



# New Product Announcement

## AP3154A/56

# Small LCD screen backlighting charge pump LED drivers

### Description

The AP3154A and AP3156 are charge pump LED drivers for small LCD screen backlighting. They are well suited for LCD screens less than 3".

Both use a tri-mode charge pump switch (1X), fractional (1.5X), and doubling (2X) conversion to maximize efficiency in white LED applications.

A low external parts count (two 1 $\mu$ F flying and two small 1 $\mu$ F capacitors at  $V_{IN}$  and  $V_{OUT}$ ) make them ideally suited for small, battery-powered applications.

A serial digital interface is used to enable, disable and set current for each LED with a 32-level logarithmic scale plus four low-current settings down to 50 $\mu$ A for optimized efficiency..



### The Diodes advantage

The AP3154A and AP3156 provide a simple cost effective solution for small screen LCD backlighting

- **x1/x1.5/x2 tri-mode voltage conversion**  
Increases efficiency giving longer battery life.

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- **No inductor, diodes**  
Reduces EMI and reduces PCB area

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- **SDI digital interface**  
Versatile control to program LED current with 16-level/32-level logarithmic scale

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- **Small footprint low profile packages**  
Reduces PCB area and height restrictions

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- **Soft-start & Soft-stop**  
Reduces In-rush current during start up and power down.

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- **SCP, OVP, UVLO, TSD**  
Improved robustness

### Circuit functions

- LCD backlighting
- Keypad backlighting
- Mobile phone flashlight



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## Diodes Backlighting IC

Part Number	Status	Input Voltage (V)	Max Output Voltage (V)	Frequency (MHz)	Efficiency (%)	Typ Quiescent Current (mA)	Typ Standby Current (µA)	SW RDS (Ω)	Dimming	OVP	Soft Start	VFB (V)	Operating temperature range (°C)	Package
AP3154A	New	2.7 ~ 5.5		0.6/1.2/1.8	88	1.2	1	-	SDI	Yes	Yes	-	-40 to +85	DFN3030-12
AP3156	New	2.7 ~ 5.5		0.5/1.0/2.0	88	1.5	1	-	SDI	Yes	Yes	-	-40 to +85	QFN4040-16
AP5724	MP	2.7-5.5	26	1.4	84	2	1	0.75	DC/PWM	Yes	Yes	0.1	-25 to +85	SOT26 DFN2020C-6
AP5725	MP	2.7-5.5	26	1.4	84	2	1	0.75	DC/PWM	Yes	Yes	0.25	-25 to +85	SOT26 DFN2020C-6
AP5726	MP	2.7-5.5	26	1.4	84	2	1	0.75	DC/PWM	Yes	Yes	0.31	-25 to +85	SOT26 DFN2020C-6
ZXLD1100	MP	2.5 ~ 5.5	28V	1	80	0.06	0.5		DC/PWM	No	No		-40 to +85	SC70-6
ZXLD1101	MP	2.5 ~ 5.5	28V	1	80	0.06	0.5		DC/PWM	No	No		-40 to +85	TSOT23-6
ZXLD1937	MP	2.5 ~ 5.5	28V	1	80	0.06	0.5		DC/PWM	No	No		-40 to +85	TSOT23-5

To find out more information:

Web page <http://www.diodes.com/products/catalog/detail.php?item-id=4996>

Datasheet <http://www.diodes.com/datasheets/AP3154A.pdf>

<http://www.diodes.com/datasheets/AP3156.pdf>

## Ordering information

Device	Packaging	Pack mark	Reel size	Tape width	Quantity
AP3154AFG-7	TDFN3030-12	F9 YWX	7"	8mm	3000
AP3156FVG-7	QFN4040-16	F7 YWX	7"	8mm	1500

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

Codes for date coding on part marks

Y Year 0~9      W A~Z week 1~26    a~z week 27~53    X A~Z: Green