



**FEATURES:**

- High Power LED Driver
- Wide (7:1) Input Voltage Range
- Remote Control Function
- 24 Pin DIP Package
- Constant Output Current
- High Efficiency (Up to 96%)
- Dimming Function (0 – 100%)

**Models**  
**Single output**



Model	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Efficiency Max (%)
AMLD-3630IZ	5-36	2-32	300	96
AMLD-3635IZ	5-36	2-32	350	96
AMLD-3650IZ	5-36	2-32	500	96
AMLD-3660IZ	5-36	2-32	600	96
AMLD-3670IZ	5-36	2-32	700	96
AMLD-3680IZ	5-36	2-32	800	96
AMLD-3690IZ	5-36	2-32	900	96
AMLD-36100IZ	5-36	2-32	1000	96
AMLD-36110IZ	5-36	2-32	1100	96
AMLD-36120IZ	5-36	2-32	1200	96
AMLD-36130IZ	5-36	2-32	1300	95
AMLD-36140IZ	5-36	2-32	1400	95
AMLD-36150IZ	5-36	2-32	1500	95
AMLD-36160IZ	5-36	2-32	1600	95
AMLD-36180IZ	5-36	2-32	1800	95
AMLD-36200IZ	5-36	2-32	2000	95

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications**

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24	5-36	36	VDC
On/Off Control (Analog Control)	ON: Open or 0V > V < 0.6V			
Input voltage range (0-12Vdc) (Leave open if not used)	OFF: 0.6V > V < 5V (1mA Max)			
Dimming Control (Digital Control)	Max PWM Frequency (10%~90%) 200Hz / 20KHz for 1.6A, 1.8A, 2.0A models			
Dimming Control (Analog Control)	0-4.5V (1mA max) Analog Voltage (0%~100%) models: AMLD-3630IZ, AMLD-3635IZ, AMLD-3650IZ			
Input voltage range (0-12Vdc)* (Leave open if not used) For models with 1.5A and below	0-6.5V (1mA max) Analog Voltage (0%~100%) models: AMLD-3660IZ, AMLD-3670IZ, AMLD-3680IZ, AMLD-3690IZ, AMLD-36100IZ, AMLD-36110IZ, AMLD-36120IZ			

\* NOTE: Exceeding 12Vdc on Dimming Control pin will damage the converter.

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±2		%
Short Circuit protection	Regulated at the rated current for each model			
Output Open Protection	No Load			
Max load capacitance			100	µF
Ripple & Noise	20MHz Bandwidth	300		mV p-p

**General Specifications**

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	260	1.5MHz for 1.6A, 1.8A, 2.0A models	KHz
Operating temperature		-40 to +85		°C
		-40 TO +70 (1.2A, 1.3A, & 1.5A, 1.6A, 1.8A, 2.0A models)		
Storage temperature		-40 to +125		°C

### General Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Max Case temperature			100	°C
Cooling	Free Air Convection			
Thermal Impedance		13.17		°C/W
Humidity			95	% RH
Case material	Non-Conductive Black Plastic, Nickel-Coated Copper 1.3A, 1.4A & 1.5A models)			
Potting material	Epoxy (Flammability UL94V-0)			
Weight		12		g
Dimensions (L x W x H)	1.25 x 0.80 x 0.40 inches / 31.80 x 20.30 x 10.20 mm			
	1.25 x 0.80 x 0.45 inches / 31.80 x 20.30 x 11.30 mm (1.3A, 1.4A, & 1.5A models)			
	1.99 x 0.99 x 0.37 inches / 50.70 x 25.30 x 9.55 mm (1.6A, 1.8A, 2.0A models)			

### Safety Specifications

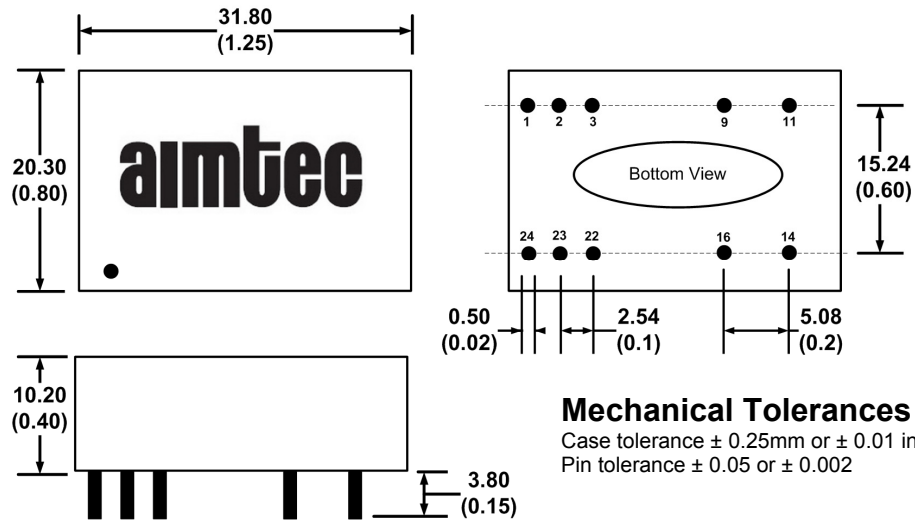
Parameters	
Agency approvals	CE
Standards	EN 55022, class B EN55024: IEC 61000-4-2 (Perf. Criteria B)
	IEC 61000-4-3 (Perf. Criteria A) IEC 61000-4-6 (Perf. Criteria A) IEC 61000-4-8 (Perf. Criteria A)

### Pin Out Specifications

Pin	Single
1	Remote On/Off
2	-Vin
3	-Vin
9	NC
11	NC
14	LED +
16	LED -
22	+Vin
23	+Vin
24	DIM

