# 2A Ultra-small Load Switch with Slew Rate Control

## Features

- Integrated P-channel MOSFET load switch
- Input voltage: 1V to 5.5V
- 2A maximum continuous switch current
- Switch on-resistance(typ.):
  Rdson=52mΩ at VIN=5.5V
  Rdson=57mΩ at VIN=4.2V
  Rdson=64mΩ at VIN=3.3V
  Rdson=76mΩ at VIN=2.5V
  Rdson=100mΩ at VIN=1.8V
  Rdson=164mΩ at VIN=1.2V
  Rdson=230mΩ at VIN=1V
- Controlled slew rate to limit inrush currents
- Ultra low shutdown current
- Internal EN pull-down/up resistor
- Quick Output Discharge(QOD) for AW35111/ AW35113
- Full time Reverse Current Protection (RCP) for AW35112/AW35112B/AW35113
- FCDFN 0.8mm*0.8mm*0.55mm-4L package
  FOWLP 0.8mm*0.8mm*0.5mm-4B package

## Applications

Smartphones and Tablets

Portable Devices

Wearables

## General Description

The AW3511X family load switch integrates a 64mΩ (typ.) P-channel MOSFET, which can operate over a wide input range of 1V to 5.5V. The AW3511X features output slew rate control, limiting inrush currents during turn-on to protect downstream devices.

In addition, AW35111/ AW35113 have QOD function which can prevent the output from floating when the switch is disabled.

There is a Reverse Current Protection(RCP) function for AW35112/AW35112B/AW35113 when $V_{OUT}$ is 33mV(typ.) greater than $V_{IN}$, which can prevent the current to flowing through the P-FET or the body diode. There is no output discharge resistor for AW35112 and AW35112B.

## Typical Application Circuit

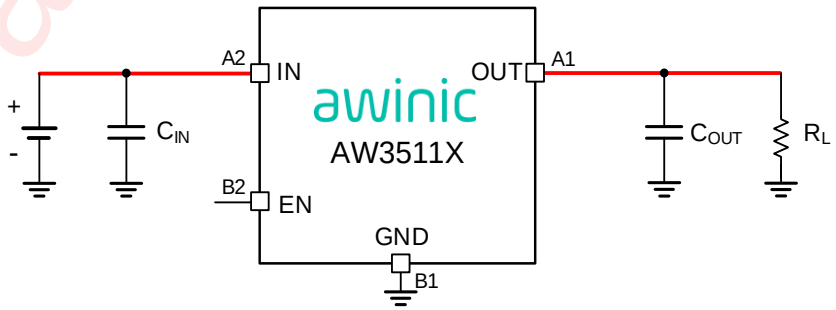



**Figure 1 Typical Application Circuit of AW3511X**

## Pin Configuration And Top Mark

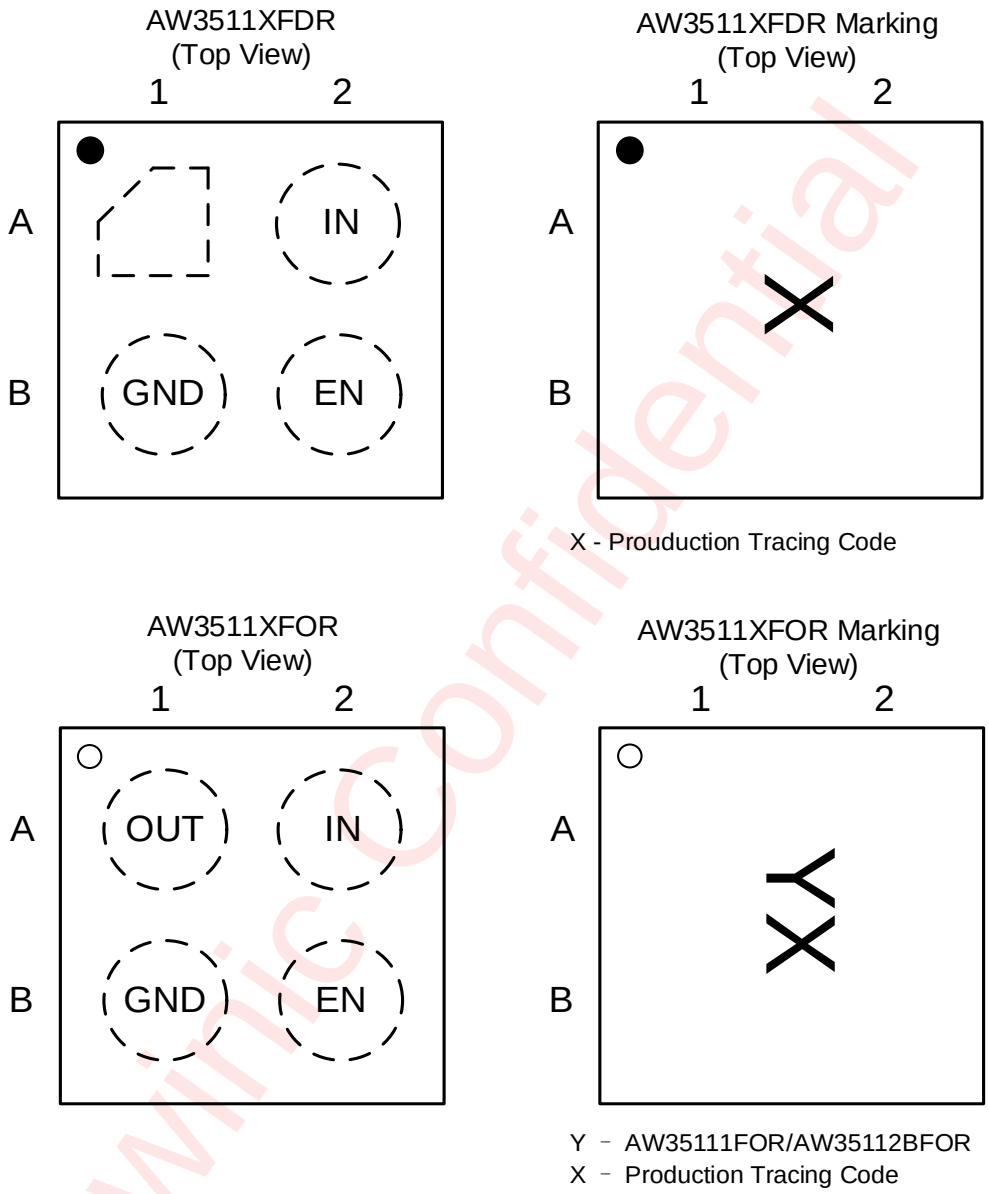



**Figure 2 Pin Configuration and Top Mark**

## Pin Definition

| Pin | Name | Description |
|---|---|---|
| A1 | OUT | Switch output |
| A2 | IN | Switch input and power supply |
| B1 | GND | Device ground |
| B2 | EN | Switch control input, active high for AW3511X, internal 7.2MΩ pull down resistor. |

## Device Comparison Table

| Device | EN Pin Activity | QOD | RCP | $t_R$ | $t_{ON}$ | $t_{EN}$ |
|---|---|---|---|---|---|---|
| AW35111FDR | Active High | Y | N | 84μs | 90μs | 50μs |
| AW35111FOR | Active High | Y | N | 84μs | 90μs | 50μs |
| AW35112FDR | Active High | N | Y | 74μs | 83μs | 50μs |
| AW35112BFOR | Active High | N | Y | 900μs | 970μs | 515μs |
| AW35113FDR | Active High | Y | Y | 274μs | 285μs | 160μs |

