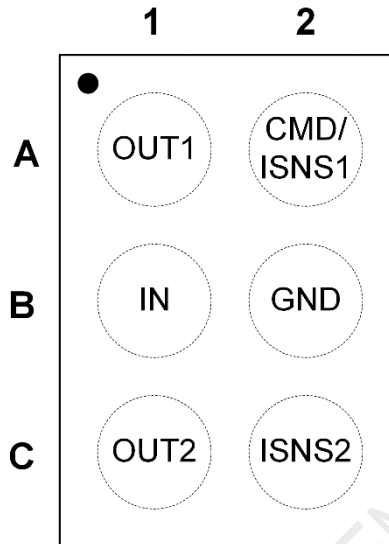


Figure 2. YHM2510 WLP-6 Pin Assignment (Top Through View)

YHM2510 WLP Pin Descriptions

WLP	Name	Description
A1	OUT1	Output 1. Internal pull down to GND when switch off.
B1	IN	Input and Power Supply. Bypass this input with 1 μ F or greater ceramic capacitor to ground.
C1	OUT2	Output 2. Internal pull down to GND when switch off.
A2	CMD/ISNS1	Enable and current regulation setting for output 1. <ul style="list-style-type: none"> Connect external 0.1% resistor to set current regulation threshold. Pull high to disable the switch 1. Pull to GND to disable current regulation. This pin can also be used as command pin to configure YHM2510.
B2	GND	Ground.
C2	ISNS2	Enable and current regulation setting for output 2. <ul style="list-style-type: none"> Connect external 0.1% resistor to set current regulation threshold. Pull high to disable the switch 2. pull to GND to disable current regulation. Analog signal output pin. UART communication pin.

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1 Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Disclaimer: YHMICROS reserves the right to make any change in circuit design, specification or other related things if needed without notice at any time.

Symbol	Parameters		Min.	Max.	Unit
V_{IN}	IN to GND		-0.3	6	V
V_{OUT}	OUT1/2 to GND		-0.3	6	V
V_{ISNS}	ISNS1/2 to GND		-0.3	6	V
I_{OUT}	Continuous Output Current for each output			1500	mA
I_{IN}	Continuous Input Current			2500	mA
T_{STG}	Storage Junction Temperature		-65	+150	°C
T_J	Operating Junction Temperature			+150	°C
T_L	Lead Temperature (Soldering, 10 Seconds)			+260	°C
All Pins	Electrostatic Discharge Capability	Human Body Model, EIA/JESD22-A114	5		KV
		Charged Device Model, JESD22-C101	2		

2 Recommend Operation Range

The Recommended Operating Conditions table defines the conditions for actual device operation. Recommended operating conditions are specified to ensure optimal performance.

Parameters	Min.	Max.	Unit
Input Voltage: V_{IN}	2.2	5.5	V
Peak Output Current: $I_{OUT1/2}$		1.2	A
Ambient Temperature Range	-40	85	°C

3 Electrical Characteristics

Condition: $V_{IN} = 5V$, $T_A = -40^{\circ}C$ to $+85^{\circ}C$. Typical values are at $T_A = +25^{\circ}C$, unless otherwise noted. (Note 1)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{IN}		2.2		5.5	V
Quiescent Supply Current	I_{IN}	$T_A = 25^{\circ}C$, $I_{OUT} = 0$		24		μA
		$-40^{\circ}C \leq T_A \leq 85^{\circ}C$, $I_{OUT} = 0$			30	
Shutdown Current	I_{SHDN}	$V_{ISNS} = 1.2V$, $V_{OUT} = 0$		0.1	1.5	μA
IN UVLO Threshold	V_{UVLO}	VIN rising		1.9		V
IN UVLO Hysteresis	V_{UVLO_HYS}			100		mV
ISNS Logic High Threshold	V_{IH}		0.92			V
ISNS Logic Low Threshold	V_{IL}				0.4	V
Output Pull-Down Resistance	R_{PD}	$V_{IN} = 1.8V$, $V_{ISNS} = 1.2V$, $I_{OUT} = 0$			500	Ω
Output One Shot Pull-Down Time	t_{PD}			20		ms

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PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
On Resistance	R_{ON}	$V_{IN} = 5V, I_{OUT} = 200mA$		100		$m\Omega$
Current Regulation Accuracy	ACC	$I_{LIMIT} = 275mA, T_A = +25^\circ C$	-6		6	%
OUTx Pull up Current Source	I_{OPU}	$T_A = +25^\circ C$	1.3	2.3	5	μA
RCB Active Voltage	V_{RCB}	$V_{OUT} - V_{IN}$		20		mV
RCB Activation Time	t_{RCB}			400		μs
Short Protection Response Time(Note 2)	t_{ACT}			1		μs
Short Protection Active Time(Note 2)	t_{SHORT}			20		μs
Short Protection Recover Time(Note 2)	t_{REC}			100		ms
Thermal Shutdown	T_{SHDN}			150		$^\circ C$
Thermal Hysteresis	T_{HYS}			20		$^\circ C$

SWITCHING SPECIFICATIONS

($C_{Load} = 0.1\mu F, R_{Load} = 10\Omega, T_a = 25^\circ C$ All timing is 10% to 90% for rise time and 90% to 10% for fall time).

