

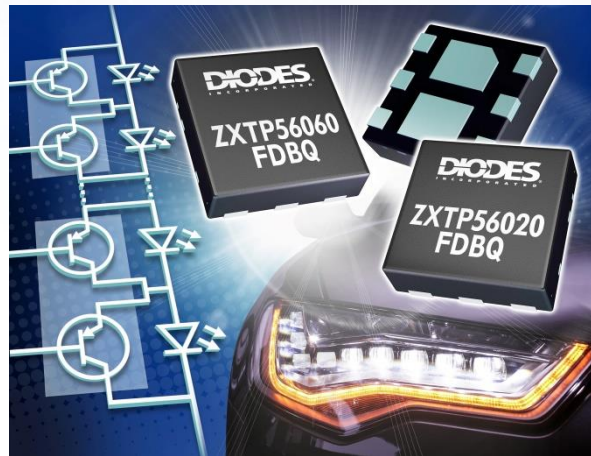
## Improve Lifetime and System Reliability in Automotive Matrix LED Lighting

Designed to optimize power density, the ZXTP56060FDBQ and ZXTP56020FDBQ dual PNP transistors provide automotive OEMs with a highly efficient solution for controlling matrix LED light clusters. These light clusters are found in adaptive LED headlights and dynamic LED turn signals.

The ZXTP56060FDBQ (60V, 2A) and ZXTP56020FDBQ (20V, 2A) feature very low collector-emitter saturation voltage ( $V_{CE(SAT)}$ ), with the ZXTP56020FDBQ having a typical  $V_{CE(SAT)}$  of less than 200mV at an LED current of 700mA.

This minimizes power dissipation and lowers operating temperature, resulting in improved system lifetime and reliability.

The ZXTP56060FDBQ and ZXTP56020FDBQ have a maximum power dissipation of 2.47W, allowing for more compact designs.



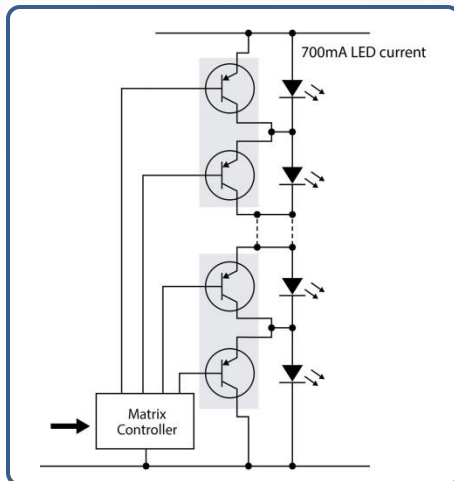
### The Diodes Advantage

- **Very Low Collector-Emitter Saturation Voltage  $V_{CE(SAT)}$** 
  - Minimizes power dissipation and lowers operating temperature
  - Improves system lifetime and reliability
- **Compact and Low Profile DFN2020 Package**
  - Miniature 4mm<sup>2</sup> footprint allows for greater power density
  - Suitable for edge-lighting applications
  - Wettable flanks for easy optical inspection
  - Exposed underside heat sink achieves high power dissipation
- **Automotive Compliant**
  - Qualified to AEC-Q101
  - PPAP Capable
  - Manufactured in IATF16949:2016 certified facilities

### Applications

- Matrix LED Lighting
- Power Management

### Typical Application Schematic – LED shunt



### Specifications

Part	$V_{CEO}$ (V)	$I_C$ (A)	$I_{CM}$ (A)	$P_D$ (W)	$h_{FE}$		$V_{CE(SAT)}$		$R_{CE(SAT)}$ (mΩ)*
					Min. @ $I_C = -100mA$	Min. @ $I_C = -500mA$	Max (mV) @ $I_C = -500mA, I_B = -50mA$	Max (mV) @ $I_C = -1A, I_B = -50mA$	
ZXTP56060FDBQ	-20	-2	-3	2.47	170	140	-120	-250	220
ZXTP56020FDBQ	-60	-2	-3	2.47	250	210	-110	-220	250

\* Measured under pulsed conditions. Pulse width  $\leq 300\mu s$ . Duty cycle  $\leq 2\%$

### Cross Reference

Part	Diodes Inc. Orderable (OPN)	Nexperia Orderable (OPN)
ZXTP56060FDBQ	ZXTP56060FDBQ-7	PBSS5260PAPSX
ZXTP56020FDBQ	ZXTP56020FDBQ-7	PBSS5220PAPSX

### Ordering Information

Part Number	Quantity	Suffix
ZXTP56060FDBQ	3000 (7" reel)	-7
ZXTP56020FDBQ	3000 (7" reel)	-7

### Package

Type: DFN2020-6  
Dimensions (lwh): 2 x 2 x 0.6 (mm)



Further information:

<https://www.diodes.com/part/ZXTP56060FDBQ>  
<https://www.diodes.com/part/ZXTP56020FDBQ>