

STEP-UP WHITE LED DRIVER UP TO SIX 20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT

A8160

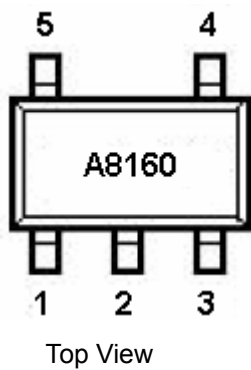
Description

The A8160 is a White LED driver designed for applications where step-up voltage conversion to drive one to six 20-40mA White LEDs in series with constant current. The A8160 provide all lead free parts.

Features

- Constant Current
- High Efficiency: 80%
- 3V drive 4LED, 5V drive 6LED.
- Vout Maximum: 36V
- Min Operating Voltage: 2V
- 900KHz Frequency
- SOT-25 package

Pin Description

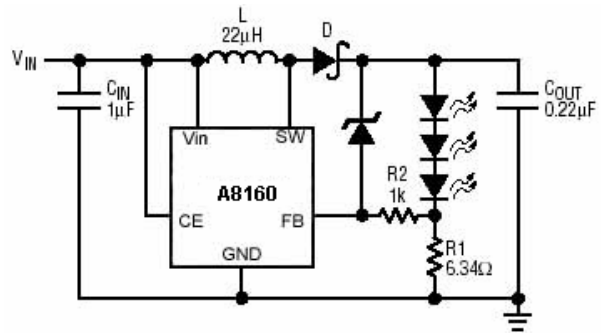


PIN #	PIN Name	PIN Function
1	SW	Switching Output
2	GND	Ground
3	FB	FeedBack
4	CE	Enable Pin
5	Vin	Input Voltage

Application

- Mobile Phone
- PDA
- DSC
- MP3

Typical Application



Cin=1uF, Cout=0.22uF

L=22uH (Murata LQH-220)

D: Central Semiconductor CMDSH-3

**STEP-UP WHITE LED DRIVER UP TO SIX
20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT**

A8160

Absolute Maximum Ratings

Input Voltage	10V
SW Voltage	36V
FB Voltage	10V
CE	10V
Environment Temperature (T _A)	-40~+85°C
Storage Temperature Range	-40~+125°C
Lead Temperature and Time	260°C, 10S
Thermal Resistant (θ _{JA})	256°C/W

Electrical Characteristics

V_{in}=3V, T_{opt}=25°C, V_{ce}=3V, unless otherwise noted.

Parameter	Conditions	Min	Typ	Max	Unit
V _{min}		2.0			V
V _{max}				10	V
V _{FB}		82	92	102	mV
I _{ss}			0.7	1.0	mA
I _{off}	CE=0		0.1	1.0	uA
D _{max}		85	90		%
I _{Limit}			320		mA
F _{sw}	I _{sw} =250mA	0.95	1.05	1.25	V
V _{CESAT}	V _{sw} =5V, SW off		0.5	1	uA
V _{CEH}		1.5			V
V _{CEL}				0.8	V