NC: Not Connected

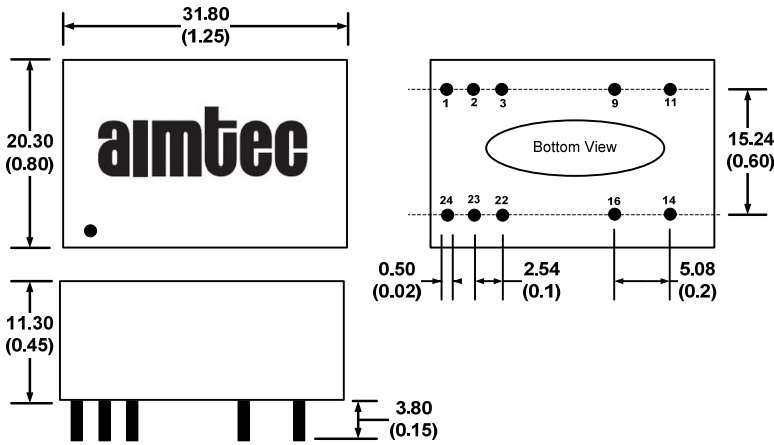
### Dimensions



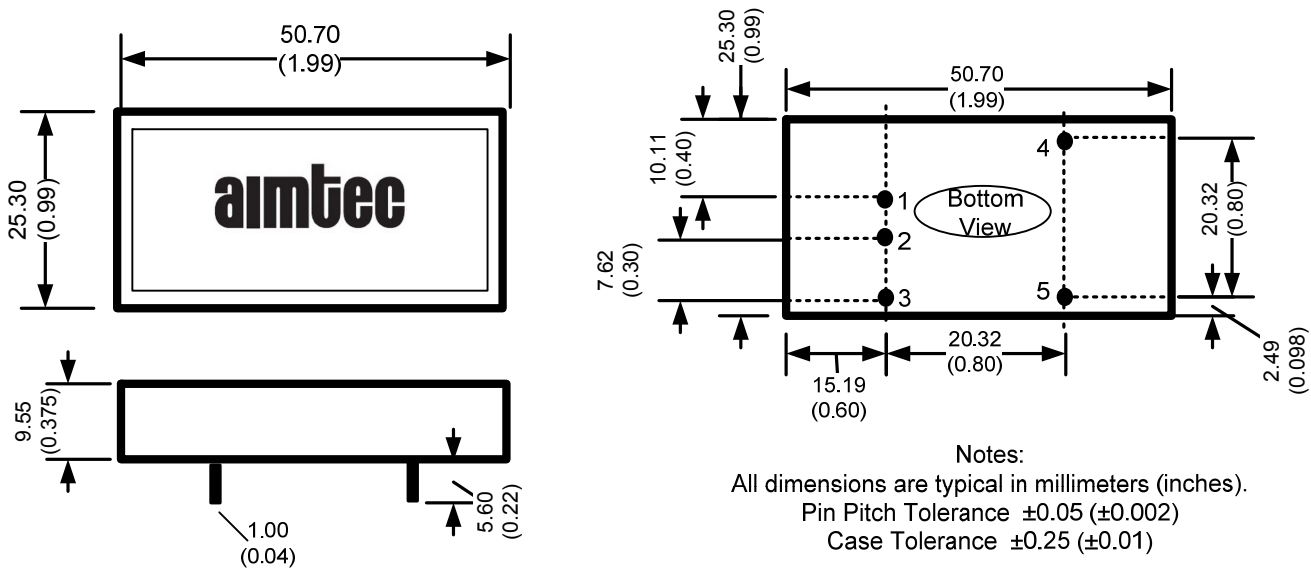
### Mechanical Tolerances

Case tolerance  $\pm 0.25\text{mm}$  or  $\pm 0.01$  inches  
Pin tolerance  $\pm 0.05$  or  $\pm 0.002$

