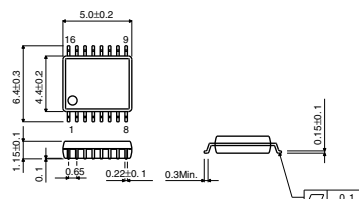


## Intelligent three-color LED driver BU8770FV

### ●Description

BU8770FV is a smart LED driver developed for cellular phones. This driver generates high-intensity LED driving voltage by stepping up  $V_{DD}$  in DC/DC converter with using the clock of the built-in oscillator. Each brightness of RGB color can be adjusted independently in 128 steps by PWM control.

### ●Dimension (Units : mm)



SSOP-B16

### ●Features

- 1) 128 steps PWM brightness control for each three color independently
- 2) DC/DC converter for LED driving
- 3) Low consumption stand-by circuit
- 4) Small SSOP-B16 package

### ●Applications

Cellular phones

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

Parameter	Symbol	Limits	Unit
Power supply voltage	$V_{DD}$	6.0	V
Operating temperature range	$T_{opr}$	-30 ~ +80	°C
Storage temperature range	$T_{stg}$	-40 ~ +125	°C

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

● Electrical characteristics (Unless otherwise noted; Ta=25°C, VDD=3.60V, VDD3V=3.05V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Whole						
Power supply voltage	VDD	3.15	3.60	4.80	V	
(Current consumption)	IDDS	—	0.1	1	μA	Stand-by mode *1
Reference voltage	VDD3V	2.80	3.05	3.20	V	3V reference voltage
(Current consumption)	IDD3V0	—	0.1	1	μA	Stand-by mode
	IDD3V1	—	30	60	μA	Normal operating mode
DC/DC converter						
Output voltage	VOU	1.574VDD3V ± 5%			V	*2
Output current	IOUT	—	—	40	mA	VOU=4.8V
Capacitor capacitance	CAP1	0.22 ± 20%			μF	
	CAP_0	4.7 ± 20%			μF	

\*1 : IDDS is current consumption at the time when NSTBY=L, DATA=L, CLK=L, and NRST=H.

\*2 : VOU=1.574X3.05=4.8007V when the output voltage is VDD3V=3.05  
 (VOU=4.4072V when the output voltage is VDD3V=2.80V, VOU=5.0368V when the output voltage is VDD3V=3.20V)

● Block Diagram

