

## High Voltage high side switch

# BA4910FP

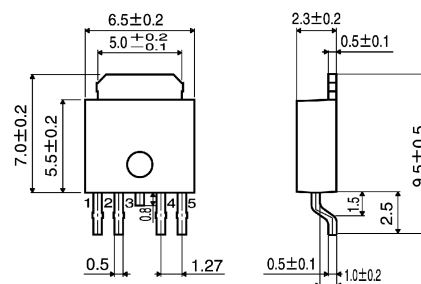
### Description

The BA4910FP is a high voltage high side switch which has an output that can be turned ON/OFF by a CTL pin. Circuit current of 1 $\mu$ A (Typ.) at standby is perfect for power saving. Applications are various including car stereos and printers.

### Features

- 1) Maximum voltage of 50V PNP
- 2) Due to built-in output current control, IC is protected from destruction caused by output short circuits
- 3) Built-in over current detection delay circuit
- 4) Surge resistant due to over voltage protection circuit being built-in.
- 5) Built-in temperature protection circuit to protect IC from thermal destruction

### Dimension (Units:mm)



TO252-5

### Applications

Car Stereos

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Applied voltage 1	V <sub>CC</sub>	50	V
Applied voltage 2	CTL	10	V
Power dissipation	P <sub>d</sub>	1000 * <sup>1</sup>	mW
Operating temperature range	T <sub>opr</sub>	- 40 ~ +85	°C
Storage temperature range	T <sub>stg</sub>	- 55 ~ +150	°C
Peak supply voltage	V <sub>CC</sub> PEAK	60 * <sup>2</sup>	V

\*1 Derating: 8.0mW/°C for operation above Ta=25°C.

\*2 tr ≥ 1msec. Applied voltage: within 200msec.

### Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	V <sub>IN</sub>	8.5	14.4	16	V

### Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
<INPUT>						
Stand by current	I <sub>st</sub>	-	-	10	μA	CTL pin=0V
Operating current	I <sub>cc</sub>	3.3	5.5	7.7	mA	CTL pin=5V, I <sub>o</sub> =0mA
<OUTPUT>						
Dropout voltage	ΔV <sub>o1</sub>	-	0.5	1.0	V	I <sub>o</sub> =400mA
Load regulation	ΔV <sub>o2</sub>	-	450	900	mV	I <sub>o</sub> =0~400mA
Output current	I <sub>o</sub>	500	-	800	mA	V <sub>o</sub> V <sub>IN</sub> -ΔV <sub>o1MAX</sub> *1
<CTL pin>						
Standby level	V <sub>thsw1</sub>	-	-	1.5	V	
Active level	V <sub>thsw2</sub>	3.8	-	v	V	
Input high current	I <sub>insh</sub>	16	27	38	μA	V <sub>th</sub> =3.5V
<Delay time setting CP pin>						
Threshold voltage	VΔ <sub>th</sub>	0.8	0.85	0.9	V	Δ(V <sub>th</sub> -V <sub>CP</sub> )
Capacitor charging current *2	I <sub>cp</sub>	1.2	2.0	2.8	μA	

\*1 ΔV<sub>o1MAX</sub>=Maximum of minimum I/O differential voltage

\*2 When CP=0.47μF, delay time =200msec.(TYP)

○ This product is not designed with anti-radiation capability.  
 ○ Output current can be used within min. of I<sub>o</sub>.

### Application circuit