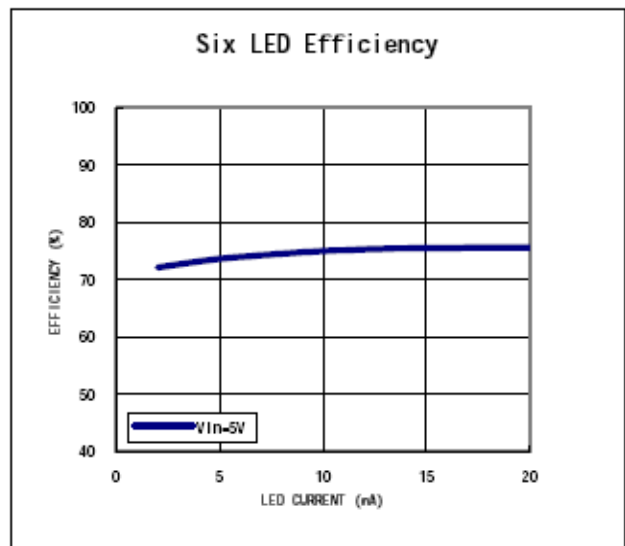
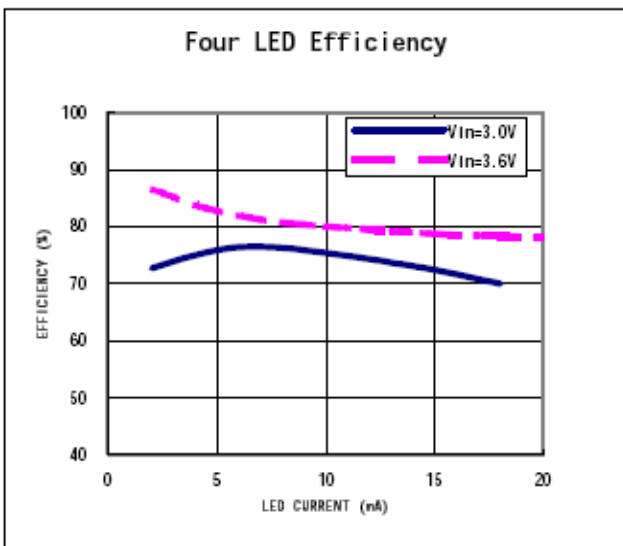
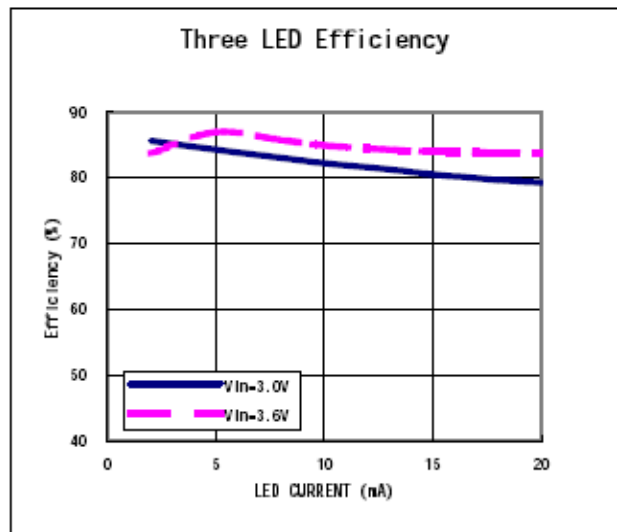
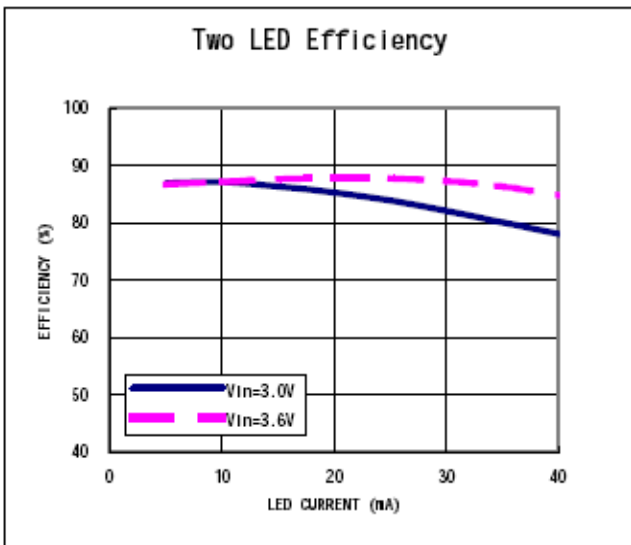
STEP-UP WHITE LED DRIVER UP TO SIX 20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT

A8160

Typical Characteristics

(Topt=25°C, Vin=3V, Vce=3V)