Turn On Delay Time	t_{DELAY}	Time from $V_{ISNS} < V_{IL}$ to $V_{OUT} = 0.1 \times V_{IN}$		500		μs
Soft Start Time (Rise Time)	t_{SS}			3		ms
Turn Off Delay Time	t_{OFF}	Time from $V_{ISNS} > V_{IH}$ to $V_{OUT} = 0.9 \times V_{IN}$		40		μs
Fall Time	t_{FALL}			10		μs

Note 1: All specifications are 100% production tested at $T_A = +25^\circ C$, unless otherwise noted. Specifications are over $T_A = -40^\circ C$ to $+85^\circ C$ and are guaranteed by design.

Note 2: Guaranteed by design; not production test.

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4 Description

4.1 General Introduction

The YHM2510 is a dual output, ultra-small, low R_{ON} and active low load switch. The device contains a N-channel MOSFET that operates over an input voltage range of 2.2V to 5.5V. The total input current is 2A, and each channel supports 1A continuous current at the same time.

4.2 Switch Enable Control

When V_{IN} rise above 1.9V, the switch statuses are following below table. SW1 and SW2 are controlled independently. turns on after a delay time with soft start function. Turn off the switch would enable quick output discharge function, which means a discharge resistor is connected between OUT and GND.

Bit Name		ACMD	
Bit Value		0	1
SWCn	0	X	OFF
	1	X	ON
ISNSn	$>V_{IH}$	OFF	X
	$<V_{IL}$	ON	X

Table 1. Switch Control

Note1: N=1,2. SWC is register name. ISNS is pin name.

Note2: X means do not change switch status.

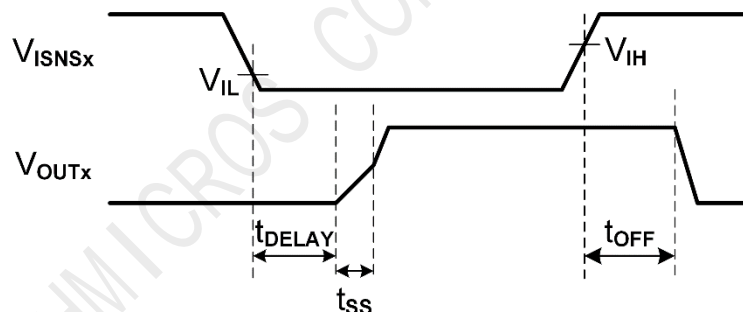


Figure 3. YHM2510 Power Up and Power Down Sequence

4.3 Over Current Protection and Current Monitor

4.3.1 Current Regulation Threshold calculation

The YHM2510 responds to over current condition by regulating output current to the I_{LIM} . Default I_{LIM} ($I_{DEFAULT}$) is adjustable by an external resistor or an internal R_{IN} which added to ISNS pin. When an over current condition is detected, the device maintains a constant output current and reduces the output voltage accordingly until thermal shutdown. The resistor can be calculated by:

$$R_{SNS}(\Omega) = 324 \times Ratio / I_{LIM}(mA) \quad (1)$$

The ratio value has two options, 324 and 1700. The default value is 1700 and can be change by clear register bit $RATIOx$ to 0 to choose 324. YHM2510 can regulate the output current from 20mA to 1A by adding proper R_{SNS} . For example, if want to regulate output current to 50mA, choose $R_{SNS} = 11.016K\Omega$. If want to regulate output current to 500mA, choose $R_{SNS} = 1.1016K\Omega$. If using internal R_{IN} to set CC threshold, the resistor value is fixed to three values, 0.8K, 2K and 5K and selected by register bits $RIN[1:0]$.

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4.3.2 Configure Current Regulation Threshold

The YHM2510 support to change current regulation threshold with register setting. Default I_{LIM} ($I_{DEFAULT}$) is set by R_{SNS} or R_{IN} . 4bit $CCx[3:0]$ configuration register can change ratio as below table.

