

**High Voltage Constant-Current Driver****FEATURES**

- Wide operating voltage range : 5V to 90V
- Output current tolerance:  $\pm 10\%$
- Connected in parallel for higher current
- RoHS and green compliant packages:  
SOT-89 and SOT-23

**APPLICATIONS**

- LED Driver
- LED traffic light
- Constant current source or current sink
- Signage
- Decorative LED lamp

**GENERAL DESCRIPTION**

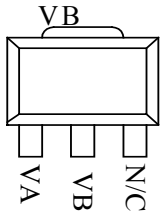
The T8611 is a simple, high voltage, linear current regulator. It drives LEDs at 15mA~25mA( $\pm 10\%$ ) at an input voltage of 5V~90Vdc. The T8611 can be used as a constant current source or a constant current sink. Multiple T8611 can be connected in parallel to supply higher constant currents, such as double or higher current.

For wider application, the T8611 is available in SOT-89 and SOT-23.

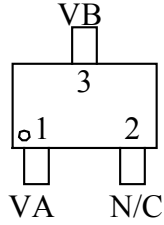
**PART NUMBER EXAMPLES**

<b>PART NO.</b>	<b>Output Current</b>	<b>PACKAGE</b>
T8611-15AXG	15mA	SOT-89
T8611-20AXG	20mA	SOT-89
T8611-25AXG	25mA	SOT-89
T8611-15BXG	15mA	SOT-23
T8611-20BXG	20mA	SOT-23
T8611-25BXG	25mA	SOT-23

**PIN ARRANGEMENT(Top view)**



**SOT-89**



**SOT-23**

**PIN DESCRIPTION**

SYMBOL	SOT-89	SOT-23	DESCRIPTION
VA	1	1	Supply Voltage, Anode.
VB	2	3	Circuit Common, Cathode.
N/C	3	2	No Connection.