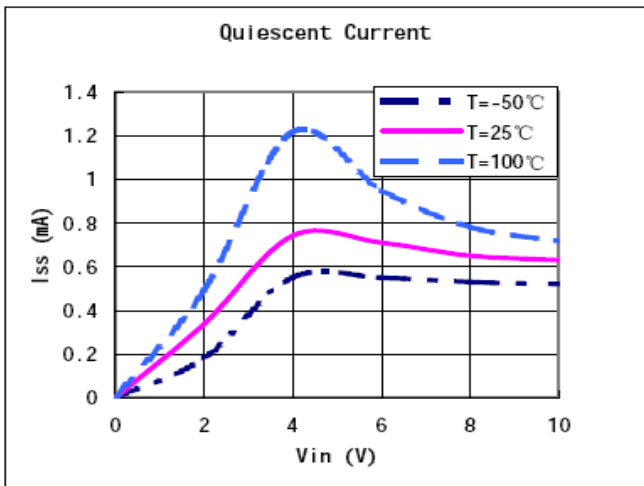
1. Efficiency vs Vin



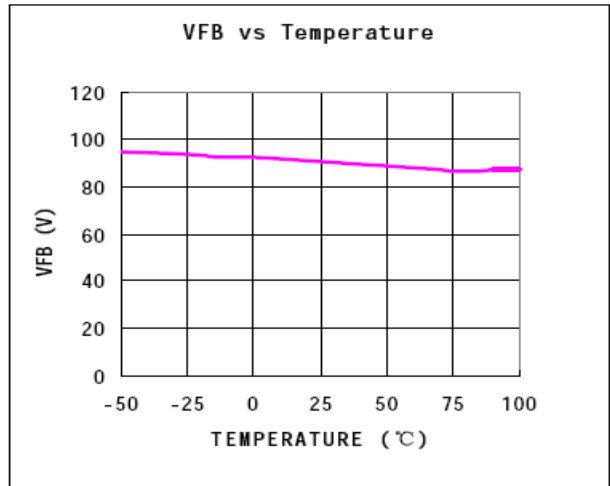
STEP-UP WHITE LED DRIVER UP TO SIX 20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT

