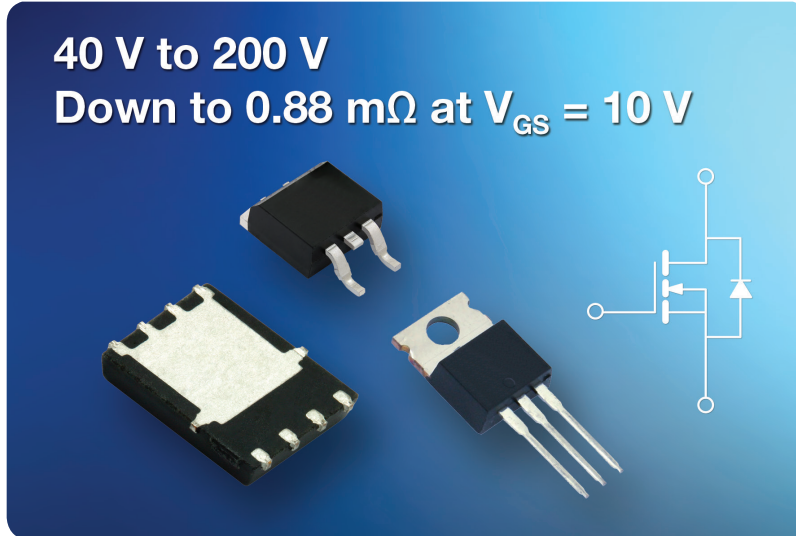


POWER MOSFETS

40 V to 200 V TrenchFET® Gen IV

Higher Efficiency and Power Density with a Combination of Low $R_{DS(on)}$ and Excellent Dynamic Characteristics

**40 V to 200 V
Down to 0.88 m Ω at $V_{GS} = 10$ V**



KEY BENEFITS

- New next generation technology provides very low on-resistance and ultra-low figure of merit (FOM)
- Q_{gd} / Q_{gs} ratio < 1 improves immunity to $C \cdot dV/dt$ gate coupling
- Very low Q_{gd} “miller” charge reduces power loss from charging through plateau voltage
 - Reduce switching related power loss and “miller” time
- Selective products have logic level and standard gate drive capabilities
 - Can lower losses by enabling lower gate drive
 - Allows use of lower-voltage, lower cost 5 V PWM ICs
 - Low FOM helps reduce switching losses
- Wide package variety including TO packages and thermally advanced, space saving PowerPAK®
- Devices in TO packages have maximum junction temperature rated up to 175 °C

APPLICATIONS

- Synchronous rectification for:
 - AC-DC power supplies
 - » Computing, consumer, server, telecom equipment
 - LLC topology
 - » ATX server, LED TV power
 - Telecom bricks and POLs
- Motor control / 3-phase H-bridge AC inverter
 - Solar micro inverters
 - Battery charging station for e-vehicles
 - OR-ing function
 - » Redundant power architecture
- Boost converters

APPLICATION NOTES AND RESOURCES

- Datasheets: [see table on back page](#)
- How2 Turn On a MOSFET: www.vishay.com/doc?49940
- Other application notes: www.vishay.com/moreinfo/MOSTECPAPERS/
- For technical questions contact: pmostechsupport@vishay.com
- More featured products: www.vishay.com/ref/featuredmosfets

**A WORLD OF
SOLUTIONS**

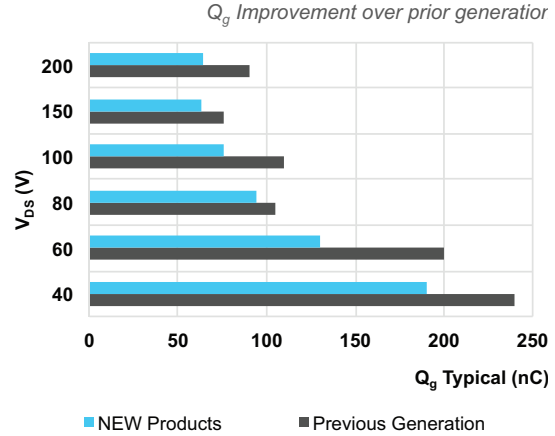
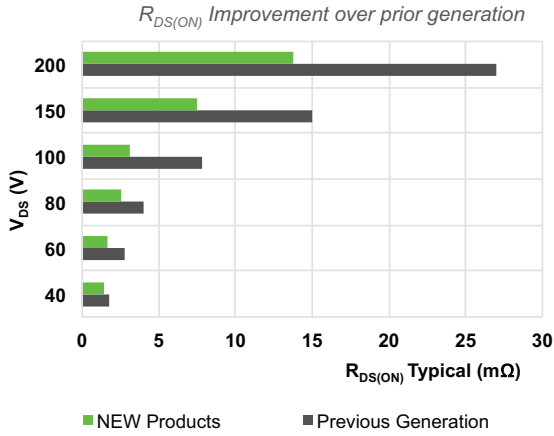


POWER MOSFETS

40 V to 200 V TrenchFET® Gen IV

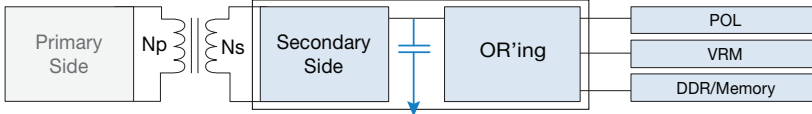
NEW PLATFORMS

REDUCED $R_{DS(ON)}$ AND Q_g ACROSS 40 V TO 200 V

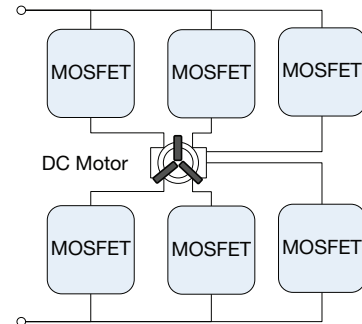


APPLICATION EXAMPLES

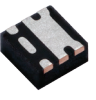
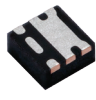
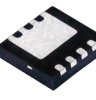




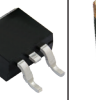
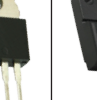

SYNCHRONOUS RECTIFICATION AND OR-ING



MOTOR CONTROL



PACKAGING

Package	PowerPAK SC-75	PowerPAK SC-70	PowerPAK 1212-8	PowerPAK SO-8	PowerPAK SO-8L	SO-8	DKPAK	D ² PAK	TO-220	TL TO-220FP
Approx. footprint (mm ²)	 2.5	 4	 11	 30	 30	 31	 70	 165	 1.6	 5.9
Voltage (V)	40	14 (dev)	2.65	0.88	1.8 (dev)			1.4	1.6	
	60		32	8.5	2.7	4.2 (dev)		2.1	2.3	
	80			19.5	5.5	6.2		3.2	3.4	
Lowest $R_{DS(on)}$	100	185	83	21	6.6	9.1	8.8	8.9	4	5.9
	150		177	58	18	20.5 (dev)		9	9.4	
	200			110	30 (dev)			17	17	

Datasheet: www.vishay.com/mosfets/medium-voltage/