## Functional Block Diagram

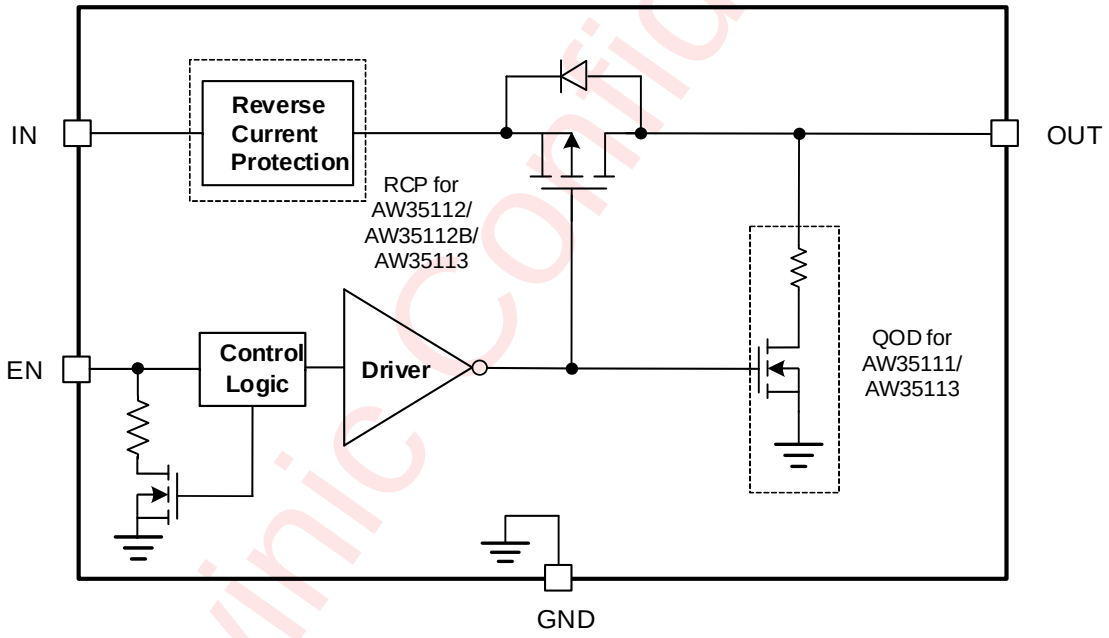



**Figure 3 Functional Block Diagram**

## Typical Application Circuits

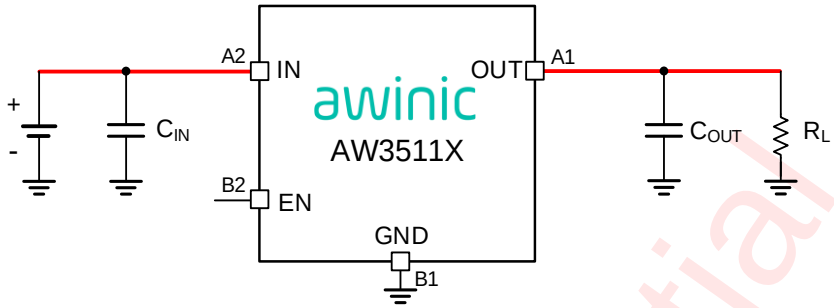



**Figure 4 Typical Application Circuit of AW3511X**

## Ordering Information

| Part Number | Temperature | Package | Marking | Moisture Sensitivity Level | Environmental Information | Delivery Form |
|---|---|---|---|---|---|---|
| AW35111FDR | -40℃～85℃ | FCDFN 0.8mm*0.8mm-4L | | MSL1 | ROHS+HF | 4500 units/ Tape and Reel |
| AW35111FOR | -40℃～85℃ | FOWLP 0.8mm*0.8mm-4B | U | MSL1 | ROHS+HF | 3000 units/ Tape and Reel |
| AW35112FDR | -40℃～85℃ | FCDFN 0.8mm*0.8mm-4L | | MSL1 | ROHS+HF | 4500 units/ Tape and Reel |
| AW35112BFOR | -40℃～85℃ | FOWLP 0.8mm*0.8mm-4B | 2 | MSL1 | ROHS+HF | 3000 units/ Tape and Reel |
| AW35113FDR | -40℃～85℃ | FCDFN 0.8mm*0.8mm-4L | | MSL1 | ROHS+HF | 4500 units/ Tape and Reel |

## Absolute Maximum Ratings(NOTE1)

| PARAMETERS | | RANGE |
|---|---|---|
| Supply Voltage Range $V_{IN}$ | | -0.3V to 6V |
| Enable Voltage Range | EN | -0.3V to 6V |
| Output Voltage Range | OUT | -0.3V to 6V |
| Maximum Continuous Switch Current for $V_{IN} \geq 2V$ | | 2A |
| Maximum Continuous Switch Current for $V_{IN} \geq 1.5V$ | | 1.5A |
| Maximum Continuous Switch Current for $1.2V \leq V_{IN} < 1.5V$(NOTE 2) | | 1A |
| Maximum Continuous Switch Current for $1V \leq V_{IN} < 1.2V$(NOTE 2) | | 0.5A |
| Maximum Peak Switch Current for $V_{IN} \geq 2.5V$(NOTE 3) | | 2.5A |
| Junction-to-ambient Thermal Resistance $\theta_{JA}$(NOTE 4) | | 153°C/W |
| Operating Free-air Temperature Range | | -40°C to 85°C |
| $P_D$ (Power Dissipation) at $T_A$=25°C | | 0.81W |
| Maximum Junction Temperature $T_{JMAX}$ | | 150°C |
| Storage Temperature $T_{STG}$ | | -65°C to 150°C |
| Lead Temperature (Soldering 10 Seconds) | | 260°C |
| ESD | | |
| HBM (Human Body Model) (NOTE 5) | | ±2kV |
| CDM(Charged Device Model) (NOTE 6) | | ±1.5kV |
| Latch-Up | | |
| Latch-Up (NOTE 7) | | +IT：200mA<br>-IT：-200mA |

*NOTE1: Conditions out of those ranges listed in "absolute maximum ratings" may cause permanent damages to the device. In spite of the limits above, functional operation conditions of the device should within the ranges listed in "recommended operating conditions". Exposure to absolute-maximum-rated conditions for prolonged periods may affect device reliability.*

*NOTE2: The power mos enters saturation region, load capacity is reduced.*

*NOTE3: Limited by thermal design, and tested in 10ms width pulse current.*

*NOTE4: Thermal resistance from junction to ambient is highly dependent on PCB layout.*

*NOTE5: The human body model is a 100pF capacitor discharged through a 1.5kΩ resistor into each pin. Test method: ESDA/JEDEC JS-001-2017.*

*NOTE6: All pins. Test Condition: ESDA/JEDEC JS-002-2018.*

*NOTE7: Test Condition: JESD78E.*

## Recommended Operating Conditions

| Symbol | Parameter | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| $V_{IN}$ | Input Voltage | 1 | | 5.5 | V |
| $V_{EN}$ | EN Voltage | 0 | | 5.5 | V |
| $V_{OUT}$ | Output Voltage | 0 | | $V_{IN}$ | V |
| $C_{IN}$ | Input capacitance | 0.1 | 1 | | μF |
| $C_{OUT}$ | Output load capacitance | 0.1 | 1 | | μF |

## Electrical Characteristics

$T_A$ = 25°C unless otherwise noted. Typical values are guaranteed for $V_{IN}$ = 3.3V, $C_{IN}$ = 1μF, $I_{IN}$≤ 2A.

| PARAMETER | | TEST CONDITION | | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| **INPUT CURRENTS** | | | | | | | |
| $I_Q$ | Input quiescent current | AW35111 | $V_{IN}$=$V_{EN}$=3.3V,$I_{OUT}$=0A, $T_A$=25°C | | 2 | | nA |
| | | | $V_{IN}$=$V_{EN}$=3.3V,$I_{OUT}$=0A, $T_A$=85°C | | 8 | | nA |
| | | | $V_{IN}$=$V_{EN}$=5.5V,$I_{OUT}$=0A, $T_A$=25°C | | 3 | | nA |
| | | | $V_{IN}$=$V_{EN}$=5.5V,$I_{OUT}$=0A, $T_A$=85°C | | 15 | | nA |
| | | AW35112/ AW35112B/ AW35113 | $V_{IN}$=$V_{EN}$=3.3V,$I_{OUT}$=0A, $T_A$=25°C | | 350 | 1000 | nA |
| | | | $V_{IN}$=$V_{EN}$=3.3V,$I_{OUT}$=0A, $T_A$=85°C | | 400 | | nA |
| | | | $V_{IN}$=$V_{EN}$=5.5V,$I_{OUT}$=0A, $T_A$=25°C | | 610 | 2000 | nA |
| | | | $V_{IN}$=$V_{EN}$=5.5V,$I_{OUT}$=0A, $T_A$=85°C | | 730 | | nA |
| $I_{SD}$ | Shutdown current from IN to GND | AW35111 | $V_{IN}$=3.3V, $V_{EN}$=0V, $T_A$=25°C | | 16 | | nA |
| | | | $V_{IN}$=3.3V, $V_{EN}$=0V, $T_A$=85°C | | 1000 | | nA |
| | | | $V_{IN}$=5.5V, $V_{EN}$=0V, $T_A$=25°C | | 35 | | nA |
| | | | $V_{IN}$=5.5V, $V_{EN}$=0V, $T_A$=85°C | | 1650 | | nA |
| | | AW35112/ AW35112B/ AW35113 | $V_{IN}$=3.3V, $V_{EN}$=0V, $T_A$=25°C | | 275 | 900 | nA |
| | | | $V_{IN}$=3.3V, $V_{EN}$=0V, $T_A$=85°C | | 750 | | nA |
| | | | $V_{IN}$=5.5V, $V_{EN}$=0V, $T_A$=25°C | | 500 | 1500 | nA |
| | | | $V_{IN}$=5.5V, $V_{EN}$=0V, $T_A$=85°C | | 1550 | | nA |
| **POWER SWITCH** | | | | | | | |
| $I_{LEAKEN}$ | EN pin leakage current | $V_{IN}$=0V, $V_{EN}$=5.5V | | | 700 | 1000 | nA |
| $R_{EN}$ | EN pin pull down resistor | $V_{IN}$=5V, $V_{EN}$=0.4V | | | 7.2 | | MΩ |
| $R_{DIS}$ | Output discharge resistance | $V_{IN}$=5.0V, $V_{EN}$=low， $I_{OUT}$ Sinking 2mA (for AW35111/AW35113) | | | 88 | | Ω |
| $R_{dson}$ | Internal switch MOSFET on-state resistance | $V_{IN}$=5.5V, $I_{OUT}$=0.2A, $T_A$=25°C | | | 52 | 60 | mΩ |
| | | $V_{IN}$=3.3V, $I_{OUT}$=0.2A, $T_A$=25°C | | | 64 | 80 | |
| | | $V_{IN}$=1.8V, $I_{OUT}$=0.2A, $T_A$=25°C | | | 100 | 120 | |
| | | $V_{IN}$=1.2V, $I_{OUT}$=0.2A, $T_A$=25°C | | | 164 | 200 | |
| | | $V_{IN}$=1V, $I_{OUT}$=0.2A, $T_A$=25°C | | | 230 | 280 | |