**Dimensions (1.3A, 1.4A, & 1.5A models)**

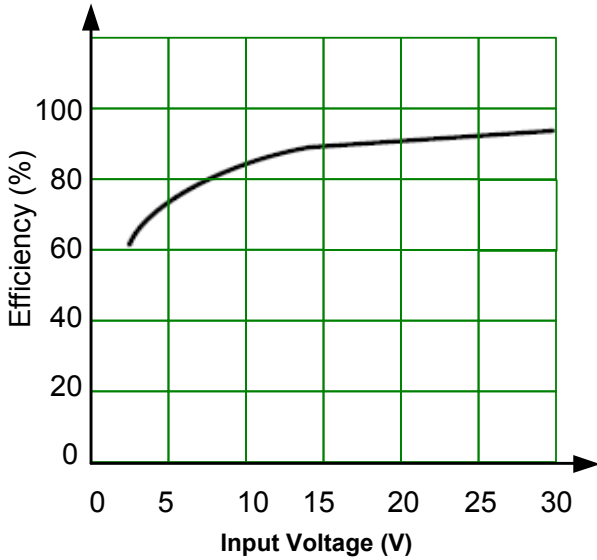


**Dimensions (1.6A, 1.8A, & 2.0A models)**



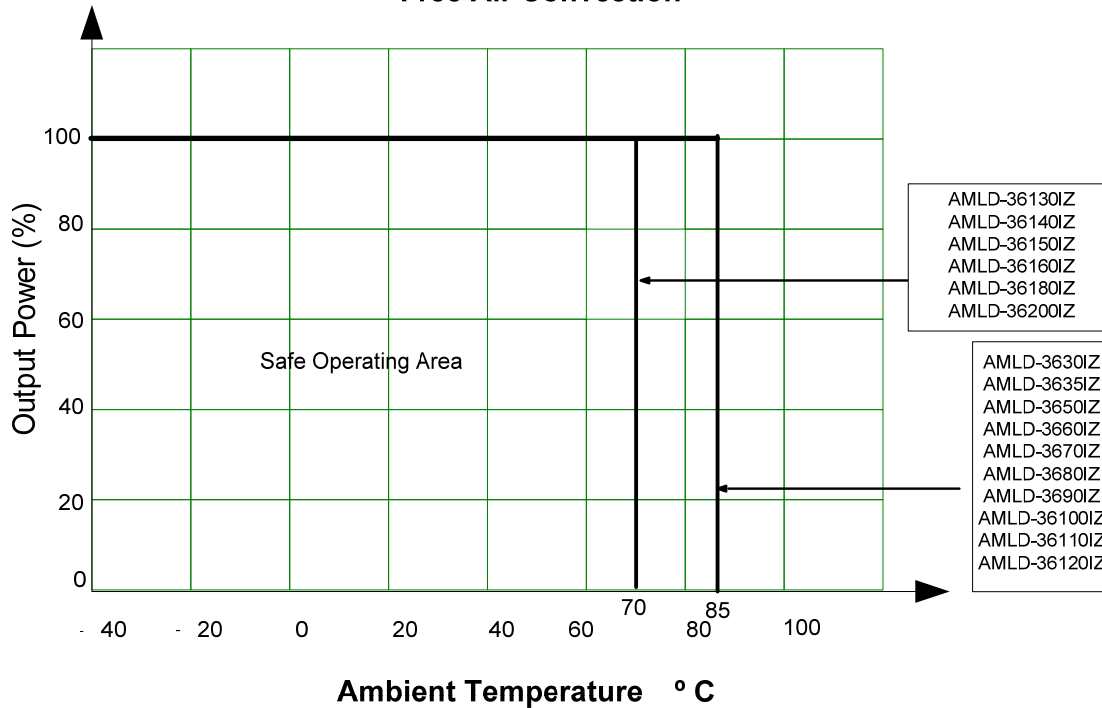
Pin	Single
1	+Vin
2	-Vin
3	Remote On/Off & PWM Dimming
4	LED +
5	LED -

