

# 600V Super Junction MOSFET within PDFN88 & TOLL Package

600V Super Junction (SJ) MOSFET family expands with new products within compact PDFN88 and robust TOLL packages. These advanced package options offer improved thermal performance, higher power density, and efficient PCB layout flexibility. Ideal for space-constrained and high-efficiency applications, they deliver enhanced reliability and performance.



Official Website



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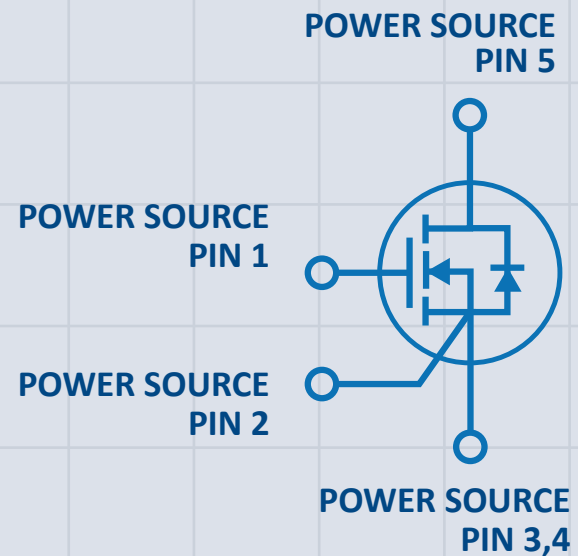
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## PACKAGE



PDFN88



TOLL

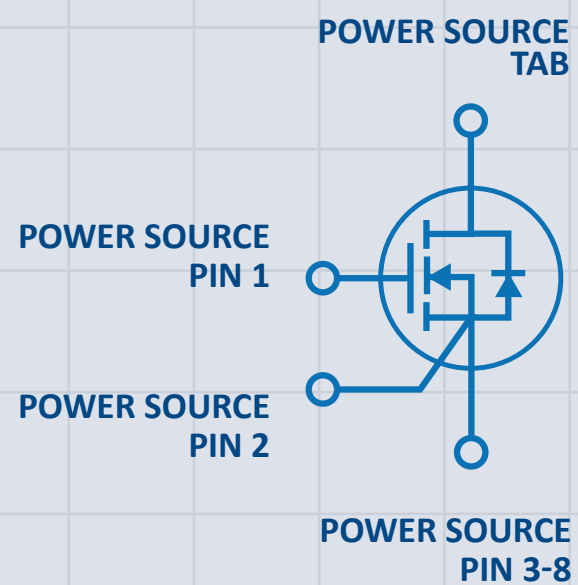


Figure 1: Packages and Circuit Diagrams

## FEATURES



4TH GEN  
SUPER JUNCTION  
TECHNOLOGY



EXCELLENT SWITCHING  
PERFORMANCE



HIGH GATE NOISE  
IMMUNITY

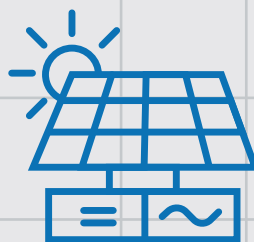


EXCELLENT SWITCHING  
PERFORMANCE

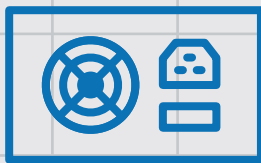
## SPECIFICATION

Part number	Package	Voltage (V)	R <sub>DS(on)</sub> (mΩ)	I <sub>D</sub> (A)
TSM60NE084TL	TOLL	600	80	47
TSM60NE110TL	TOLL	600	110	30
TSM60NE110CE	PDFN88	600	110	27
TSM60NE160CE	PDFN88	600	160	21
TSM60NE180CE	PDFN88	600	180	20
TSM60NE285CE	PDFN88	600	285	16

## APPLICATIONS



MICRO PV  
INVERTER



SWITCHING  
MODE POWER  
SUPPLY (SMPS)



HIGH VOLTAGE  
MOTOR DRIVERS



LIGHTING



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# PerFET™

## 80V & 100V POWER MOSFET

Taiwan Semiconductor introduces PerFET™ 80V and 100V technology in the PDFN56U (5mm x 6mm) single and dual packages for high power, high switching frequency and high-performance requirement automotive applications. A portfolio of 18 items, including both normal-level (10V) and logic-level (5V) gate drive types, enables customers to select the best-fit product for their design. All of this enables the Best-in-class FOM ( $R_{DS(on)} * Q_g$ ) and Performance in the market.

The PDFN56U wettable flank package offers improved solder joint quality and enhanced AOI accuracy. Additionally, it is highly footprint-compatible with the majority of 5mm x 6mm packages on the market.