## Electrical Characteristics (continued)

$T_A$ = 25°C unless otherwise noted. Typical values are guaranteed for $V_{IN}$ = 3.3V, $C_{IN}$ = 1μF, $I_{IN}$≤ 2A.

| PARAMETER | | TEST CONDITION | | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| **POWER SWITCH** | | | | | | | |
| $t_R$ | Output rise time | $V_{IN}$=3.3V, $C_{OUT}$=0.1μF, $R_{OUT}$=10Ω for AW35111<br>$V_{IN}$=3.3V, $C_{OUT}$=1μF, $R_{OUT}$=30Ω for AW35112/ AW35112B/ AW35113 | AW35111 | | 84 | | μs |
| | | | AW35112 | | 74 | | |
| | | | AW35112B | | 900 | | |
| | | | AW35113 | | 274 | | |
| $t_{ON}$ | Switch turn on time | | AW35111 | | 90 | | |
| | | | AW35112 | | 83 | | |
| | | | AW35112B | | 970 | | |
| | | | AW35113 | | 285 | | |
| $t_{EN}$ | Enable time | | AW35111 | | 50 | | |
| | | | AW35112 | | 50 | | |
| | | | AW35112B | | 515 | | |
| | | | AW35113 | | 160 | | |
| $t_F$ | Output fall time | | AW35111 | | 2 | | |
| | | | AW35112 | | 63 | | |
| | | | AW35112B | | 80 | | |
| | | | AW35113 | | 53 | | |
| $t_{OFF}$ | Switch turn off time | | AW35111 | | 2.5 | | |
| | | | AW35112 | | 15 | | |
| | | | AW35112B | | 15 | | |
| | | | AW35113 | | 13 | | |
| $V_{IH}$ | EN input high threshold level | | | 1 | | | V |
| $V_{IL}$ | EN input low threshold level | | | | | 0.4 | V |

## Electrical Characteristics (continued)

$T_A$ = 25°C unless otherwise noted. Typical values are guaranteed for $V_{IN}$ = 3.3V, $C_{IN}$ = 1μF, $I_{IN}$≤ 2A.

| PARAMETER | | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **REVERSE CURRENT PROTECTION (RCP FOR AW35112/AW35112B/AW35113)** | | | | | | |
| $V_{REV}$ | Reverse current voltage threshold | $V_{IN}$=3.3V, $C_{OUT}$=1μF | | 33 | | mV |
| $V_{REV\_HYS}$ | Reverse current voltage hysteresis | $V_{IN}$=3.3V, $C_{OUT}$=1μF | | 27 | | mV |
| $I_{REV\_ACT}$ | Reverse activation current | $V_{IN}$=3.3V, $C_{OUT}$=1μF, $V_{OUT}$ > $V_{IN}$ | | 0.5 | | A |
| $I_{REV\_PRO}$ | Reverse protection current | $V_{OUT}$ - $V_{IN}$ > $V_{REV}$ | | 7.5 | | μA |

## Timing Diagram

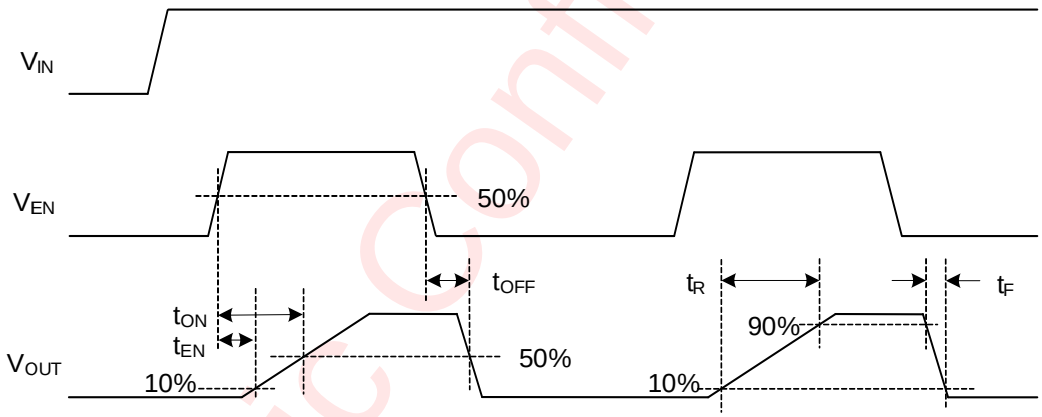



**Figure 5 AW3511X Timing Diagram**

## Typical Characteristics

Ambient temperature is 25°C, $C_{IN}$ = $C_{OUT}$=1μF, unless otherwise noted.

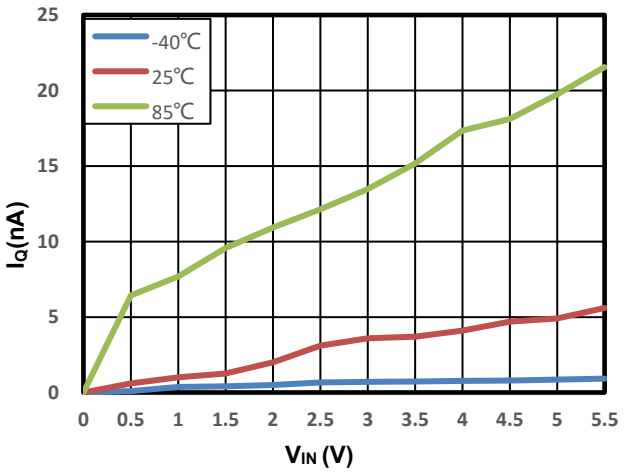



Figure 6 Quiescent Current vs. $V_{IN}$, No load (For AW35111)

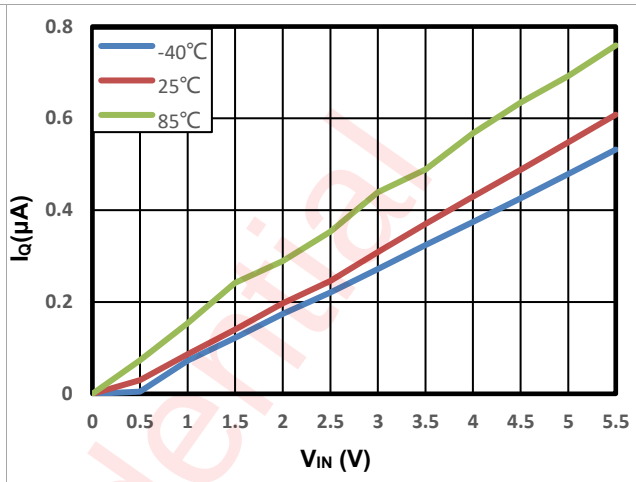



Figure 7 Quiescent Current vs. $V_{IN}$, Rload=10Ω (For AW35112/AW35112B)