**Efficiency versus Input Voltage**

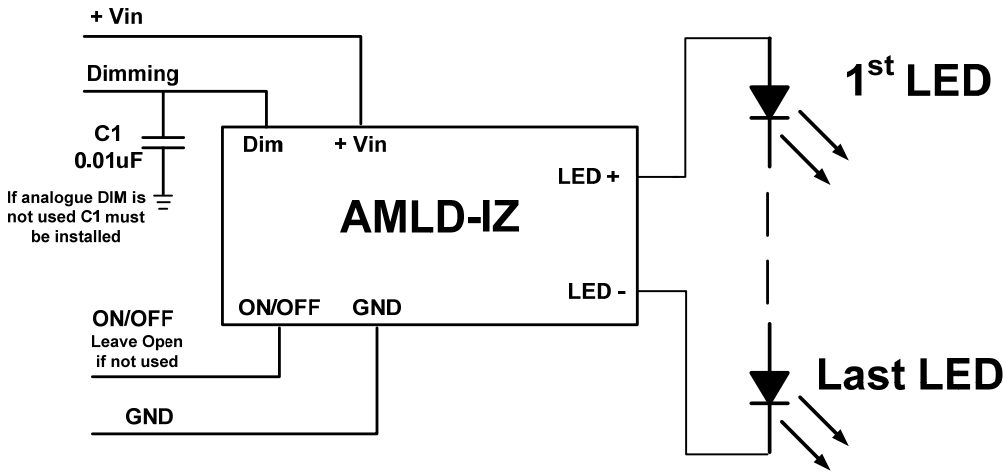


**Derating**

**Free Air Convection**

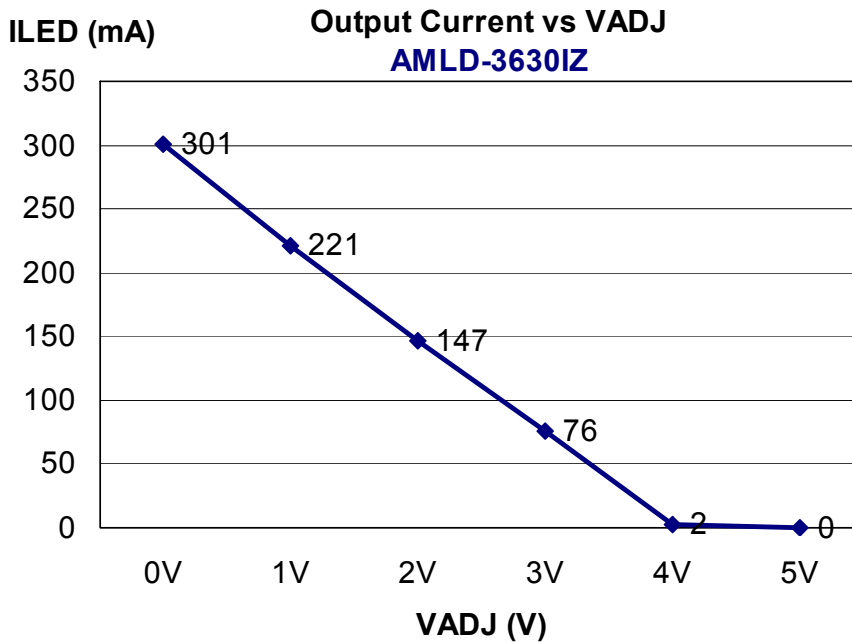


### Application Circuit

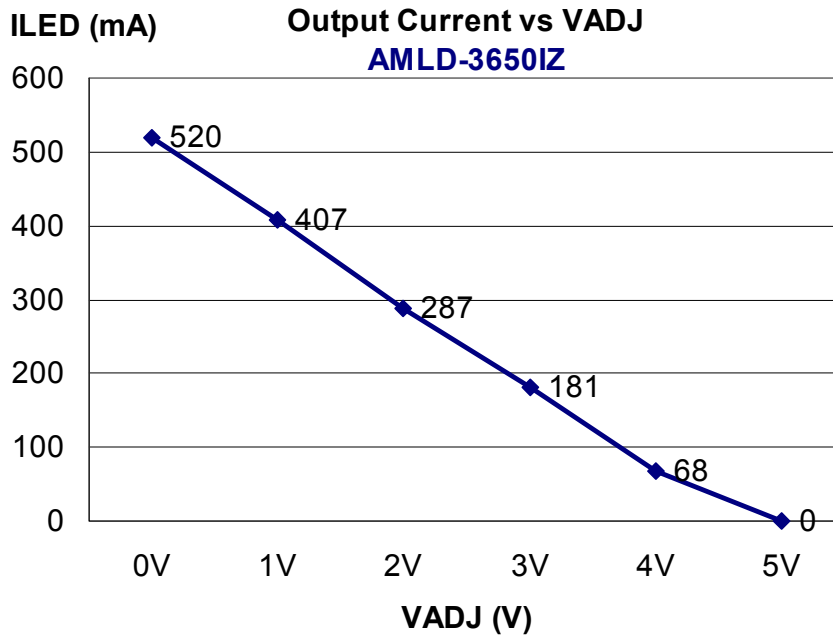
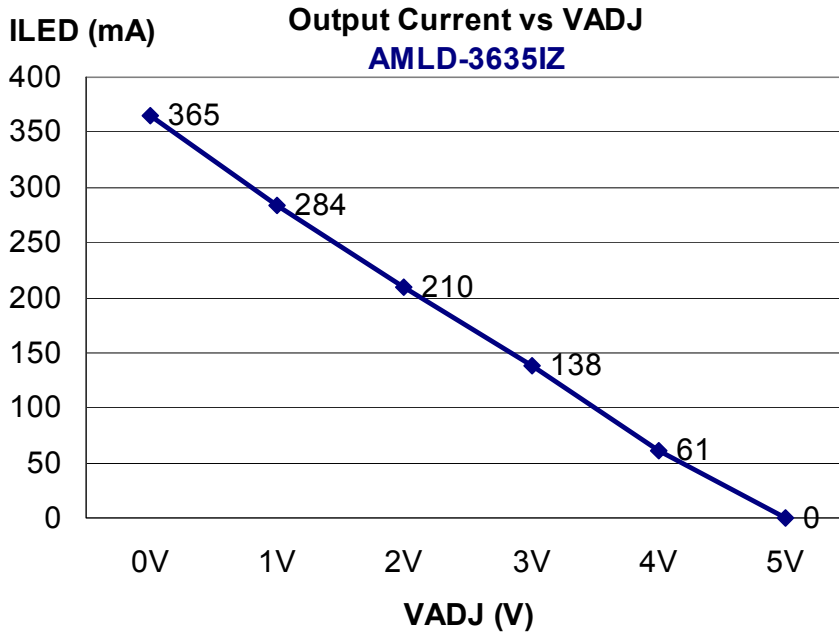


**Note:** The relation between input and output voltage for AMLD-IZ LED Driver step-down converter series is:  
 $V_{in} - 4V \geq V_{out} \geq \text{Total LED voltage}$   
 $V_{out} / \text{LED voltage} = \text{LED quantity}$

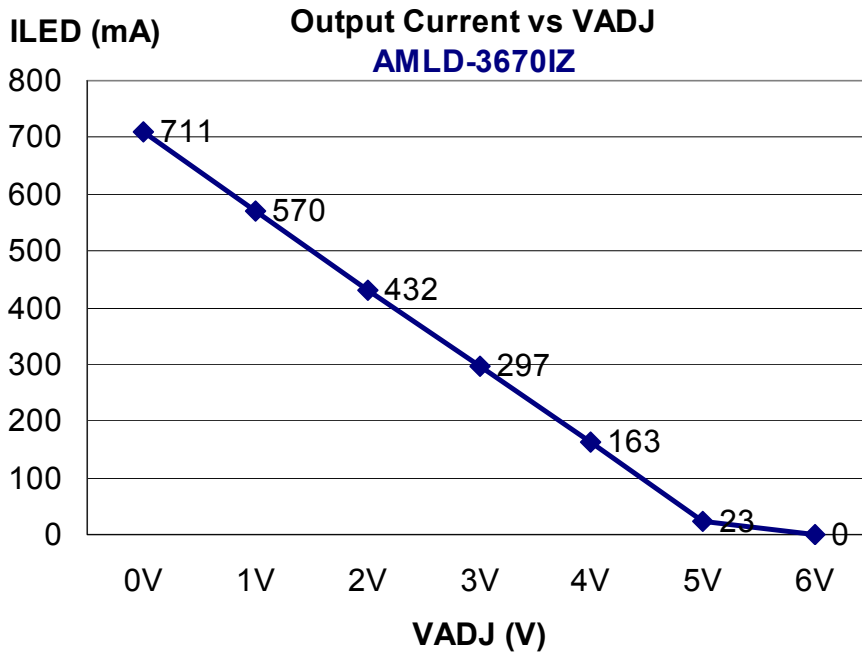
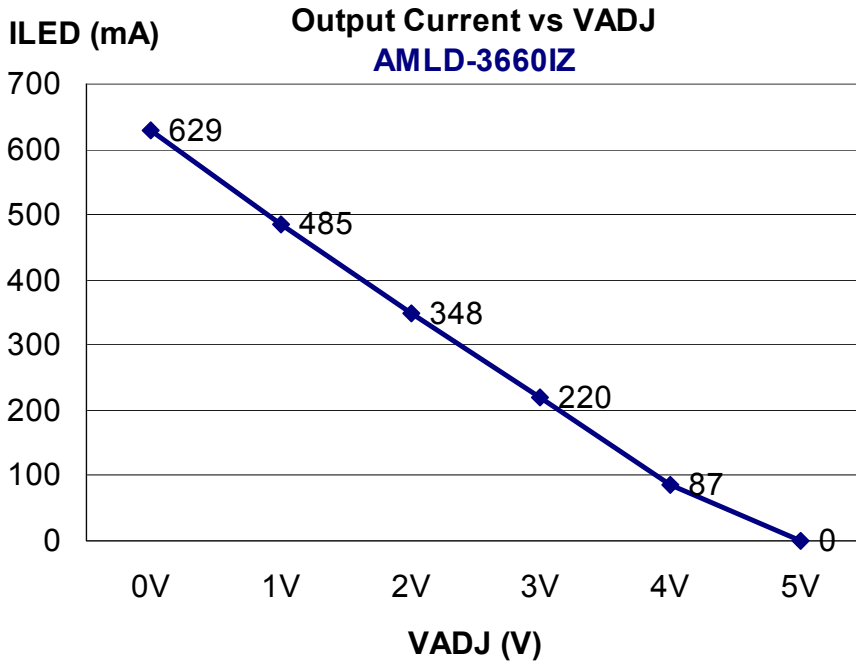
### Output Current versus Dimming Voltage



