

μ TrenchMOS™

20 V, 30 V and 60 V N-channel

A new dimension in power MOSFETs in SOT416 (SC-75)

Leading the way in miniaturization and Trench technology, Philips innovative μ TrenchMOS portfolio delivers excellent performance from the smallest devices. As consumers demand smaller, efficient and feature-rich communication and entertainment products, these latest additions to our miniature MOSFET family ensure you can always connect.



As the industry-wide trend for smaller, more efficient products continues, Philips Semiconductors is leading the way in PowerMOS solutions. Available as 20 V, 30 V and 60 V μ TrenchMOS devices in the ultra-compact SOT416 (SC-75) package, Philips further expands miniature power options for systems designers.

Thanks to our advanced Trench technology, these devices boast extremely low on-state resistances, parasitic capacitances and threshold voltage. Consequently, they deliver very efficient and rapid switching, and can be driven directly from a battery without the need for power-hungry charge pumps.

With such high performance and small size, they are ideal for all systems where power and / or space are critical factors. They are particularly suitable for signal, load and low-power conversion applications in portable and hand-held devices, computing products and LCD panels.

Dimensions

- Length: 1.6 mm
- Width: 0.8 mm
- Height 0.8 mm

Key features

- Compact, industry-standard package – 63% smaller footprint than SOT23
- Low $R_{DS(on)}$ – down to 280 m Ω (Typ.)
- Very low $V_{GS(th)}$ – down to 1.8 V
- Rapid switching

Key benefits

- Reduced board space requirements
- Less power dissipated leading to cooler running, more efficient end products
- Can be driven from 3 V (battery) supplies

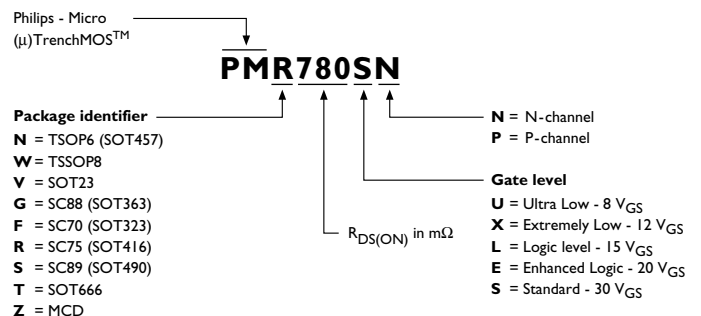
Key applications

- Hand-held devices
- Mobile phones
- Notebook PC's
- LCD panels

Product information

Type number	Max. V_{DS} (V)	Typ. $R_{DS(on)}$ (m Ω) @ $V_{GS} =$			
		10 V	4.5 V	2.5 V	1.8 V
PMR780SN	60	780			
PMR400UN	30		400	480	580
PMR370XN	30		370	550	
PMR290XN	20		290	460	
PMR280UN	20		280	360	460

μ TrenchMOS™ part numbering



bra136

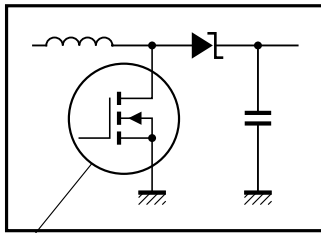
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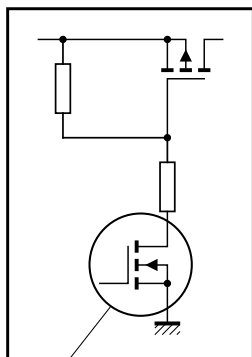
Boost Converter Application



MSE179

PMR series

Load Switching Application



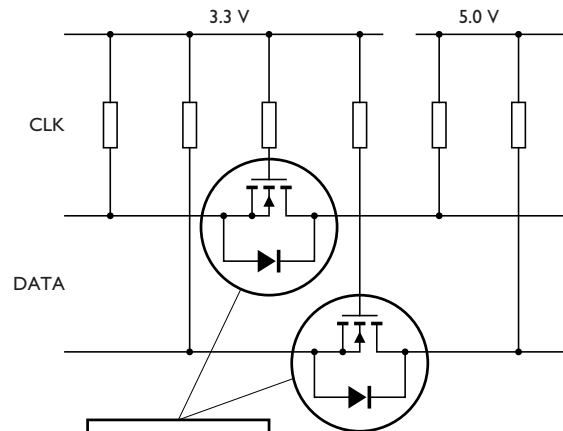
MSE180

PMR series

μ TrenchMOS: typical applications

Philips μ TrenchMOS family is ideal for use in a wide variety of functions and applications. The following diagrams highlight just some of the potential areas, where the benefits offered by this range of miniature MOSFETs provide a new dimension to your design toolkit.

SMBus Level Shifting and Bus Isolation



PMR780SN

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Philips Semiconductors

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