Configuration Bit $CCx[3:0]$	Ratio	Current Regulation Threshold (I_{LIM})
0000	0.67	$0.67 \times I_{DEFAULT}$
0001	0.75	$0.75 \times I_{DEFAULT}$
0010	0.83	$0.83 \times I_{DEFAULT}$
0011	0.92	$0.92 \times I_{DEFAULT}$
0100	1	$I_{DEFAULT}$
0101	1.08	$1.08 \times I_{DEFAULT}$
0110	1.17	$1.17 \times I_{DEFAULT}$
0111	1.25	$1.25 \times I_{DEFAULT}$
1000	1.33	$1.33 \times I_{DEFAULT}$
1001	1.42	$1.42 \times I_{DEFAULT}$
1010	1.5	$1.5 \times I_{DEFAULT}$
1011	1.58	$1.58 \times I_{DEFAULT}$
1100	1.67	$1.67 \times I_{DEFAULT}$
1101	1.75	$1.75 \times I_{DEFAULT}$
1110	1.83	$1.83 \times I_{DEFAULT}$
1111	1.92	$1.92 \times I_{DEFAULT}$

Table 2. Current Regulation Control Bit Setting

4.3.3 Current Monitor

YHM2510 has an internal current monitor architecture on $ISNS1/2$ pin. With this circuit, $ISNS1/2$ output a current proportional to the current following through corresponding switches. As an internal or external resistor connected to these pins, the system can measure the voltage on these pins to get the actual current following through each switch. The current calculation equation is:

$$I_{OUT}(A) = Ratio \times \left(\frac{96}{ADJ[Code]} \right) \times V_{SNS}(V) / R_{SNS}(\Omega) \quad (2)$$

Here, $ADJ[Code]$ is list in table below. And the code value is read from $0xA4$ register. This code is only for internal resistor. If using internal resistor, $OTP_INT[3:0]$ is chose.

$OTP_INT[3:0]$	ADJ	$OTP_INT[3:0]$	ADJ
0	96	8	80
1	98	9	82
2	100	10	84
3	102	11	86
4	104	12	88
5	106	13	90
6	108	14	92
7	110	15	94

Table 3 Adjust Ratio for Current Calculation

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4.4 Soft Start (SS)

YHM2510 integrated soft start function to avoid large inrush current during switches change from OFF to ON period. During this period, the current following through each switch is regulated in low level. Soft start time is about 500us after delay time from ISNS goes low. During this time, CC function is disabled if the device has this function. The inrush current may be become large after this time if the output capacitor is too large. The device may trigger CC condition if the device supports CC function.

4.5 Short Protection

YHM2510 has OUT1/2 short to GND protection. If the device detects the output current larger than I_{SHORT} when switch on, YHM2510 will regulate the corresponding switch current to a small one within a very short time (t_{ACT}) (typical: 1us) and turn off switch after t_{SHORT} . (Typical: 20us) This function is independent of current regulation. The device will try to close switch after t_{REC} (Typical 100ms) if the other conditions do not change. The SS period is added.

4.6 Level Shift function

YHM2510 has one level shift function from ISNS2 to OUT1/2 for UART communication. These channels can be established by setting LV_CH1/2. Low side voltage can be change by setting LV[1:0] bits in register 0x05 for different application system. Please note UART communication and ACMD communication cannot be performed at same time. If ISNS1 pin receive signal from MCU, the internal resistor between ISNS1 and ISNS2 would be disconnected automatically.

4.7 Reverse Current Protection

The reverse voltage protection turns off the N-channel MOSFET whenever the output voltage exceeds the input voltage by 20mV (TYP) for 400ms (TYP). This prevents damage to devices on the input side of the YHM2510. The YHM2510 device allows the N-channel MOSFET to turn on once the output voltage goes below the input voltage.

4.8 Thermal shutdown

When the part is in current regulation mode, to protect the chip from over temperature, the power path will be turned off when the junction temperature exceeds 150°C. The power path switch will be turned on and enter SS status again when temperature drop below 130°C. The device power dissipation capability is dependent on-board design and layout.

4.9 OUT current resource

YHM2510 integrated one 2.5μA pull up current source on OUT1/OUT2 pin. The register bits (IDETx) can control this current source on or off. When this current source valid, the current sense function on both switches is turn off. This current source is very suitable for connection detection.

4.10 Access Command (ACMD)

YHM2510 has access command function. ACMD protocol is developed by YHMICROS. There are two type devices, master, and slaver, in this protocol. The master can send control command to slaver and read slaver status. The slaver can only respond master instruction. Only the master can initial communication in ACMD. YHM2510 usually plays slaver role in system. This means microcontroller can set or read YHM2510 registers through CMD/ISNS1 pin. Pull CMD/ISNS1 pin higher than V_{IH} for 1ms to enter configuration and pull lower than V_{IL} for 1ms to exit. If there is no communication for 10ms, the device would exit ACMD status also. If system needs enter ACMD again, controller need pull down ISNS pin below V_{IL} for a while and pull higher than V_{IH} for 1ms. Please note the time of low voltage level in this operation would not larger than t_{DELAY} to avoid switches undesired actions.