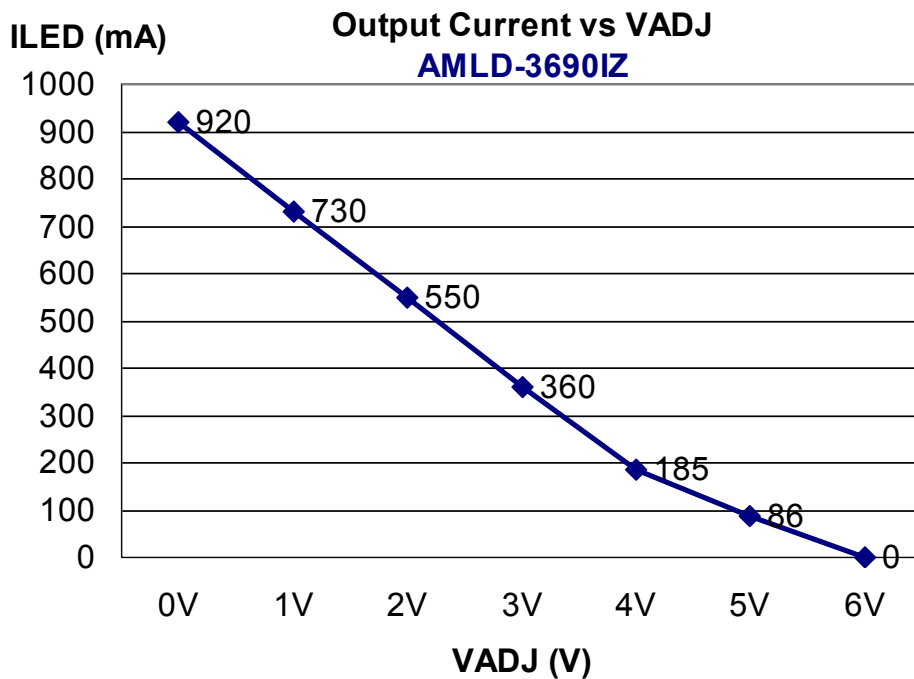
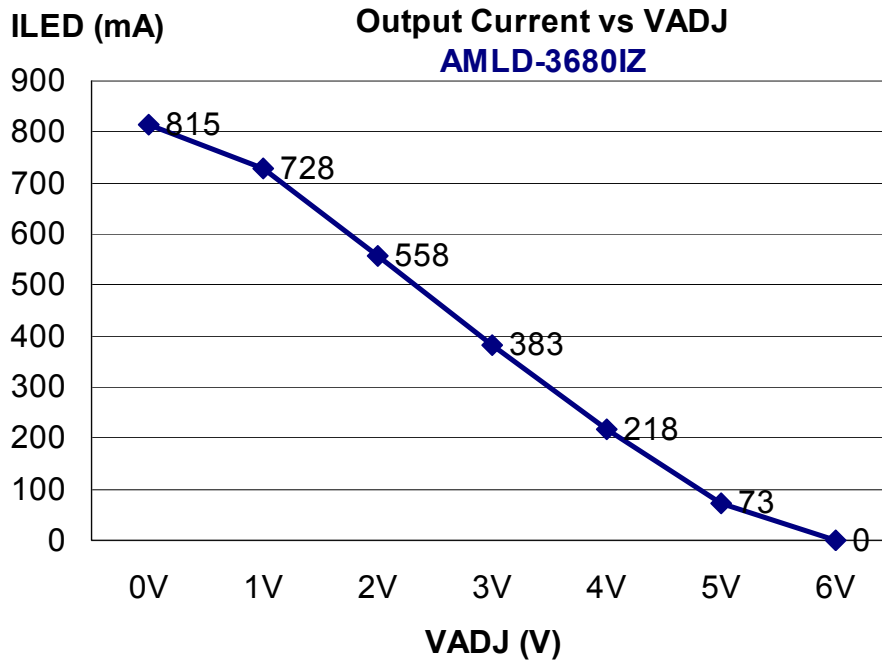
**Output Current versus Dimming Voltage (continued)**



