

# 30V & 40V Automotive-grade P-Channel MOSFET

AEC-Q101 qualified with 175°C junction temperature

PANJIT's advanced P-channel MOSFETs are designed to minimize  $R_{DS(ON)}$  while maximizing avalanche ruggedness and space usage. With AEC-Q101 qualification and high junction temperature of 175°C, they are the optimal choices for automotive design engineers who wish to simplify circuitry while optimizing performances. PANJIT's P-channel MOSFETs can reduce circuit complexity of power design. Available packages include DFN3x3, DFN5x6 and TO-252.

## > Features

- P-channel enhancement mode logic level
- Low  $R_{DS(ON)}$  to minimize conduction losses
- Package with low thermal resistance
- 100% unclamped inductive switching (UIS) tested
- Electrostatic sensitive device (ESD) capable
- AEC-Q101 qualified and PPAP capable
- 175°C operating junction temperature

## Low $R_{DS(ON)}$ with low profile package

- Panjit 40V P-ch standard trench with TO-252AA limitation
- Panjit 40V P-ch advanced trench with DFN5060-8L limitation

$R_{DS(ON)}$  -51%

2.5mΩ

5.1mΩ



Height: 2.3mm

TO-252AA area: 63.35mm<sup>2</sup>



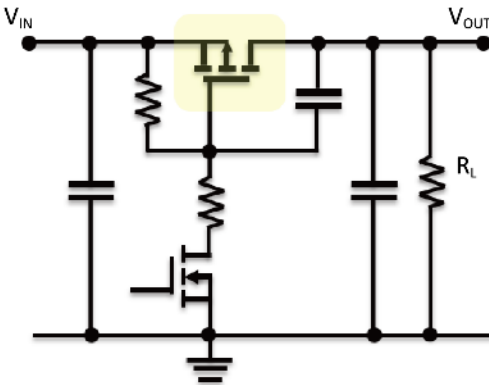
Height: 1.05mm

DFN5060-8L area: 31.72mm<sup>2</sup>

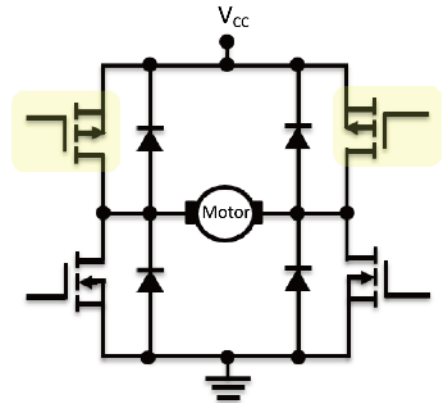
50%  
Space Reduction

55%  
Height  
Reduction

## > Load Switch



## > H-bridge Configuration



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## > Target Applications

### Automotive



- Power management function
- Reverse polarity protection
- Battery power equipment
- Primary 12V system
- LED lighting
- Infotainment
- Telematics
- ADAS
- Solenoid and motor drivers
- Brushed DC motors
- Electronic steering
- DC fan

## > Products

Series	BV (V)	V <sub>GS</sub> (V)	R <sub>DS(ON)</sub>		V <sub>th</sub> (V)	DFN3333-8L	DFN5060-8L	DFN5060B-8L	TO-252AA
			10V	4.5V					
-30V Trench	-30	±25	16	25	-1.8	PJQ4439EP-AU	PJQ5439E-AU	PJQ5839E-AU	PJD40P03E-AU
			12	21		PJQ4437EP-AU	PJQ5437E-AU		PJD45P03E-AU
			9.7	15		PJQ4435EP-AU	PJQ5435E-AU		PJD55P03E-AU
			6.7	10		PJQ4433EP-AU	PJQ5433E-AU		PJD70P03E-AU
			5.1	8		PJQ4431EP-AU	PJQ5431E-AU		PJD90P03E-AU
			3.1	4.6			PJQ5429E-AU		
-40V Trench	-40	±25	21	32	-1.8	PJQ4459EP-AU	PJQ5459E-AU		PJD30P04E-AU
			17	26		PJQ4457EP-AU	PJQ5457E-AU		PJD35P04E-AU
			14	21		PJQ4455EP-AU	PJQ5455E-AU		PJD40P04E-AU
			9.2	14		PJQ4453EP-AU	PJQ5453E-AU	PJQ5853E-AU	PJD60P04E-AU
			7.2	11		PJQ4451EP-AU	PJQ5451E-AU		PJD75P04E-AU
			5	7			PJQ5449E-AU		PJD95P04E-AU
			2.5	3.8			PJQ5447EC-AU		