4.10.1 Register Summary

ADDRESS	NAME	B7	B6	B5	B4	B3	B2	B1	B0
00H	ID	MOD[3:0]				VER[3:0]			
01H	STAT	RESV		CC2_S	SW2_S	RESV		CC1_S	SW1_S
02H	STAT1	RESV						IN_UV	OT
03H	SW1_	CC1[3:0]			RIN1[1:0]		RATIO1	SWC1	

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	CTRL							
04H	SW2_CTRL	CC2[3:0]			RIN2[1:0]		RATIO2	SWC2
05H	CONFIG	RESV			IDET1	IDET2	CC	RINC
06H	CONFIG1	LP	AUTO_DSC	DIV[1:0]		MUX[2:0]		ACMD
07H	LV_CTRL	RESV		GATE	LV[1:0]	LV_CH2	LV_CH1	RPU
A4H	OTP	RESV			OTP_INT[3:0]			

Table 4. Register Map

4.10.2 Register Details

Name: ID

Address: 00H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	MOD[3:0]				VER[3:0]			
Default	1	0	0	0	0	0	0	1
Access Type	R							

BIT Field	BITS	Description
MOD	7:4	Device Model: 0x8
VER	3:0	Si Version: 0x1

Name: STAT1

Address: 01H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	-	-	CC2_S	SW2_S	-	-	CC1_S	SW1_S
Default	-	-	0	0	-	-	0	0
Access Type	R							

BIT Field	BITS	Description
CC2_S	5	SW2 CC flag: 0: SW2 does not in CC mode. 1: SW2 in CC mode.
SW2_S	4	SW2 status: 0: Open. 1: Close.
CC1_S	1	SW1 CC flag: 0: SW1 does not in CC mode. 1: SW1 in CC mode.
SW1_S	0	SW1 status: 0: Open. 1: Close.

Name: STAT1

Address: 02H

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BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	-	-	-	-	-	-	IN_UV	OT
Default	0	0	0	0	0	1	0	0
Access Type	R							

BIT Field	BITS	Description
IN_UV	1	IN low voltage status: 0: VIN higher than UVLO threshold. 1: VIN lower than UVLO threshold.
OT	0	OT flag: 0: No OT. 1: OT status.

Name: SW1_CTRL

Address: 03H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	CC1[3:0]				RIN1[1:0]		RATIO1	SWC1
Default	0	1	0	0	0	1	1	1
Access Type	R/W							

BIT Field	BITS	Description
CC1	7:4	SW1 CC threshold ratio: See Table 2
RIN1	3:2	Internal R_{IN} value for SW1 selection bit. 00: No current regulation. 01: 0.8K 10: 2K 11: 5K
RATIO1	1	CC threshold calculation ratio for SW1. 0: 324 1: 1700
SWC1	0	SW1 control bit: See Table 1

Name: SW2_CTRL

Address: 04H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	CC2[3:0]				RIN2[1:0]		RATIO2	SWC2
Default	0	1	0	0	0	1	1	1
Access Type	R/W							

BIT Field	BITS	Description
CC2	7:4	SW2 CC threshold ratio: See Table 2
RIN2	3:2	Internal R_{IN} value for SW2 selection bit. 00: No current regulation. 01: 0.8K

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		10: 2K 11: 5K
RATIO2	1	CC threshold calculation ratio for SW2. 0: 324 1: 1700
SWC2	0	SW2 control bit: See Table 1

Name: CONFIG1

Address: 05H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	-	-	-	-	IDET1	IDET2	CC	RINT
Default	0	0	0	0	0	0	1	0
Access Type	R/W							

BIT Field	BITS	Description
IDET1	3	Internal pull up current source control bit. 0: Internal current source disconnected. 1: Internal 2.5 μ A current source connect on OUT1 pin. Please note the switch must put open status before setting this bit to 1.
IDET2	2	Internal pull up current source control bit. 0: Internal current source disconnected. 1: Internal 2.5 μ A current source connect on OUT2 pin. Please note the switch must put open status before setting this bit to 1.
CC	1	Current regulation control bit: 0: CC function disable. 1: CC function enable.
RINT	0	Internal RIN connection control bit: 0: Use external R_{SNS} . 1: Use internal R_{IN}

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Name: CONFIG2

Address: 06H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	LP	AUTO_D SC	DIV[1:0]		MUX[2:0]			ACMD
Default	1	1	0	0	0	0	0	0
Access Type	R/W							

BIT Field	BITS	Description
LP	7	Low power control bit: 0: Internal CP select 3.3MHz OSC 1: Internal CP select 400KHz OSC.
AUTO_DSC	6	Output discharge enable bit: 0: OUT1/OUT2 has no output discharge. 1: OUT1/OUT2 discharge with internal resistor for 2ms.
DIV	5:4	OUT1/OUT2/IN to ISNS2 divide ratio: 00: 2:1. 01: 3:1. 10: 4:1 11: 5:1
MUX	3:1	Voltage output MUX select bits: 000: Open. 001: IN to ISNS2. 010: OUT1 to ISNS2. 011: OUT2 to ISNS2. 101: SW1 Current monitor on R _{IN} voltage to ISNS2. 110: SW2 Current monitor on R _{IN} voltage to ISNS2. Others: Open.
ACMD	0	ACMD control bit: See Table 1

Name: LV_CTRL

Address: 07H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	-	-	GATE	LV[1:0]		LV_CH2	LV_CH1	RPU
Default	0	0	1	0	0	0	0	0
Access Type	R/W							

BIT Field	BITS	Description
GATE	5	Level shift gate control bit. 1: Gate voltage is forced in 2V. 0: Gate voltage is not forced.
LV	4:3	Level shift low side voltage: 00: 1.8 V. 01: 2.5 V. 10: 3.0 V. 11: 3.3 V.
LV_CH2	2	ISNS2 to OUT2 level shift channel control: 0: Open. 1: Close.