**Output Current versus Dimming Voltage (continued)**

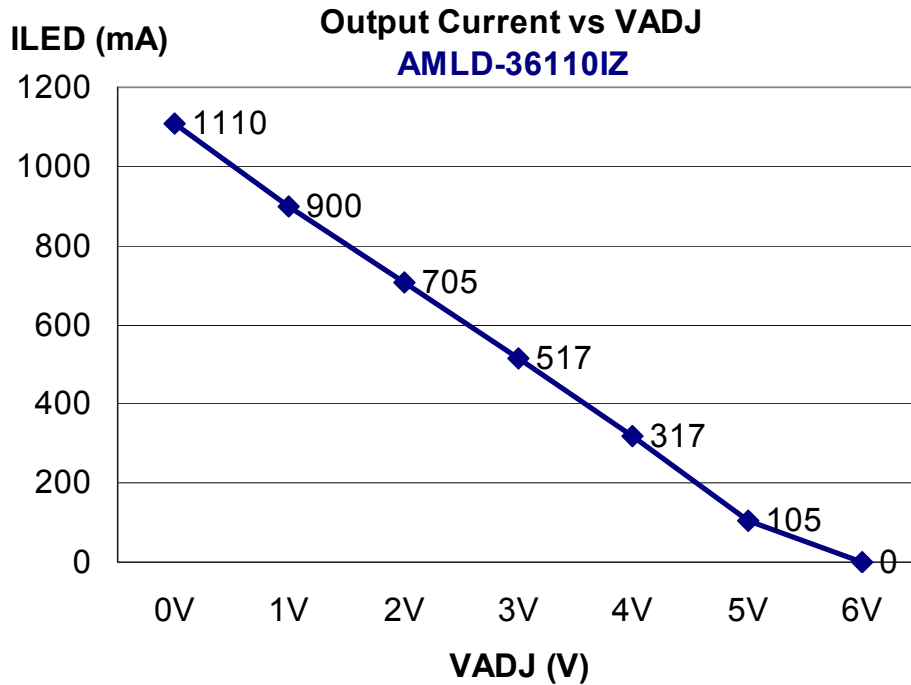
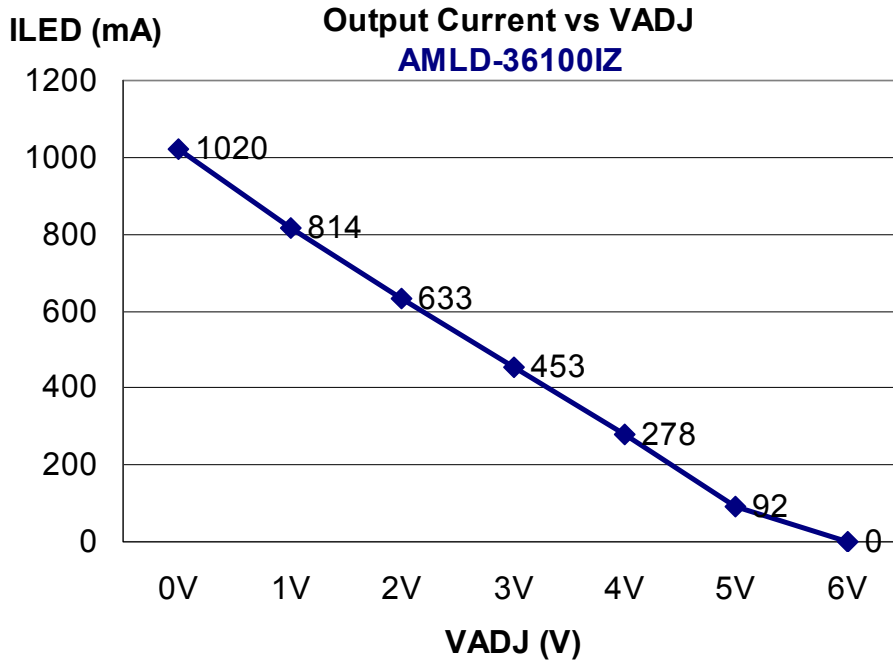


**Output Current versus Dimming Voltage (continued)**

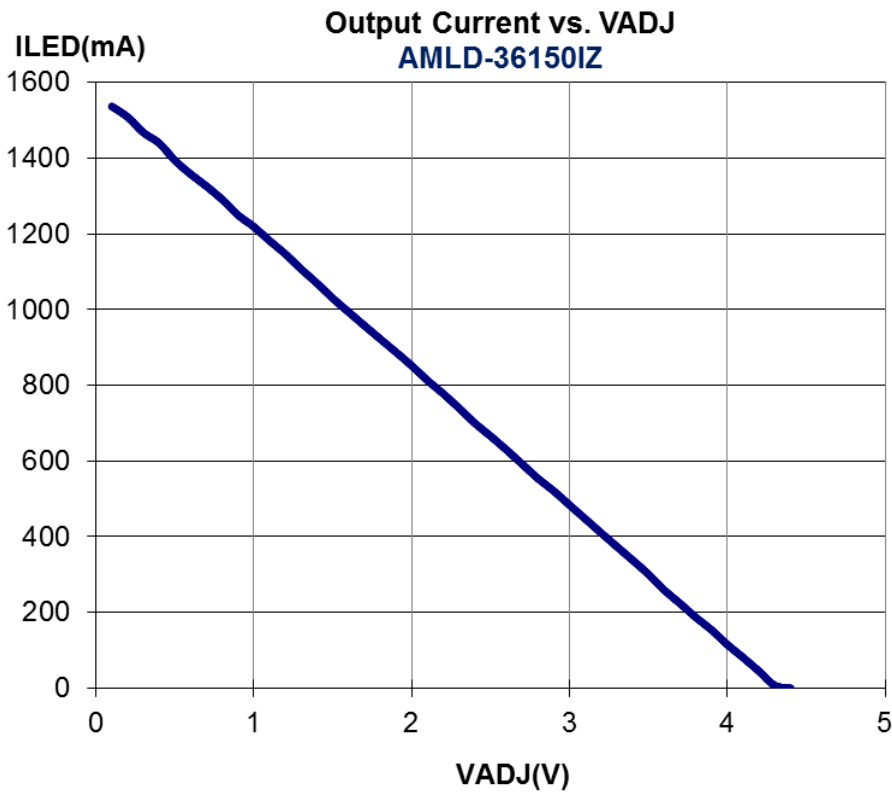
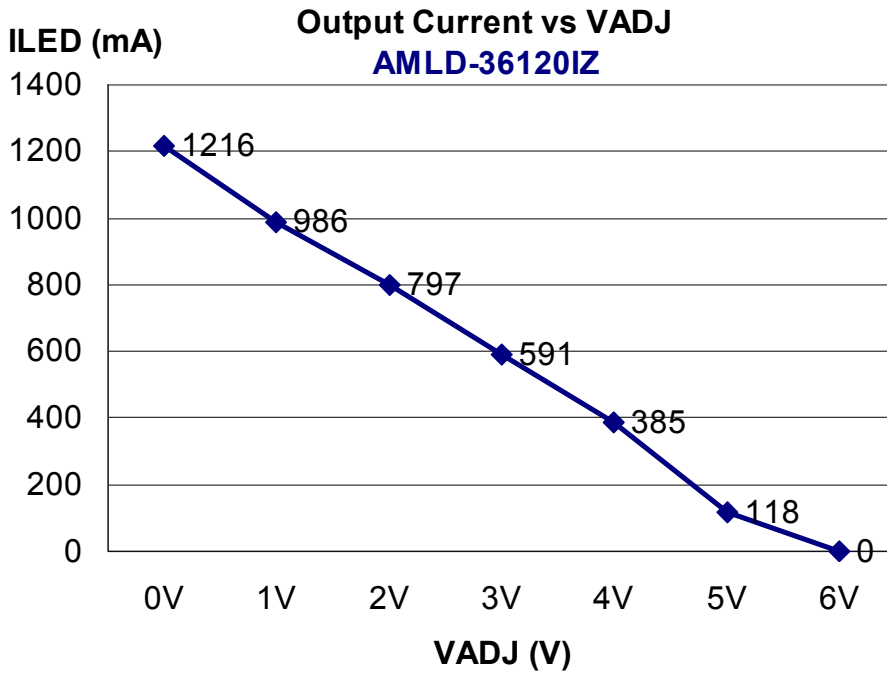