**ABSOLUTE MAXIMUM RATINGS**

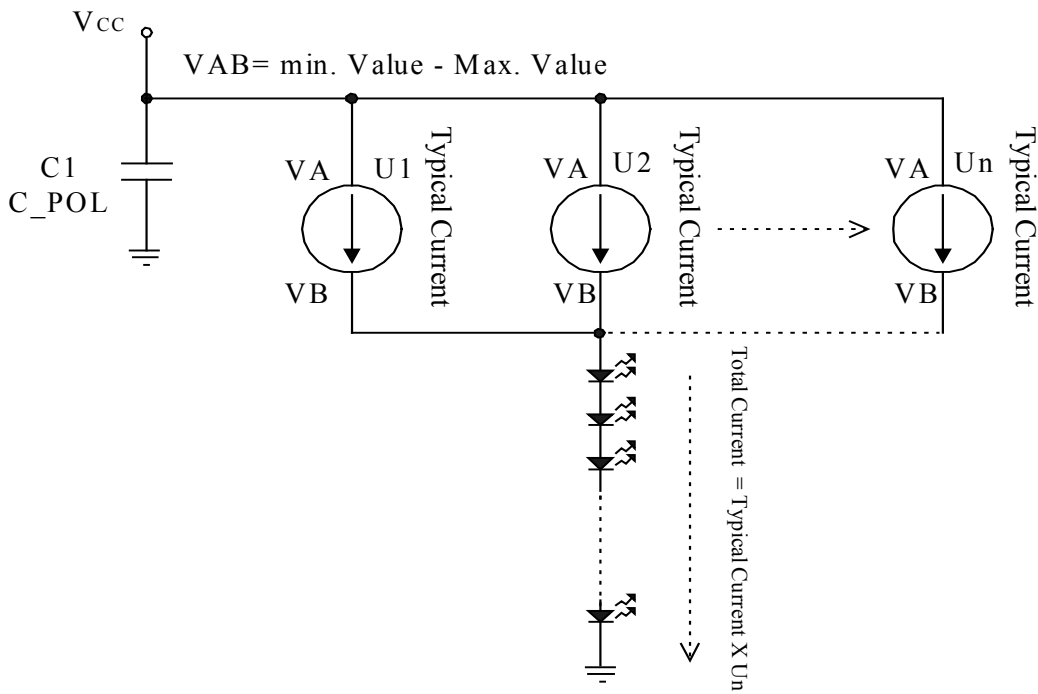
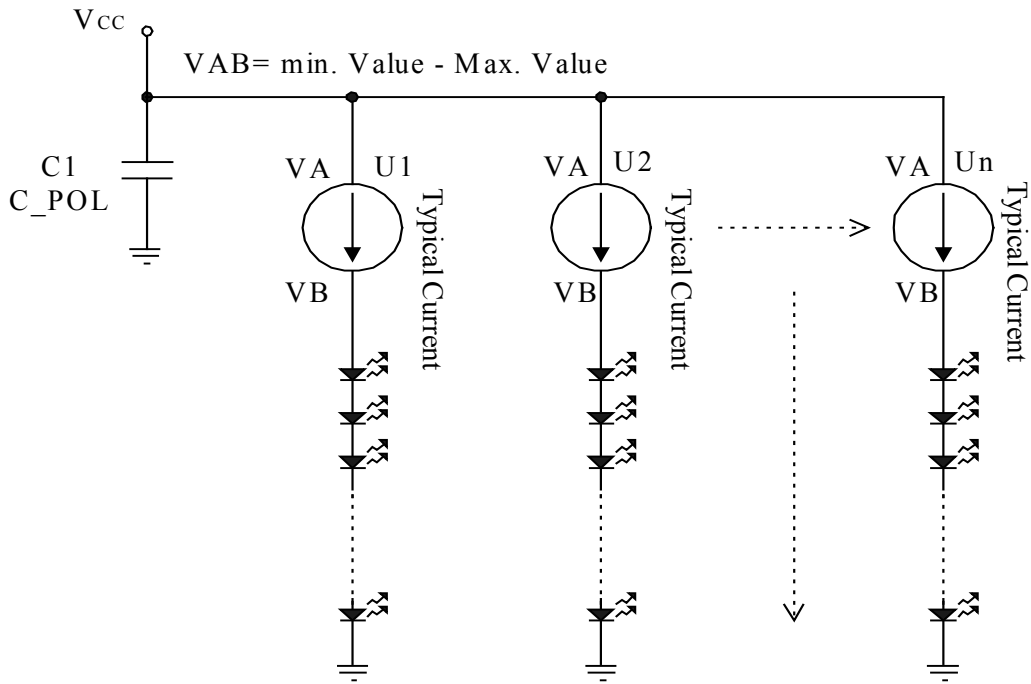
Parameter	Symbol	Value	Unit	
Voltage on any pin relative to GND	V <sub>IN</sub>	100	V	
Operating Temperature Rang	T <sub>A</sub>	-40 to +85	°C	
Maximum Soldering Temperature (at leads, 10 sec)	T <sub>LEAD</sub>	300	°C	
Storage Temperature Rang	T <sub>S</sub>	-55 to +150	°C	
Continuous Power Dissipation ( T <sub>A</sub> = +25°C )	P <sub>D</sub>	SOT-89	1.3	W
		SOT-23	0.15	
	θJA	SOT-89	300	°C/W
		SOT-23	103	
	θJC	SOT-89	100	°C/W
		SOT-23	38	
T <sub>J</sub>		-40~125	°C	

**Electrical Characteristics**

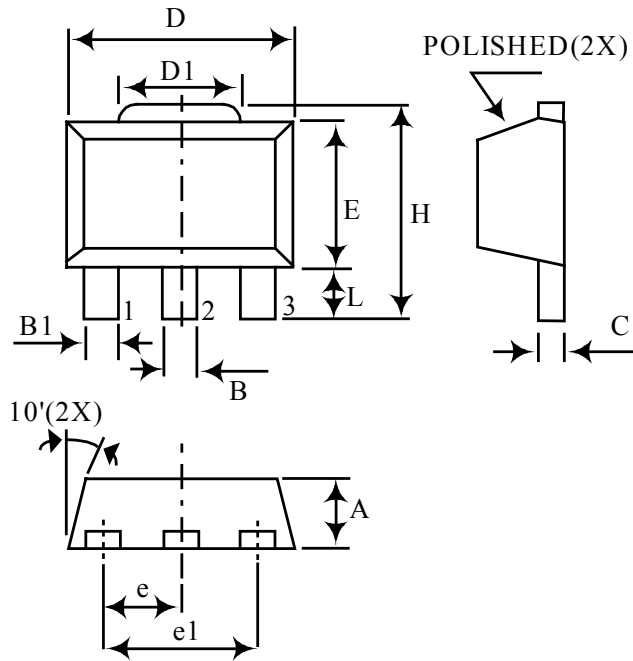
(Typical values are at T<sub>A</sub> =25°C)