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LV_CH1	1	ISNS2 to OUT1 level shift channel control: 0: Open. 1: Close.
RPU	0	ISNS2 pull up resistor control bit: 0: Disconnected. 1: Connected.

Name: OTP

Address: A4H

BIT	B7	B6	B5	B4	B3	B2	B1	B0
Field	-	-	-	-	OTP_INT[3:0]			
Default	-	-	-	-	-	-	-	-
Access Type	R							

BIT Field	BITS	Description
OTP_INT	3:0	Adjust code for current calculation when using internal RIN resistor. See section 4.3.3

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5 Application information

YHM2510 is designed to operate with an input range of 2.2V to 5.5V. The power supply must be well regulated and placed as close to the device terminal as possible. The power supply must be able to withstand all transient load current steps. In most situations, using an input capacitance (C_{IN}) of 1 μ F is sufficient to prevent the supply voltage from dipping when the switch is turned on. In cases where the power supply is slow to respond to a large transient current or large load current step, additional bulk capacitance may be required on the input. Placing a high-value electrolytic capacitor on the output pin is recommended when large transient currents are expected on the output.

5.1 1:2 Load Switch

In this application, one MCU GPIO connects to ISNS1. One MCU ADC input connects to ISNS2. MCU uses GPIO to enter ACMD mode and ADC can measure ISNS2 output. This output can be one of voltages for IN/OUT1/OUT2 and voltages on internal R_{IN} .

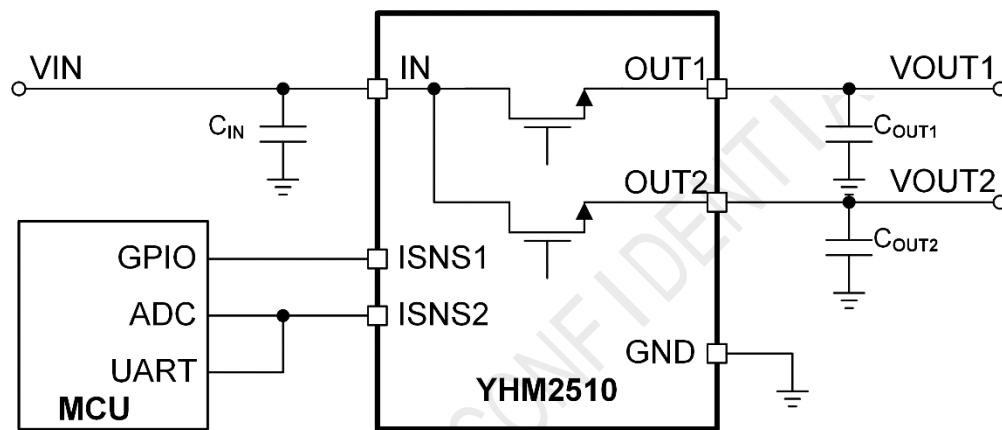


Figure 4. Full Function 1:2 Load Switch

ISNS1 accepts ACMD command from MCU. So, MCU can configure YHM2510 internal R_{IN} connected by setting RINC bit. These resistors decide the default CC threshold. By setting MUX[2:0], IN/OUT1/OUT2 voltages are routed to ISNS2 pin with adjustable ratio. This ratio can be changed by setting DIV[1:0]. Current monitor still works in this mode. A small current which is proportional to switch current pass internal R_{IN} . The voltage on R_{IN} can also be routed to ISNS2 pin by setting MUX[2:0]. But at this time, DIV bit would not affect this voltage. CCx[4:0] ^{Note1} bits are functional in this mode. If using UART function in this application, Coutx should be removed.

Note1: X=1, 2.

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6 Parameter Measurement Information