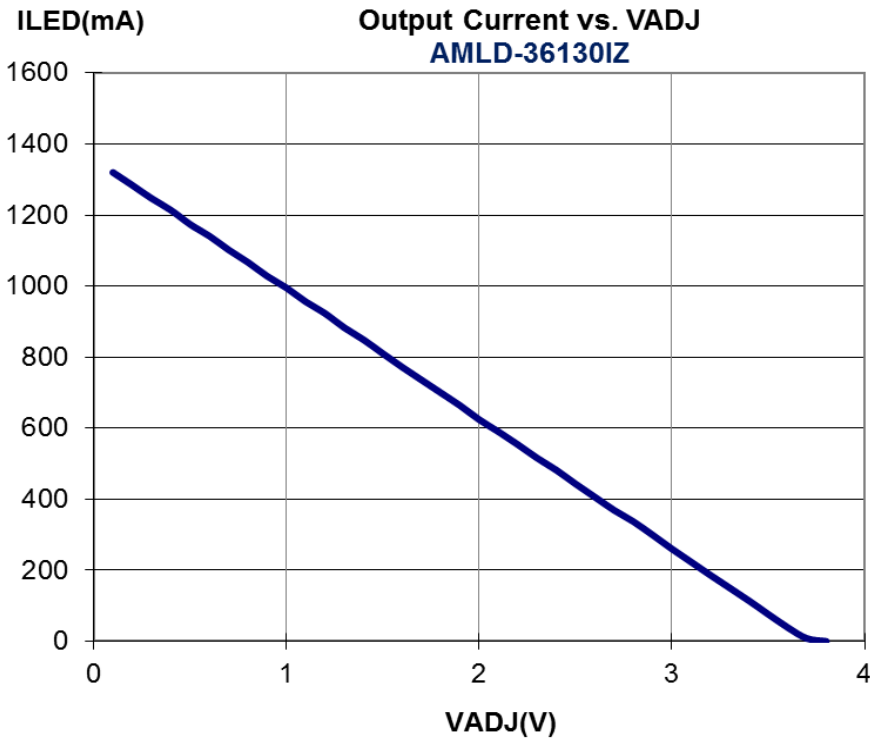
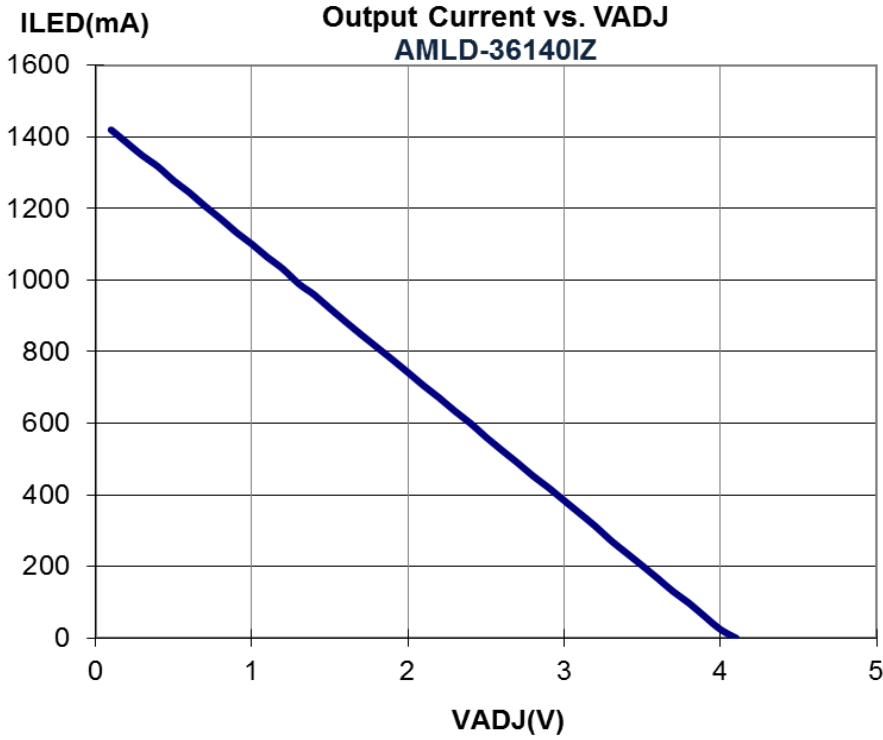