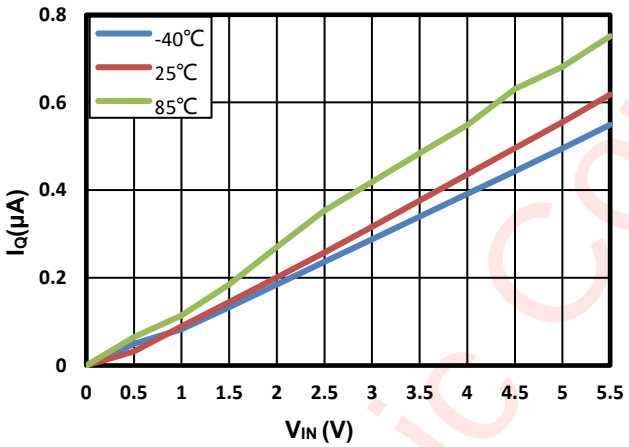



Figure 8 Quiescent Current vs. $V_{IN}$ (For AW35113)

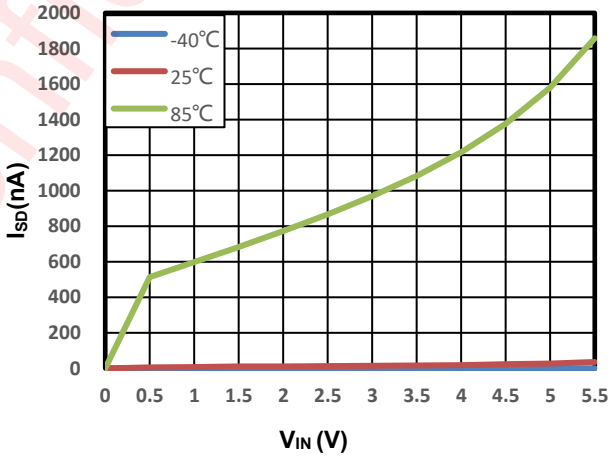



Figure 9 IN Shutdown Current vs. $V_{IN}$ (For AW35111)

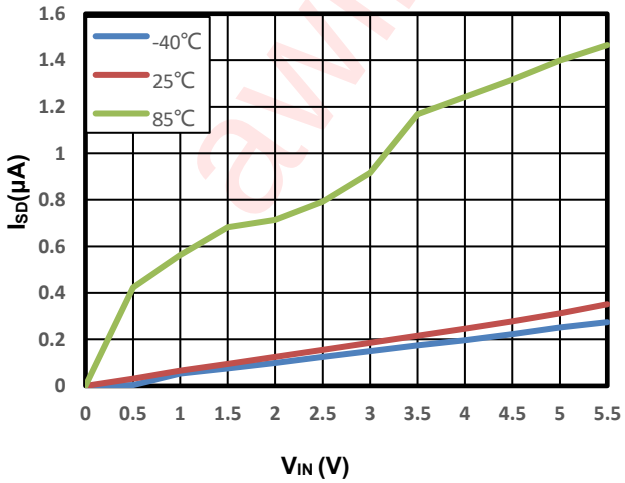



Figure 10 IN Shutdown Current vs. $V_{IN}$ (For AW35112/AW35112B)

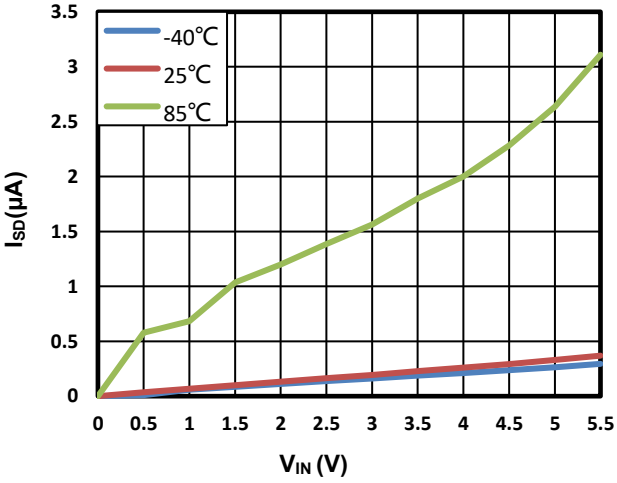



Figure11 IN Shutdown Current vs. $V_{IN}$ (For AW35113)

## Typical Characteristics (continued)

Ambient temperature is 25°C, $C_{IN}$ = $C_{OUT}$=1μF, unless otherwise noted.

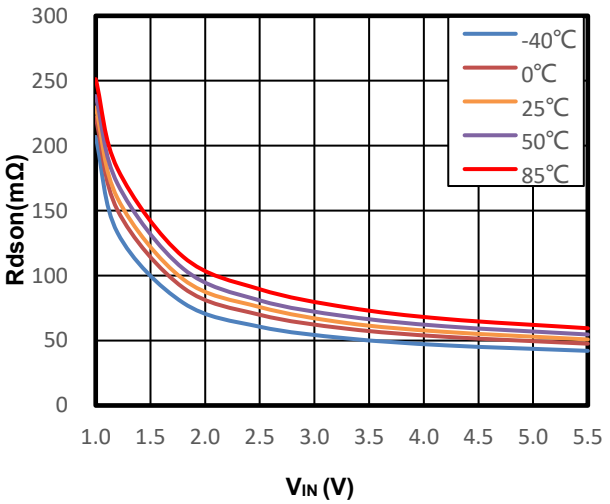



**Figure 12 Rdson vs. $V_{IN}$($I_{OUT}$=200mA)**

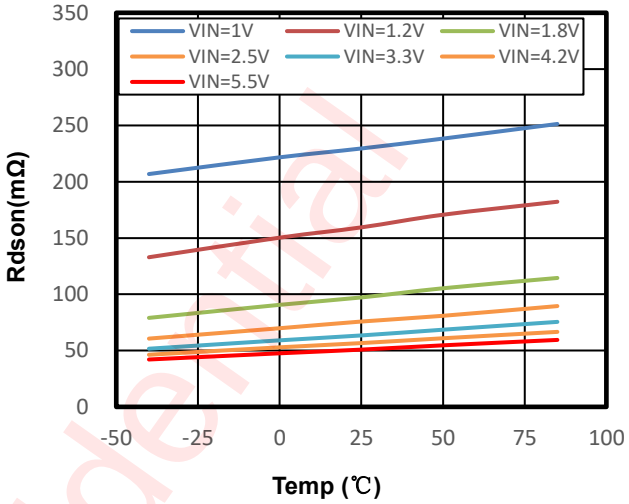



**Figure 13 Rdson vs. Temperature($I_{OUT}$=200mA)**

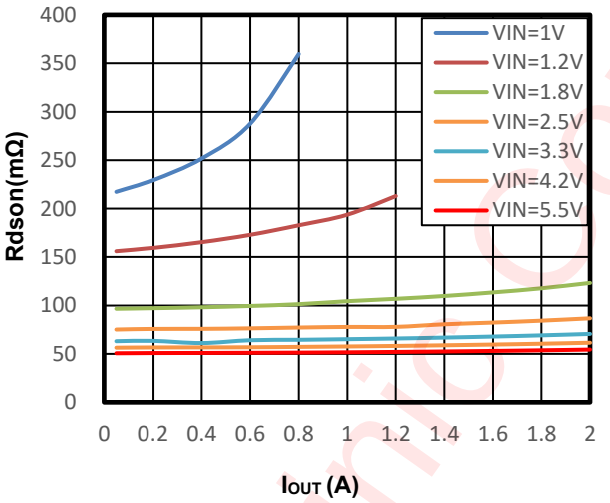
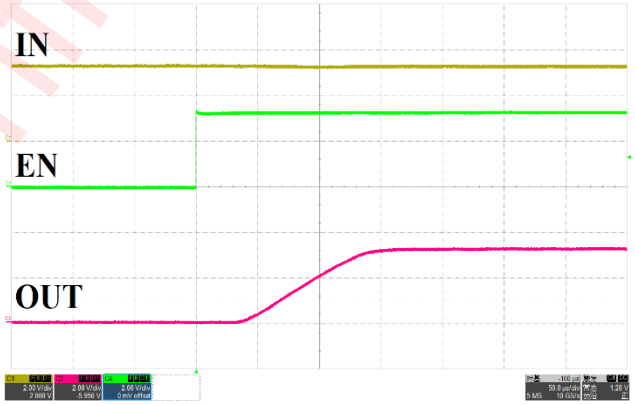