Official Website



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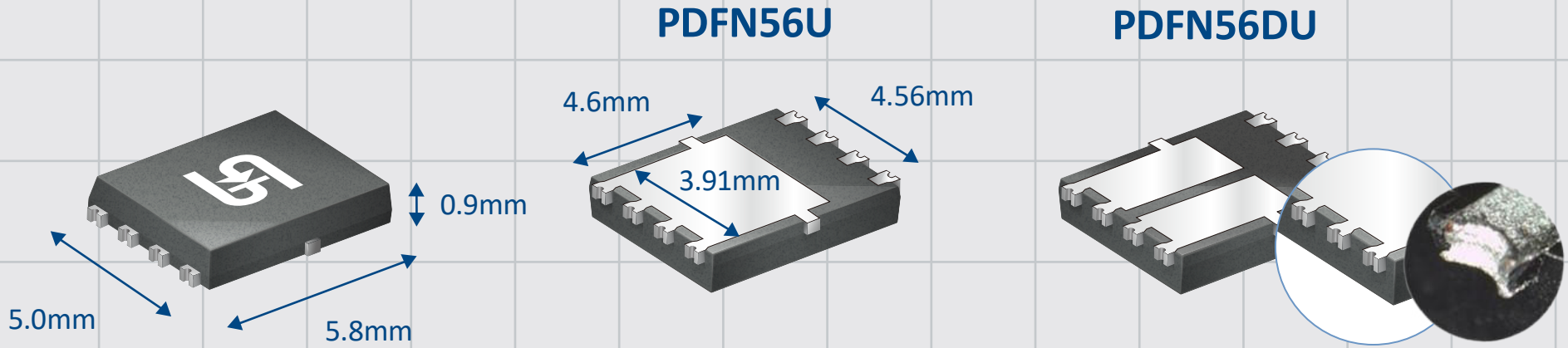


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### PACKAGE



Wettable flank leads improve solder joint reliability and AOI's accuracy during PCB assembly process.

### SPECIFICATION

Part Number	V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> max. 10V (mΩ)	R <sub>DS(ON)</sub> max. 4.5V (mΩ)	ID Tc=25°C (A)	V <sub>GSTH</sub> (V)	Q <sub>G</sub> typ V <sub>gs</sub> = 10V (nC)	Package
TQM048NH10LCR RLG	100	4.8	6.1	100	1.4~2.2	47	PDFN56U
TQM048NH10CR RLG		4.8	-	100	2.4~3.6	35	
TQM075NH10LCR RLG		7.5	9.4	100	1.4~2.2	36	
TQM075NH10CR RLG		7.5	-	100	2.4~3.6	22	
TQM100NH10LCR RLG		10	12	81	1.4~2.2	25	
TQM100NH10CR RLG		10	-	72	2.4~3.6	20	
TQM170NH10LCR RLG		17	20	72	1.4~2.2	17	
TQM170NH10CR RLG		17	-	50	2.4~3.6	11	
TQM240NH10LCR RLG		24	29	50	1.4~2.2	9.3	
TQM240NH10CR RLG		24	-	34	2.4~3.6	8.1	
TQM250NH10LDCR RLG		25	30	34	1.4~2.2	10	PDFN56UD
TQM250NH10DCR RLG		25	-	31	2.4~3.6	8.4	
TQM058NH08LCR RLG	80	5.8	8.1	100	1.4~2.2	35	PDFN56U
TQM063NH08CR RLG		6.3	-	100	2.4~3.6	27	
TQM130NH08LCR RLG		13	18.2	54	1.4~2.2	17	
TQM145NH08CR RLG		14.5	-	52	2.4~3.6	13	
TQM210NH08LDCR RLG		21	29.4	33	1.4~2.2	11	PDFN56UD
TQM230NH08DCR RLG		23	-	31	2.4~3.6	9.1	

### FEATURES



LOWER PARASITIC CAPACITANCE



LOWER TEMPERATURE COEFFICIENT

The  $R_{DS(ON)}$  value at temperatures of

**-55 °C ~ 175 °C**

presented less variation.



AUTOMOTIVE  
QUALIFIED

**AEC-Q101**



EXCELLENT FOM ( $Q_g \times R_{DS(ON)}$ )

### APPLICATIONS



AUTOMOTIVE



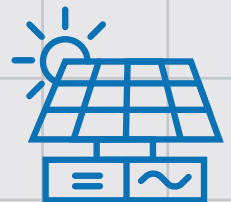
MOTOR



TELECOM



DC/DC  
CONVERTER



MICROINVERTER



POWER  
SUPPLY



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SEMICONDUCTOR**

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