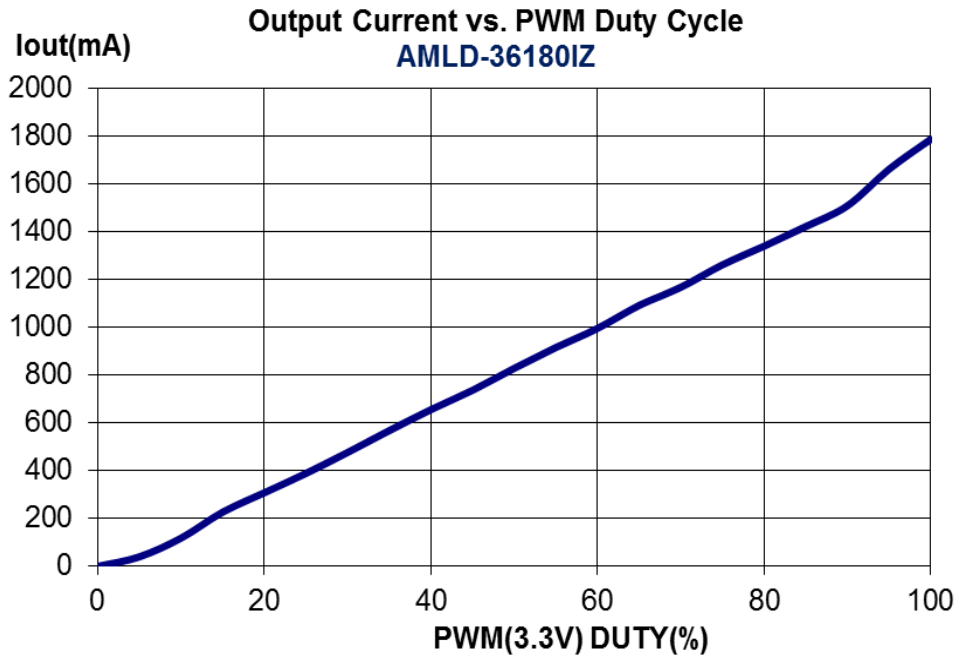
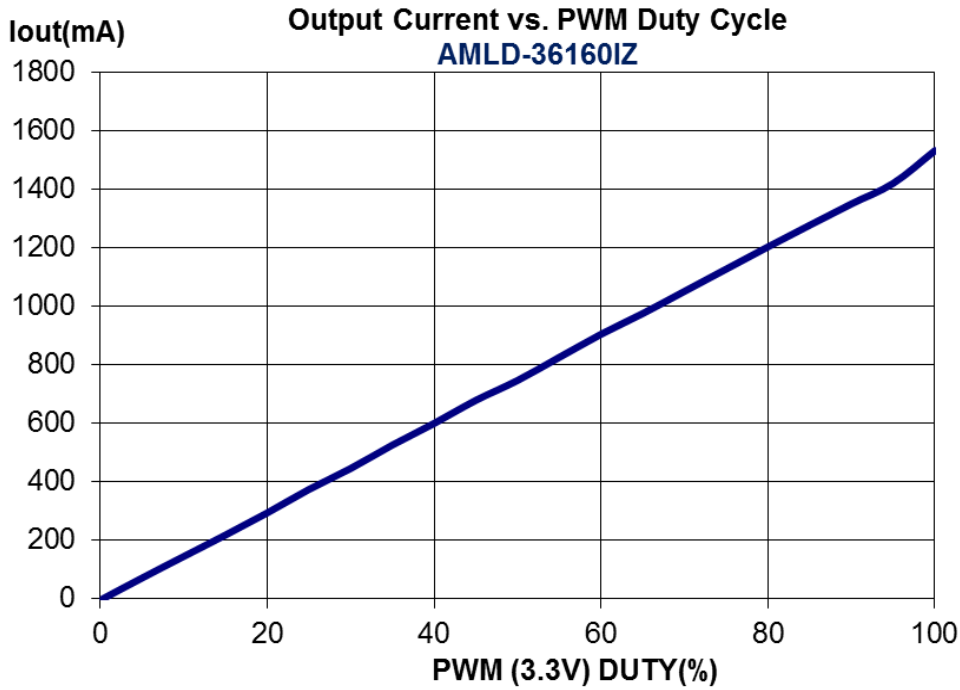
**Output Current versus Dimming Voltage (continued)**



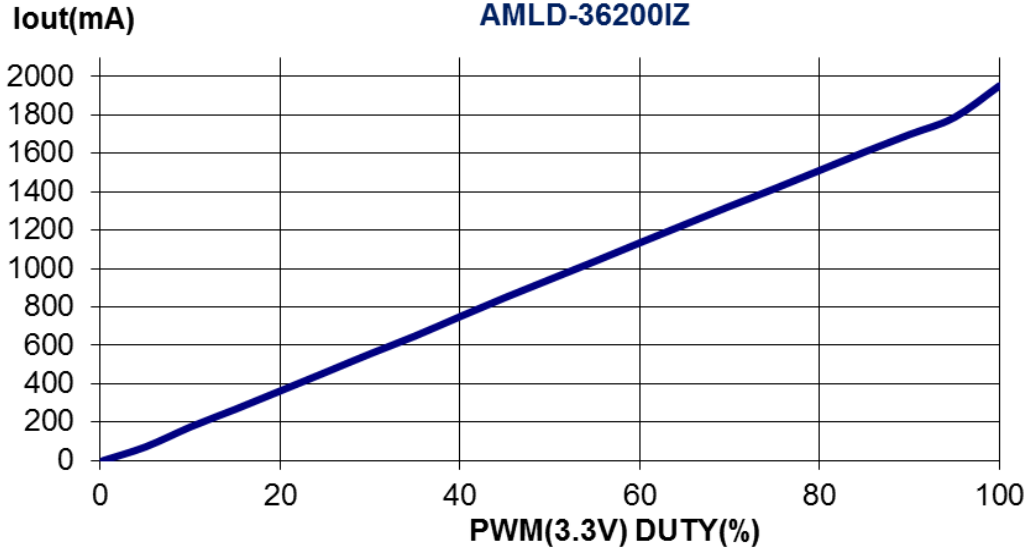
**Output Current versus Dimming Voltage (continued)**







**Output Current vs. Pwm Duty Cycle**  
**AMLD-36200IZ**



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