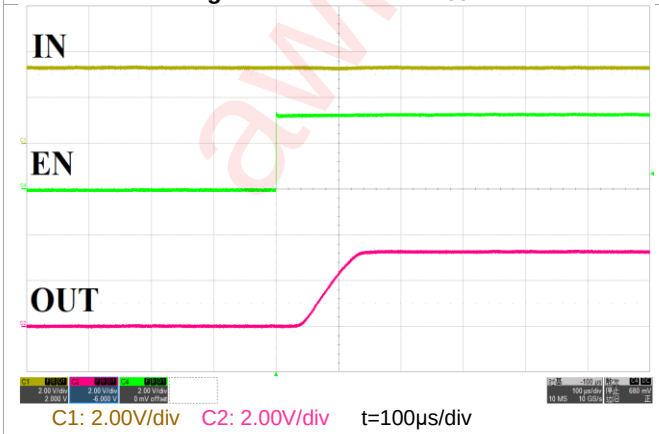

**Figure 14 Rdson vs. $I_{OUT}$**




C1: 2.00V/div C2: 2.00V/div t=50μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=0.1μF，$R_{load}$=10Ω

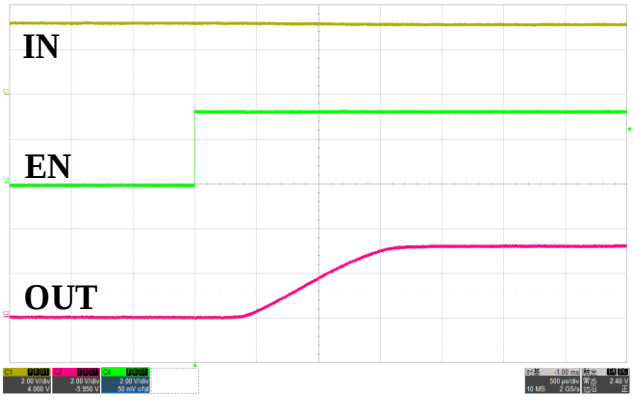
**Figure 15 Turn On Response (For AW35111)**




C1: 2.00V/div C2: 2.00V/div t=100μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

**Figure 16 Turn On Response (For AW35112)**



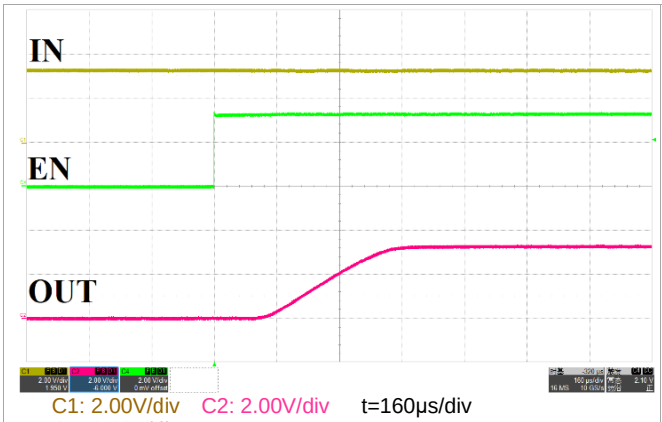

C1: 2.00V/div C2: 2.00V/div t=500μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

**Figure 17 Turn On Response (For AW35112B)**

## Typical Characteristics (continued)

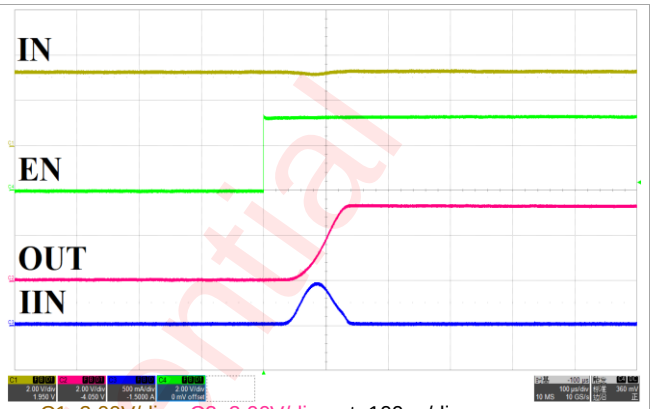
Ambient temperature is 25°C, $C_{IN}$ = $C_{OUT}$=1μF, unless otherwise noted.




C1: 2.00V/div C2: 2.00V/div t=160μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

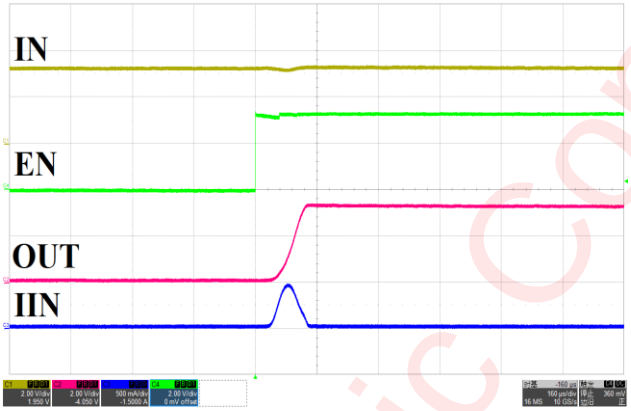
**Figure 18 Turn On Response**
**(For AW35113)**




C1: 2.00V/div C2: 2.00V/div t=100μs/div
C3:500mA/div C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=10μF，no $R_{load}$

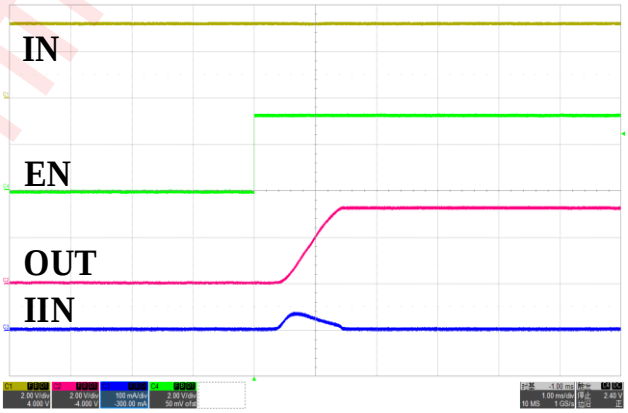
**Figure 19 Inrush Current**
**(For AW35111)**




C1: 2.00V/div C2: 2.00V/div t=160μs/div
C3:500mA/div C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=10μF，no $R_{load}$

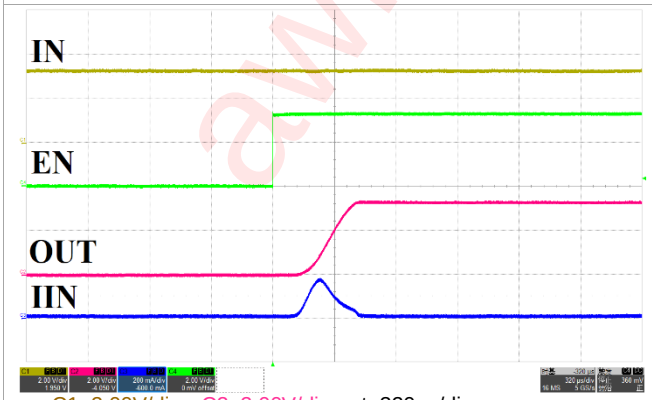
**Figure 20 Inrush Current**
**(For AW35112)**




C1: 2.00V/div C2: 2.00V/div t=1ms/div
C3:100mA/div C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=10μF，no $R_{load}$

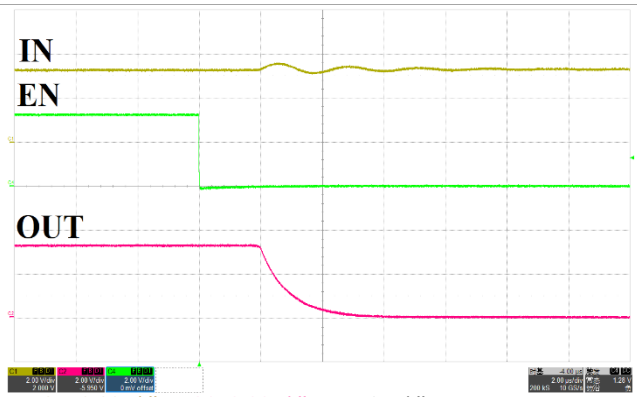
**Figure 21 Inrush Current**
**(For AW35112B)**




C1: 2.00V/div C2: 2.00V/div t=320μs/div
C3:200mA/div C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=10μF，no $R_{load}$