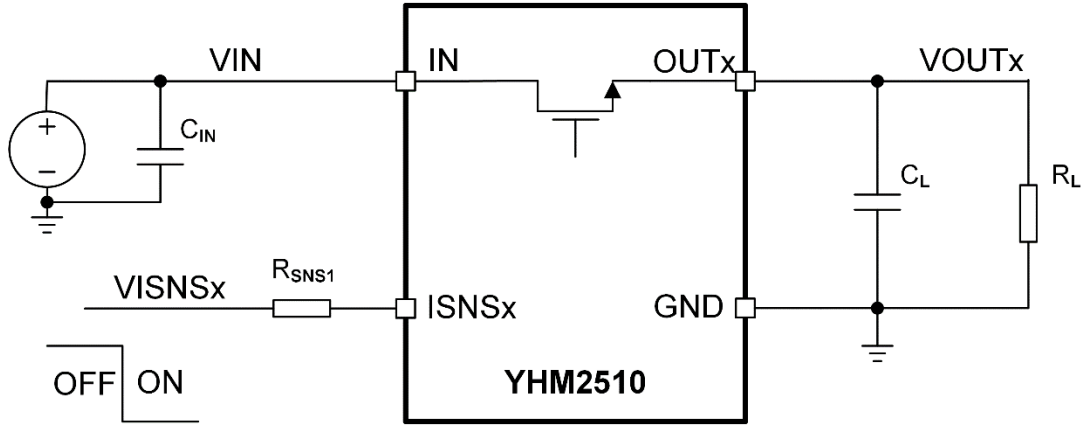
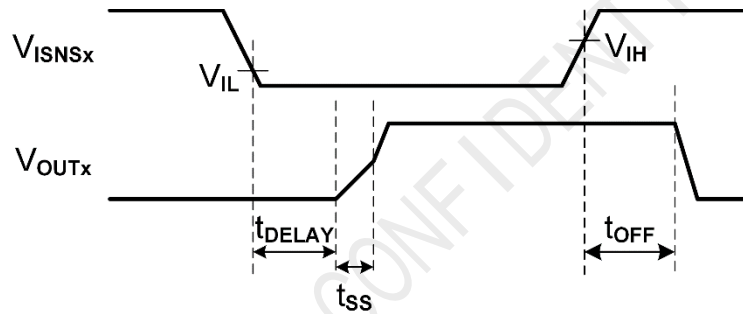


Figure 5. Test Circuit for Power Sequence



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7 Typical Operating Characteristics

