



# New Product Announcement

## AP5727

# Boost converter for the bias voltage of small size OLED and LCD displays

The AP5727 is a high efficiency PWM boost DC/DC converters (integrated switch) designed to generate bias voltages for small OLED and TFT-LCD display screens.

The device can generate up to 30V from a Li-Ion cell.

AP5727 switches at 1.2MHz allowing use of tiny external components.

Internal compensation, built-in soft-start and integrated switch reduce the component count, PCB area and cost.

The AP5727 has a 1.25V feedback voltage and is available in SOT23-5, making it compatible with industry standard boost converter used for bias voltage generation.



### Diodes Advantage

- **High Efficiency: 84% Typical**  
Longer battery life
- **Fast 1.2MHz Switching Frequency**  
Smaller inductor and capacitor size
- **Current limit and UVLO protections**  
Extra protection for safe operation
- **Built-in Soft-Start function**  
Extra protection for safe operation – reduces inrush current at start up
- **Thermal shutdown**  
Extra protection for safe operation

### Applications

- Small size TFT-LCD  
Bias power supply
- OLED bias supply  
for clamshell  
mobile phone  
sub- display
- RF amplifier bias  
voltage



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## Electrical characteristics

Part Number	Typical supply current	Maximum switch voltage	Operating voltage	Feedback voltage V <sub>FB</sub>	Switch R <sub>DS(ON)</sub>	Protection	Operating temperature	Package
	mA	V	V	dB	Ω		°C	
AP5727	0.5	30	2.7-5.5	1.25	0.95	OCP, UVLO, thermal shutdown	-40 to 85	SOT23-5

## To find out more information:

Product page: <http://www.diodes.com/products/catalog/detail.php?item-id=5463>  
 Datasheet: <http://www.diodes.com/datasheets/AP5727.pdf>

## Bias generators for small screen displays

Part Number	Input voltage (V)	Max output Voltage (V)	Frequency (MHz)	Efficiency (%)	Quiescent current (mA)	Standby current (µA)	Switch resistance (Ω)	Dimming	OVP	Soft start	V <sub>FB</sub> (V)	T <sub>A</sub> (°C)	Package
ZXLB1600	1.6-5.5	28	0.5	80	0.03	3.5	0.7	DC/PWM	No	No	1.23	0 ~ +70	MSOP10
ZXLD1601	2.5-5.5	28	1	85	0.06	0.01	1.75	DC/PWM	No	No	1.025	-40 ~ +85	SC70-6
ZXLD1615	2.5-5.5	28	1	80	0.06	0.01	1.75	DC/PWM	No	No	1.25	-40 ~ +85	SOT23-5
AP5727	2.7-5.5	30	1.2	84	0.5	0.1	0.95	DC/PWM	No	Yes	1.25	-40 ~ +85	SOT23-5

## Ordering information

Part Number	Part mark	Bulk quantity	Package	Reel size
AP5727WG-7	H8	3kpcs/tape & reel	SOT23-5	7", 178mm

All variants are in packages that are "Green" Molding Compound (No Br, Sb) with Lead Free Finish/RoHS Compliant (Note 1)

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex notes