**Figure 22 Inrush Current**
**(For AW35113)**



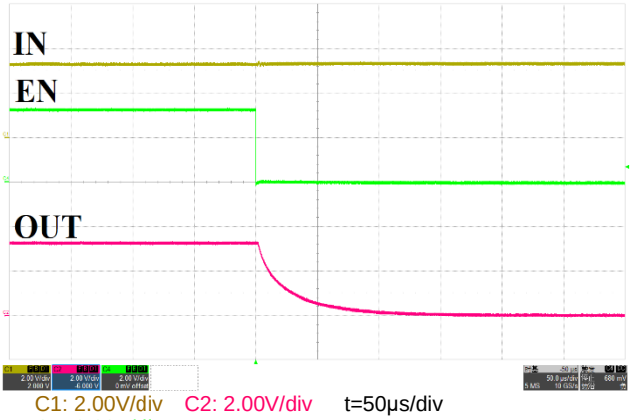

C1: 2.00V/div C2: 2.00V/div t=2μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=0.1μF，$R_{load}$=10Ω

**Figure 23 Turn Off Response**
**(For AW35111)**

## Typical Characteristics (continued)

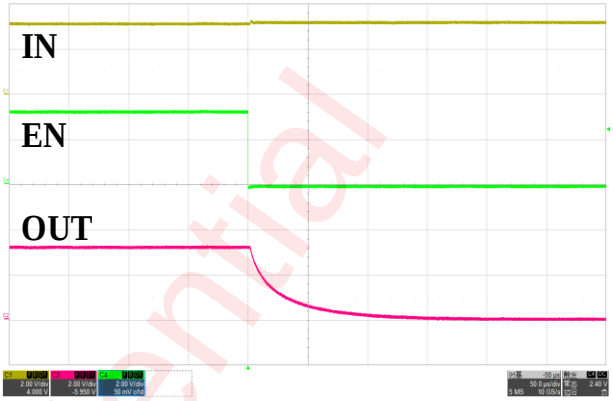
Ambient temperature is 25°C, $C_{IN}$ = $C_{OUT}$=1μF, unless otherwise noted.




C1: 2.00V/div C2: 2.00V/div t=50μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

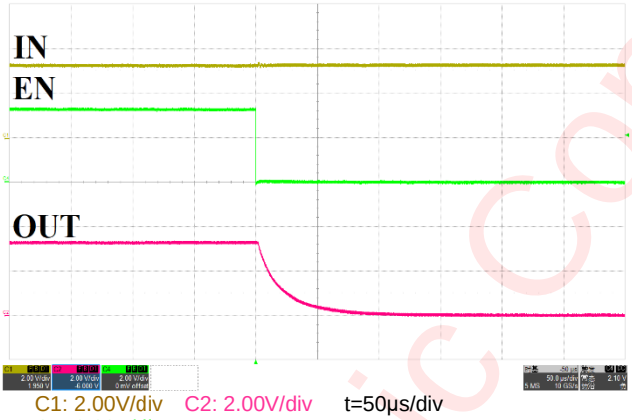
**Figure 24 Turn Off Response (For AW35112)**




C1: 2.00V/div C2: 2.00V/div t=50μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

**Figure 25 Turn Off Response (For AW35112B)**




C1: 2.00V/div C2: 2.00V/div t=50μs/div
C4: 2.00V/div

$V_{IN}$=3.3V，$C_{IN}$=1μF，$C_{OUT}$=1μF，$R_{load}$=30Ω

**Figure 26 Turn Off Response (For AW35113)**

## Detailed Functional Description

The AW3511X integrates a high side P channel MOSFET, and provide a low on-resistance for a low voltage drop across the device. A controlled slew rate is used in applications to limit the inrush current. The part can be turned on, with a supply voltage from 1V to 5.5V.

## Turn On/Off Control

Enable pin is an active high port. The device is opened when EN pin is tied low or pulled down by internal 7.2MΩ resistor, forcing PMOS switch off. The IN/OUT path is activated with a minimum of $V_{IN}$ of 1V and EN forced to high level.

**Table 1. Functional Table**

| | EN | IN to OUT | OUT to GND |
|---|---|---|---|
| AW35111/35113 | Low | OFF | ON |
| | High | ON | OFF |
| AW35112/AW35112B | Low | OFF | HIZ |
| | High | ON | HIZ |

## Slew Rate Control

When the switch is enabled, the device regulates the gate voltage of MOSFET, and controls the $V_{OUT}$ slew rate during $t_R$ to avoid a large input inrush current. The feature reduces the interference to the power supply.

## Quick Output Discharge

The AW35111/AW35113 includes the Quick Output Discharge (QOD) feature, in order to discharge the application capacitor connected on OUT pin. When EN pin is set to low level, a discharge resistance with a typical value of 88Ω is connected between the output and ground, pull down the output and prevent it from floating when the device is disabled.

## Full-Time Reverse Current Protection

The AW35112/AW35112B/AW35113 include the Reverse Current Protection(RCP) function, which can prevent the current to flowing through the P-FET or the body diode when $V_{OUT}$ greater than $V_{IN}$. Whatever the switch is on or off, the AW35112/AW35112B/AW35113 always have this function. When $V_{OUT}$-$V_{IN}$ greater than $V_{REV}$, the internal comparator quickly turns off the switch, in order to prevent large reverse current from $V_{OUT}$ to $V_{IN}$. The switch will return to normal operation once the reverse voltage scenario disappeared.

The $I_{REV\_ACT}$ parameter in the Figure 27 can be calculated by the following formula

$$I_{REV\_ACT} = \frac{V_{REV}}{R_{dson}}$$

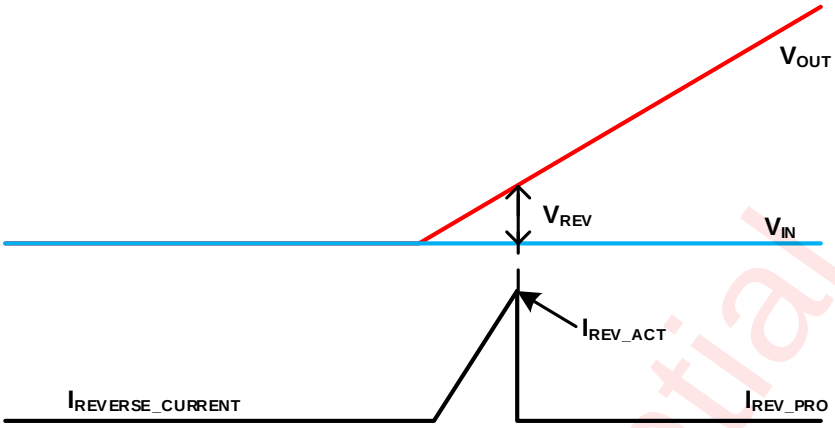



**Figure 27 Reverse Current Test**

## Application Information

### INPUT AND OUTPUT CAPACITANCE

Input and output capacitance improves the performance of the device, the actual capacitance should be optimized for the particular application. For all applications, a 1μF or greater ceramic bypass capacitor between $V_{IN}$ and GND is recommended as close to the device as possible. This precaution reduces ringing on the input due to power supply transients. Additional input capacitance may be needed on the input to reduce voltage overshoot from exceeding the absolute maximum voltage of the device during heavy transient conditions. This is especially important during bench testing when long inductive cables are used to connect the evaluation board to the bench power-supply.

Placing a high value electrolytic capacitor on the output pin is recommended when large transient currents are expected on the output.

## PCB Layout Consideration

The AW3511X is low ON-Resistance load switch, to obtain the optimal performance, PCB layout should be considered carefully. Here are some guidelines:

1. All the peripherals should be placed as close to the device as possible. Place the input capacitor $C_{IN}$ on the top layer (same layer as the AW3511X) and close to IN pin, and place the output capacitor $C_{OUT}$ on the top layer (same layer as the AW3511X) and close to OUT pin.

2. The AW3511X integrates an up to 2A rated PMOS FET, and the PCB design rules must be respected to properly evacuate the heat out of the silicon. By increasing PCB area, especially around IN and OUT pins, the $R\theta_{JA}$ of the package can be decreased, allowing higher power dissipation. Blue bold paths in Figure 28 are power lines that will flow large current, please route them on PCB as straight, wide and short as possible.