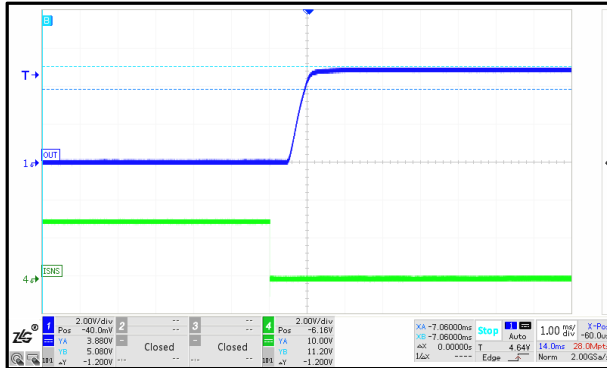


Figure 6 Switch Turn-on

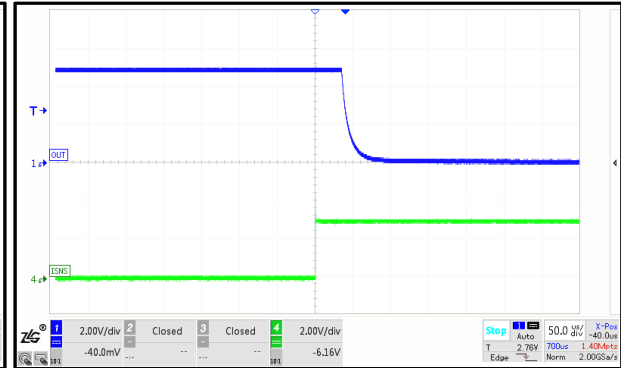


Figure 7 Switch Turn-off

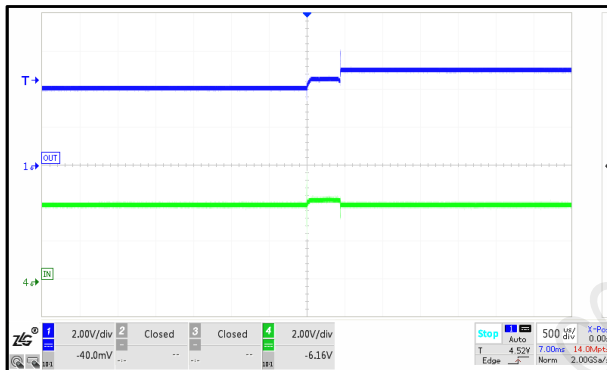


Figure 8 Single Channel RCB

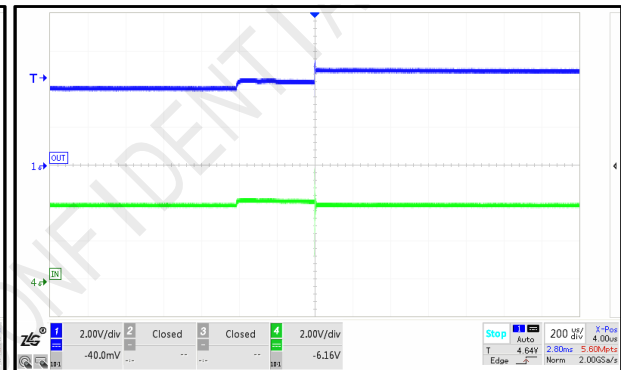


Figure 9 Dual Channel (Short together) RCB

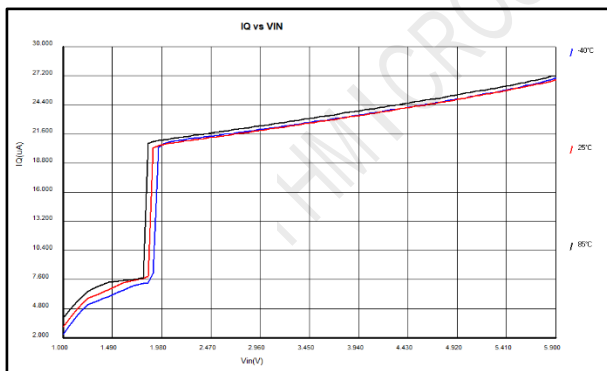


Figure 10 Quiescent Current

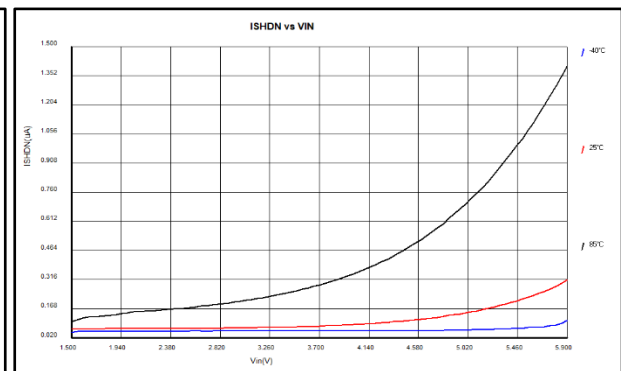


Figure 11 Shut Down Current

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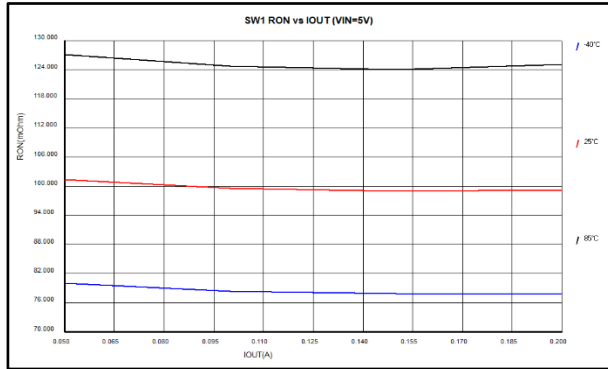


Figure 12 Switch 1 Rdson(VIN=5V)

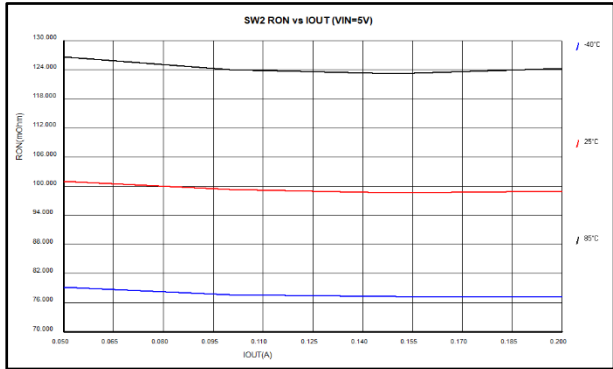


Figure 13 Switch 2 Rdson(VIN=5V)

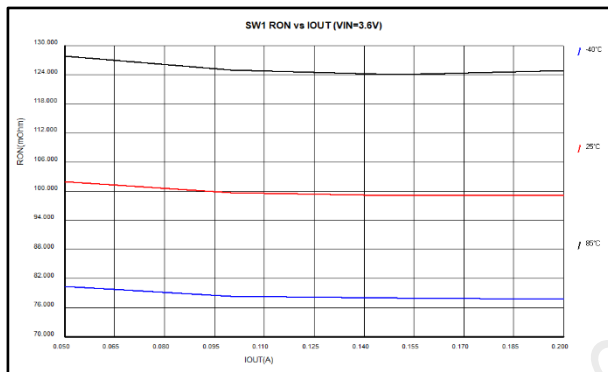


Figure 14 Switch 1 Rdson(VIN=3.6V)

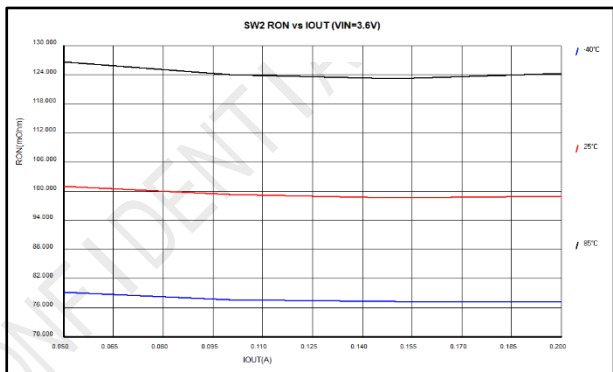


Figure 15 Switch 2 Rdson(VIN=3.6V)