Symbol	Description	Conditions	Min.	Typ.	Max	Unit	
V <sub>AB</sub>	Operating voltage range	power supply input	5		90	V	
I <sub>AB</sub>	Regulated Constant DC current	V <sub>AB</sub> =5~90V	T8611-15	13.5	15	16.5	mA
			T8611-20	18	20	22	mA
			T8611-25	22.5	25	27.5	mA
R <sub>AB</sub>	Dynamic Resistance			TBD		Ω	

**TYPICAL APPLICATION CIRCUITS**

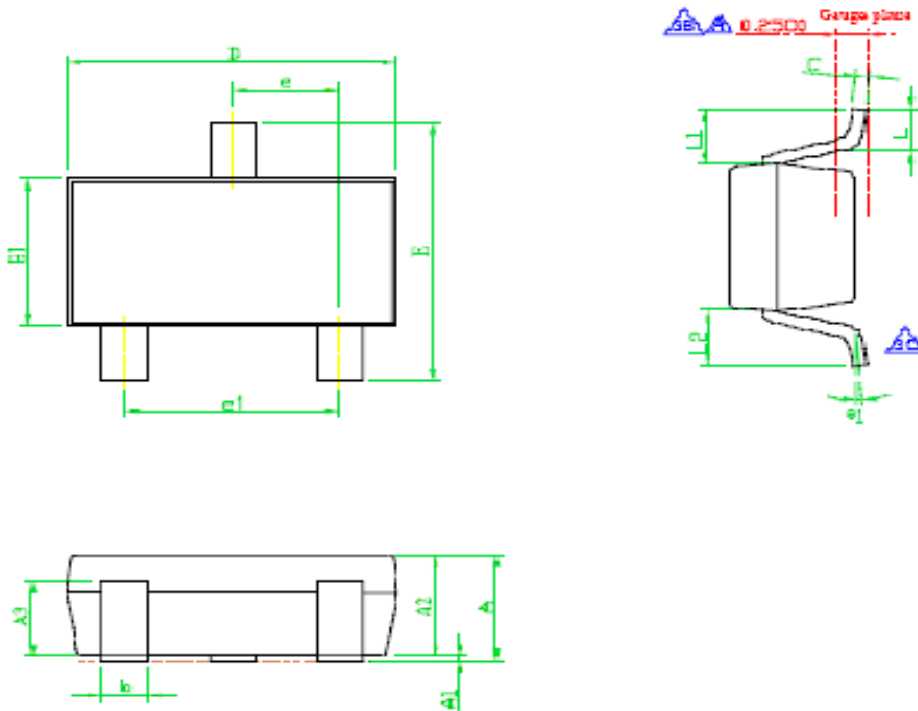


**PACKAGE DIMENSIONS**  
**SOT-89**



Symbol	Dimension in mm	
	Min.	Max.
A	1.40	1.60
B	0.44	0.56
B1	0.36	0.48
C	0.35	0.44
D	4.40	4.60
D1	1.35	1.83
E	2.29	2.60
H	3.94	4.25
e	1.50 BSC	
e1	3.00 BSC	
L	0.89	1.2

**PACKAGE DIMENSIONS**  
SOT-23



**NOTE**

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS
2. TOLERANCE  $\pm 0.1000$  mm (4 mil) UNLESS OTHERWISE SPECIFIED
3. COPLANARITY : 0.1000 mm
4. DIMENSION L IS MEASURED IN GAUGE PLANE

SYMBOL	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	1.00	1.10	1.40
A1	0.00	0.05	0.10
A2	1.00	1.10	1.30
A3	0.70	0.80	0.90
b	0.35	0.40	0.50
c	0.12	0.125	0.225
D	2.70	2.90	3.10
E	2.60	2.80	3.00
EL	1.40	1.60	1.80
e	---	0.95(TYP)	---
e1	---	1.90(TYP)	---
e1	1°	5°	9°
L	0.37	---	---
L1	---	0.6REF	---
L1-L2	---	---	0.12