3. Use rounded corners on the power trace from the power supply connector to AW3511X to decrease EMI coupling.

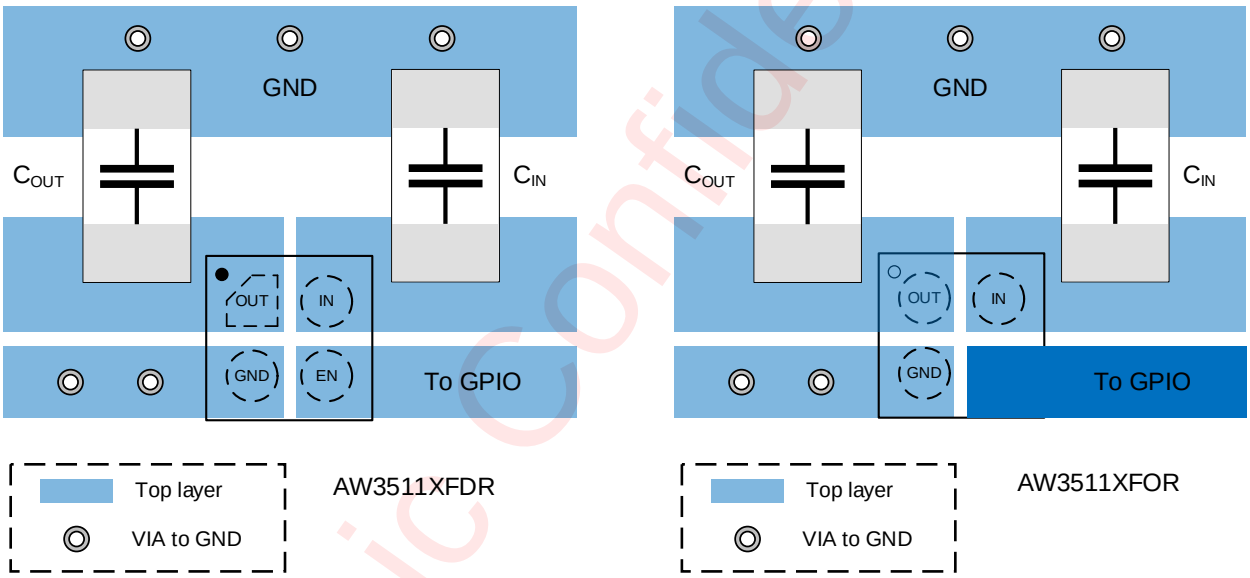
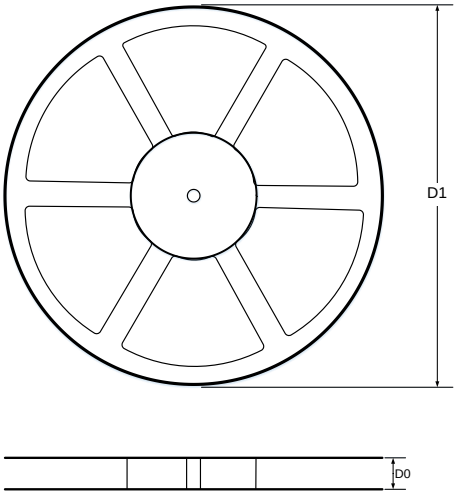



**Figure 28 PCB layout example**

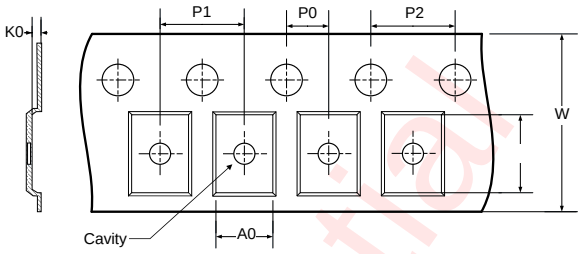
# Tape And Reel Information

FCDFN 0.8mm*0.8mm-4L

REEL DIMENSIONS

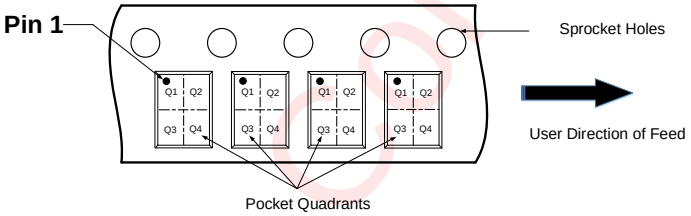



TAPE DIMENSIONS




A0：Dimension designed to accommodate the component width
B0：Dimension designed to accommodate the component length
K0：Dimension designed to accommodate the component thickness
W：Overall width of the carrier tape
P0：Pitch between successive cavity centers and sprocket hole
P1：Pitch between successive cavity centers
P2：Pitch between sprocket hole
D1：Reel Diameter
D0：Reel Width

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE




Note：The above picture is for reference only. Please refer to the value in the table below for the actual size

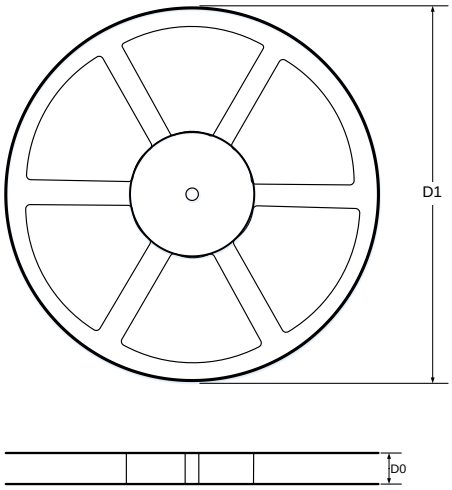
DIMENSIONS AND PIN1 ORIENTATION

| D1 (mm) | D0 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P0 (mm) | P1 (mm) | P2 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|
| 178.0 | 8.40 | 0.91 | 0.91 | 0.66 | 2.00 | 4.00 | 4.00 | 8.00 | Q1 |

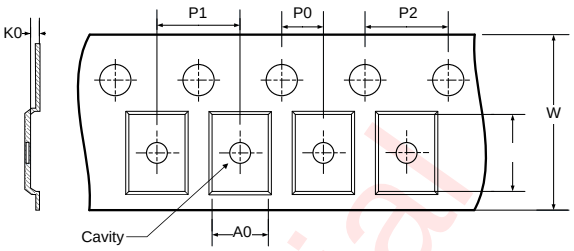
**All dimensions are nominal**

FOWLP 0.8mm*0.8mm-4B

REEL DIMENSIONS

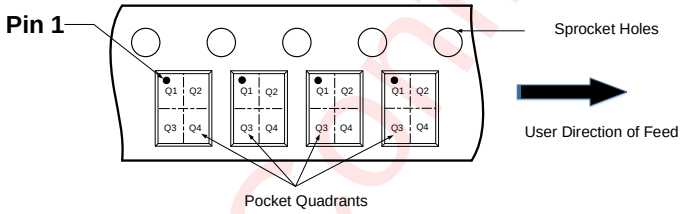



TAPE DIMENSIONS




A0：Dimension designed to accommodate the component width
B0：Dimension designed to accommodate the component length
K0：Dimension designed to accommodate the component thickness
W：Overall width of the carrier tape
P0：Pitch between successive cavity centers and sprocket hole
P1：Pitch between successive cavity centers
P2：Pitch between sprocket hole
D1：Reel Diameter
D0：Reel Width

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE




Note：The above picture is for reference only. Please refer to the value in the table below for the actual size

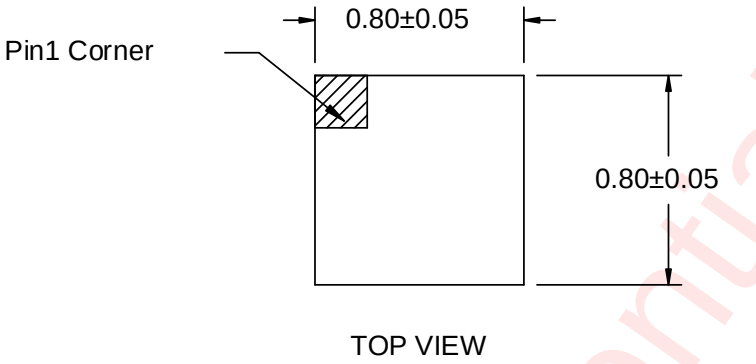
DIMENSIONS AND PIN1 ORIENTATION

| D1 (mm) | D0 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P0 (mm) | P1 (mm) | P2 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|
| 179.0 | 9.2 | 0.85 | 0.85 | 0.59 | 2.00 | 4.00 | 4.00 | 8.00 | Q1 |