A8160

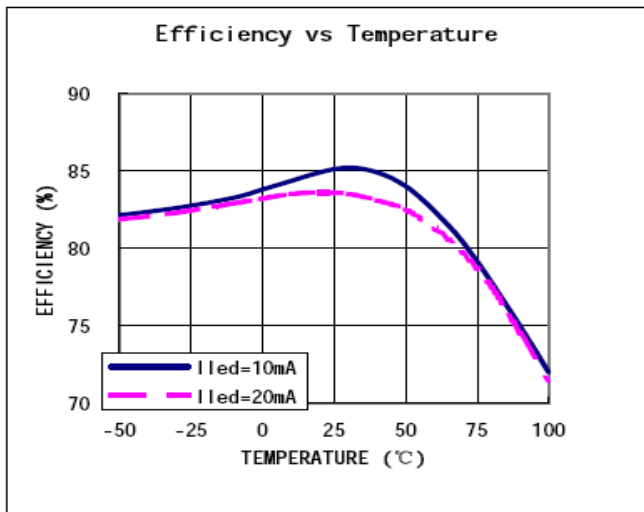
2. I_{SS} vs V_{in}



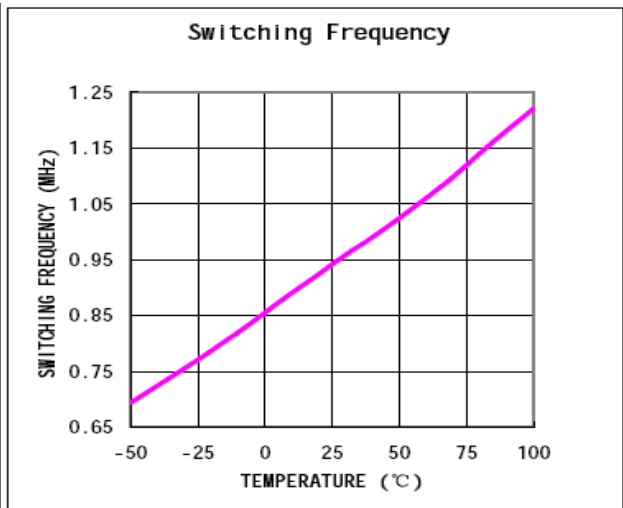
3. V_{FB} vs Temperature



4. Efficiency vs Temperature ($V_{in}=3.6\text{V}$)



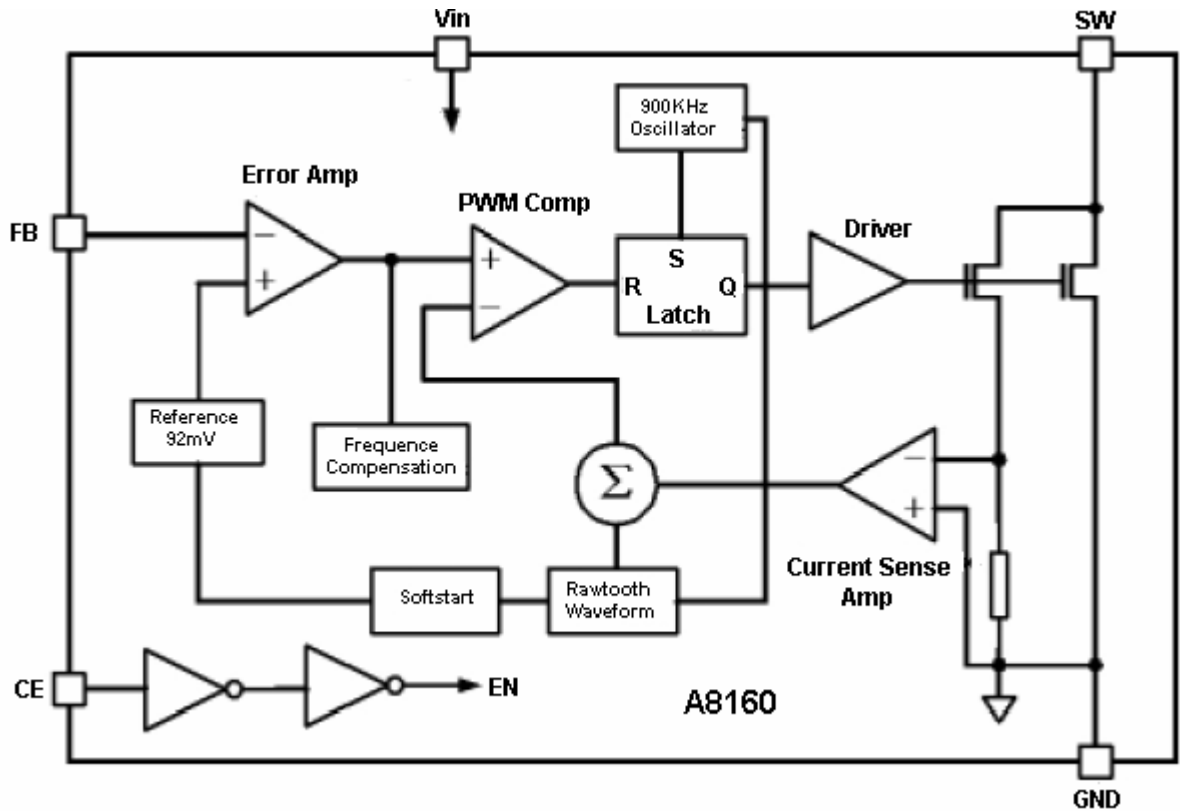
5. Frequency vs Temperature ($V_{in}=3.6\text{V}$)



