

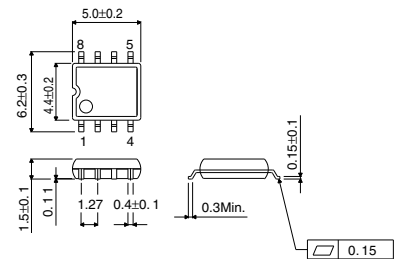
## Power management switch

# BD6522F

### ●Description

BD6522F is a power management switch IC that includes Low ON resistance MOSFET. The built-in soft start circuit and the error detection circuit protect output. In addition, this IC includes discharge circuit that discharge residual voltage when the output is OFF.

### ●Dimension (Units : mm)



SOP8

### ●Features

- 1) Low ON resistance switch: Typ.=50mΩ
- 2) Output current capacity: 0~2 A
- 3) Reverse current prevention when the switch is OFF.
- 4) Built-in soft start circuit
- 5) UVLO
- 6) Temperature protection circuit with latch function
- 7) Built-in discharging circuit (When output is OFF.)

### ●Applications

Battery driven equipment such as notebook PC, PDA etc.

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

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>DD</sub>	-0.3 ~ +6.0	V
CTRL pin voltage	V <sub>CTRL</sub>	-0.3 ~ +6.0	V
Output pin voltage	V <sub>OUT</sub>	-0.3 ~ V <sub>DD</sub> +0.3	V
Storage temperature range	T <sub>STG</sub>	-55 ~ +125	°C
Power dissipation	P <sub>d</sub>	450 *	mW

\*Derating : 4.5mW/°C for operation above Ta=25°C

©This product is not designed for protection against radioactive rays.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating voltage range	V <sub>DD</sub>	3.0	—	5.5	V
Switch current	I <sub>SW</sub>	0	—	2	A
Operating temperature range	T <sub>OPR</sub>	—25	—	+85	°C

● Electrical characteristics (Unless otherwise noted : Ta=25°C, V<sub>DD</sub>=5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
ON resistance	R <sub>ON1</sub>	—	50	70	mΩ	V <sub>DD</sub> =5V, V <sub>CTRL</sub> =5V
	R <sub>ON2</sub>	—	60	85	mΩ	V <sub>DD</sub> =3.3V, V <sub>CTRL</sub> =3.3V
VDD operating current	I <sub>DD</sub>	—	110	220	μA	V <sub>CTRL</sub> =5V, OUT=OPEN
	I <sub>DDST</sub>	—	—	2	μA	V <sub>CTRL</sub> =0V, OUT=OPEN
CTRL input voltage	V <sub>CTRL<sub>L</sub></sub>	—	—	0.7	V	V <sub>CTRL</sub> =Low Level
	V <sub>CTRL<sub>H</sub></sub>	2.5	—	—	V	V <sub>CTRL</sub> =High Level
CTRL input current	I <sub>CTRL</sub>	—1	0	1	μA	V <sub>CTRL</sub> =L, H
OUT rise time	T <sub>ON</sub>	—	1000	3500	μS	R <sub>L</sub> =10Ω, SSCTL=OPEN CTRL=H->OUT=90%
OUT fall time	T <sub>OFF</sub>	—	4	20	μS	R <sub>L</sub> =10Ω, SSCTL=OPEN CTRL=L->OUT=10%
Switch discharge resistance	R <sub>SWDC</sub>	—	350	600	Ω	V <sub>DD</sub> =5V, V <sub>CTRL</sub> =0V
UVLO detection voltage	V <sub>UVLO<sub>H</sub></sub>	2.3	2.5	2.7	V	V <sub>DD</sub> increasing
	V <sub>UVLO<sub>L</sub></sub>	2.1	2.3	2.5	V	V <sub>DD</sub> decreasing
UVLO hysteresis voltage	V <sub>HYS</sub>	100	200	300	mV	V <sub>HYS</sub> =V <sub>UVLO<sub>H</sub></sub> —V <sub>UVLO<sub>L</sub></sub>
Over temperature threshold	T <sub>TS</sub>	—	135	—	°C	V <sub>CTRL</sub> =5V

● Block Diagram