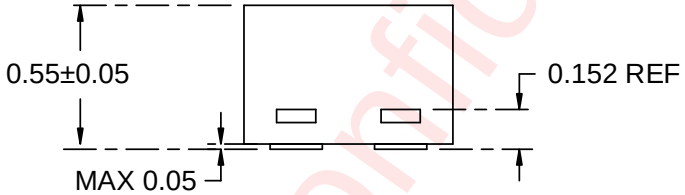
**All dimensions are nominal**

## Package Description

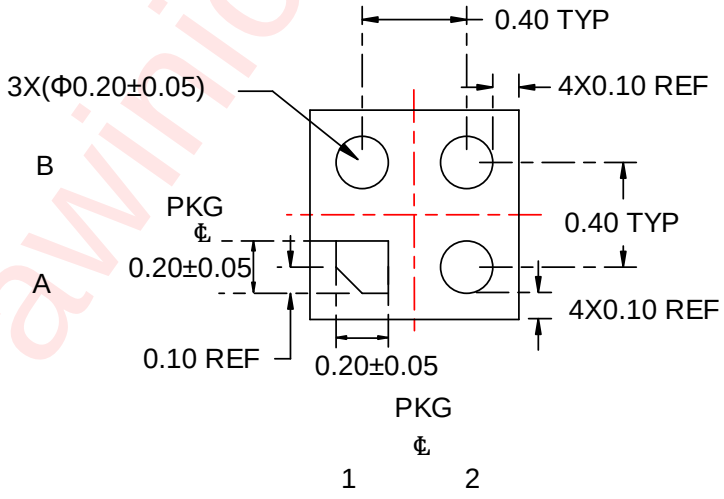
FCDFN 0.8mm*0.8mm-4L




TOP VIEW



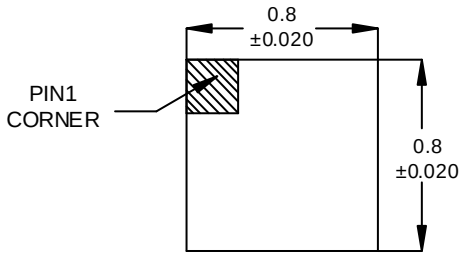

SIDE VIEW



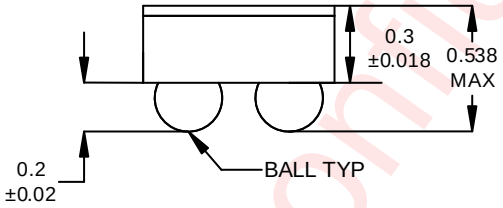

BOTTOM VIEW

Unit:mm

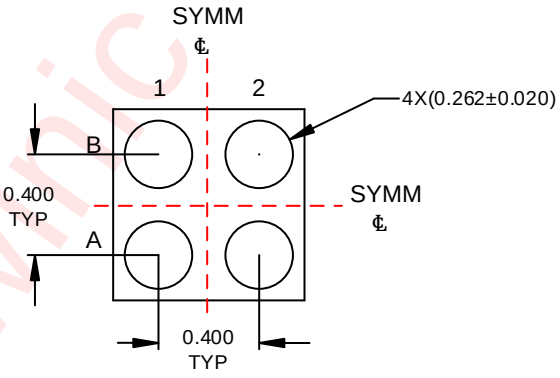
FOWLP 0.8mm*0.8mm-4B




**Top View**



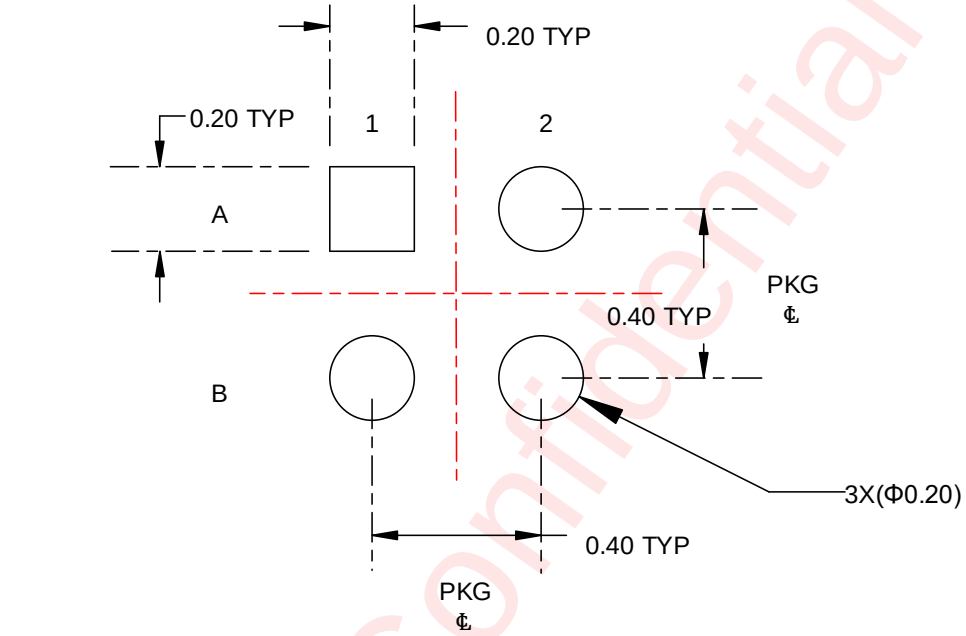

**Side View**

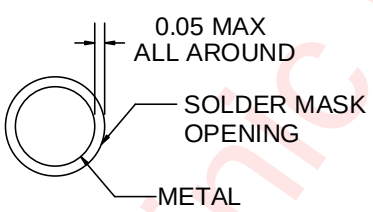



**Bottom View** Unit：mm

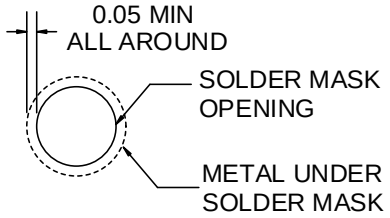
## Land Pattern Data

FCDFN 0.8mm*0.8mm-4L



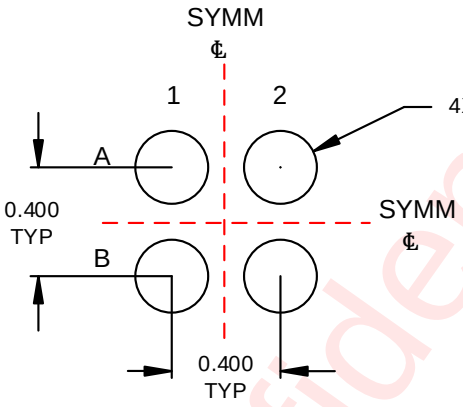

NON SOLDER MASK DEFINED

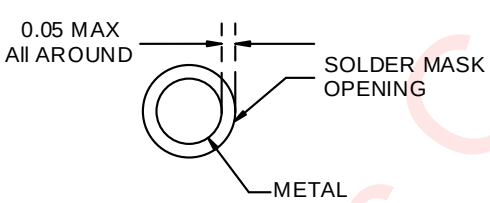



SOLDER MASK DEFINED

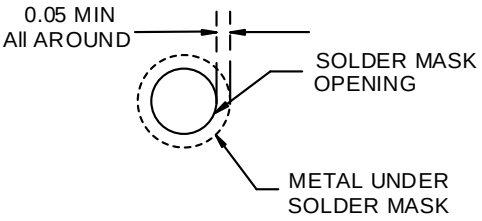
Unit: mm

FOWLP 0.8mm*0.8mm-4B




NON-SOLDER MASK DEFINED




SOLDER MASK DEFINED

Unit: mm

## Revision History

| Version | Date | Change Record |
|---|---|---|
| V1.0 | Feb. 2022 | Officially released |
| V1.1 | Mar. 2022 | 1.Add the $R_{DIS}$ Parameter<br>2.Modify the value of $\theta_{JA}$ and $P_D$<br>3.Modify the Typical Characteristics(P10、P11) |
| V1.2 | May. 2022 | 1.Modify the delivery form (9000→4500)<br>2.Modify the pitch (2→4) of Tape And Reel Information(P15) |
| V1.3 | Oct. 2022 | Add the Maximum Continuous Switch Current for $V_{IN}$ ≥ 2V to 2A |
| V1.4 | Nov. 2022 | Modify the $V_{IH}$ threshold from 1.2V to 1.1V(P7) |
| V1.5 | Feb. 2023 | 1.Add the FOWLP package information and the PCB Layout example<br>2.Add Electrical Characteristics and Typical Characteristics of AW35112B<br>3.Modify the $V_{IN}$ minimum from 1.2V to 1V, and add Rdson data of $V_{IN}$ at 1V<br>4.Modify the $V_{IH}$ threshold from 1.1V to 1V(P7) |

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