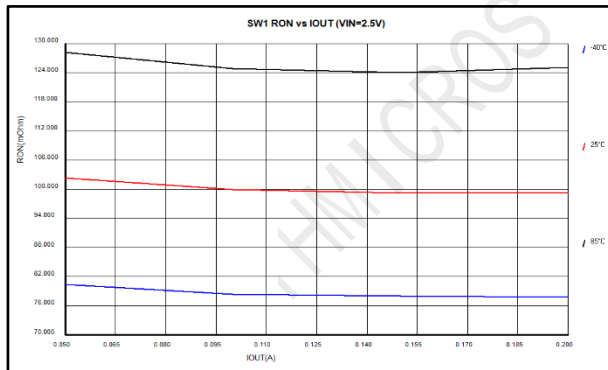


Figure 16 Switch 1 Rdson(VIN=2.5V)

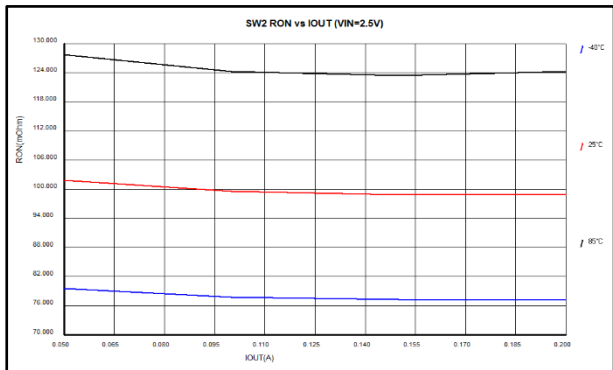


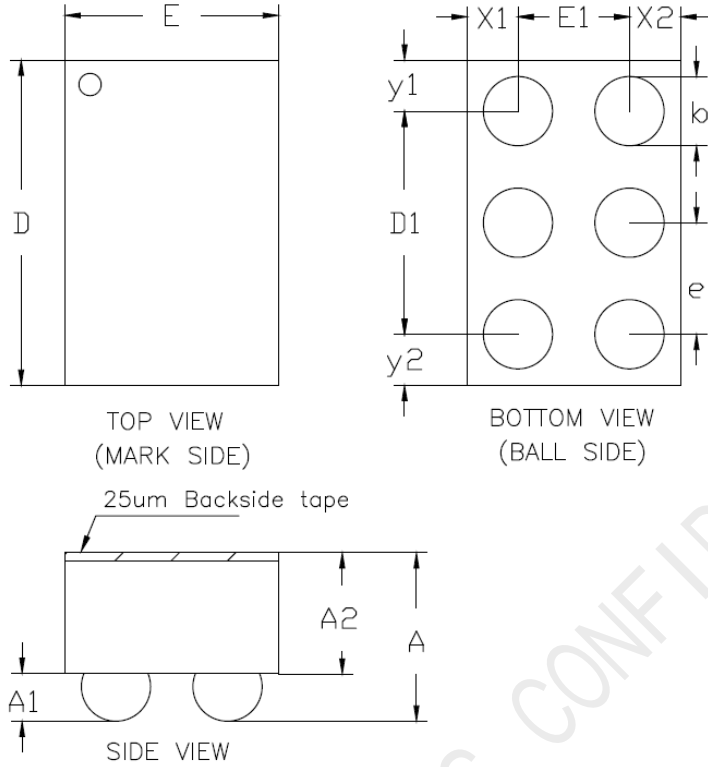
Figure 17 Switch 2 Rdson(VIN=2.5V)

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8 Package Dimensions

WLCSP-6 0.67mmx1.02mm



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	0.483	0.528	0.573
A1	0.130	0.150	0.170
A2	0.353	0.378	0.403
D	1.000	1.020	1.040
D1	0.700BSC		
E	0.650	0.670	0.690
E1	0.350BSC		
b	0.200	0.220	0.240
e	0.350BSC		
x1	0.160 REF		
x2	0.160 REF		
y1	0.160 REF		
y2	0.160 REF		

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9 Order Information

Part Number	Package	ACMD IO Voltage	ACMD Speed	Slave Address	Top Mark (Note 1)	MOQ
YHM2510W6T	6 WLCSP	1.8V	3.3MHz	0x02	xxxG	3000
YHM2510AW6T	6 WLCSP	3.3V	400KHz	0x02	xxxH	3000
YHM2510BW6T	6 WLCSP	3.3V	3.3MHz	0x02	xxxJ	3000

Note 1: The first three letters are Lot id and production date information.

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Datasheet Change History

Rev	Date	Changes
1.0	Aug/2023	Initial Version

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