**STEP-UP WHITE LED DRIVER UP TO SIX
20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT**

A8160

Block Diagram

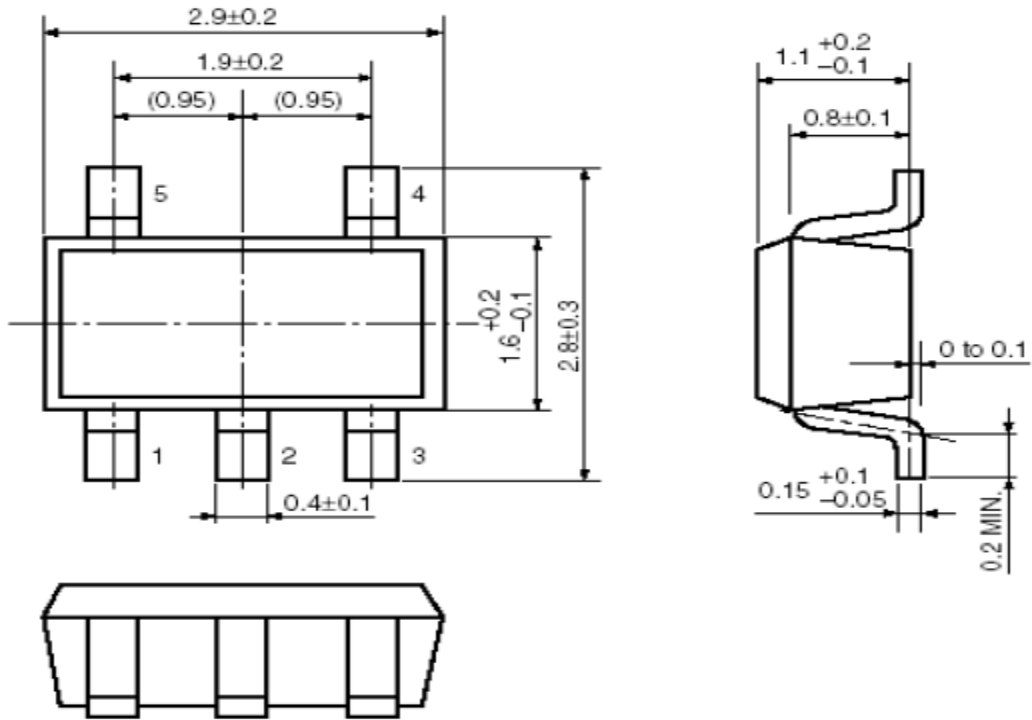


**STEP-UP WHITE LED DRIVER UP TO SIX
20-40mA WHITE LEDs IN SERIES W/CONSTANT CURRENT**

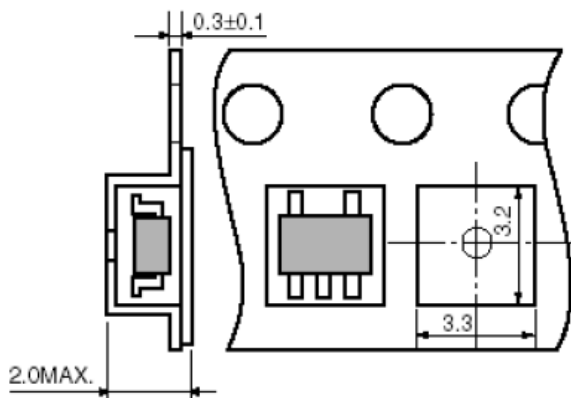
A8160

Package Information

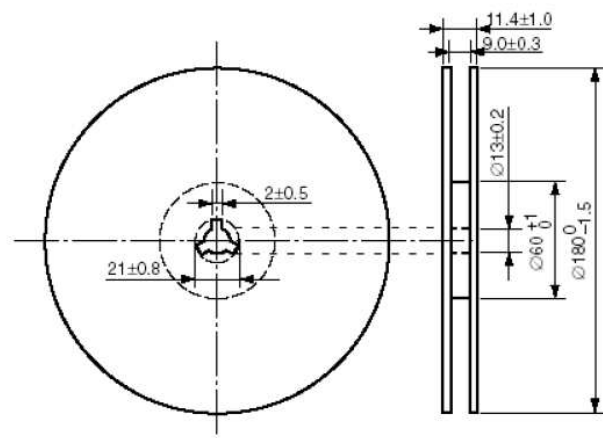
Dimension in SOT-25 (Unit: mm)



Tape Dimension



Tape & Reel Dimension



IMPORTANT NOTICE

Advanced Innovation Technology Corp. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

Advanced Innovation Technology Corp.'s integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or severe property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

Advanced Innovation Technology Corp. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.