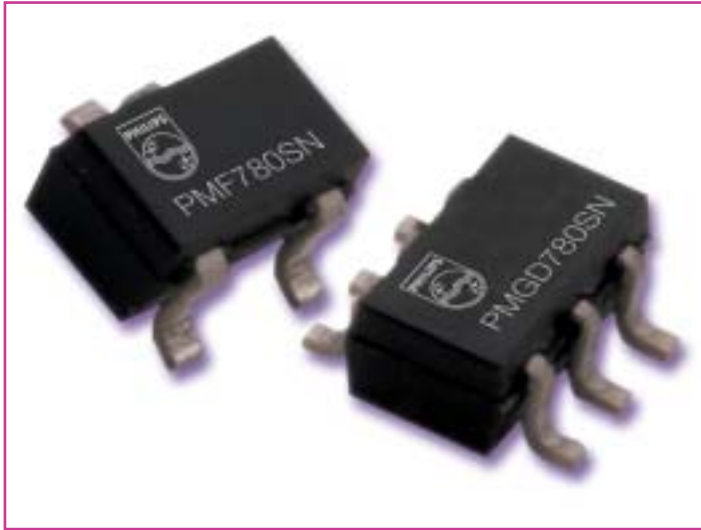
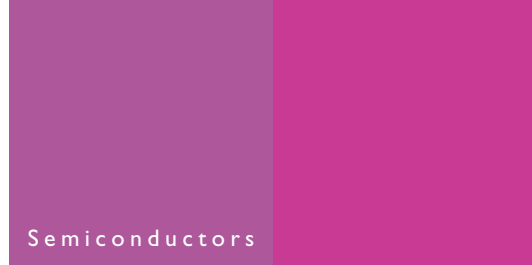


# μTrenchMOS™

20 V, 30 V and 60 V N-channel

## A new dimension in power MOSFETs in SOT323 and SOT363

Leading the way in miniaturization and Trench technology, Philips innovative μTrenchMOS 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 single or dual configured 20 V, 30 V and 60 V μTrenchMOS devices in the ultra-compact SOT323 (SC-70 – single) and SOT363 (SC-88 – dual) packages, 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.

### Key features

- Compact, industry-standard package – 40% smaller than SOT23
- Low  $R_{DS(on)}$  – typically 500 mΩ
- 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

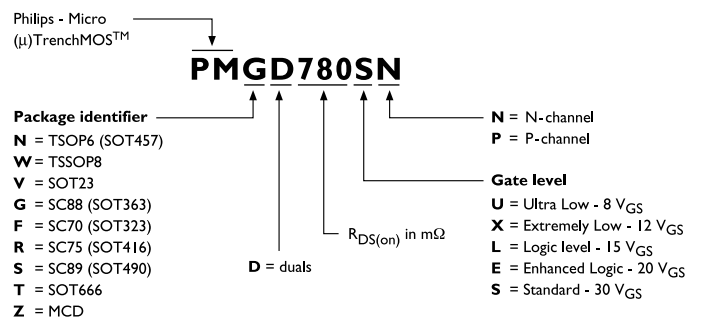
### Key applications

- Hand-held and portable devices
- Mobile communications
- Computing
- LCD panels

### Product information

Type number		Max. $V_{DS}$ (V)	Typ. $R_{DS(on)}$ (mΩ) @ $V_{GS} =$			
SOT323	SOT363		10 V	4.5 V	2.5 V	1.8 V
PMF780SN	PMGD780SN	60	780			
PMF400UN	PMGD400UN	30		400	480	580
PMF370XN	PMGD370XN	30		370	550	
	PMGD8000LN	30		1800	2900	
PMF290XN	PMGD290XN	20		290	400	
PMF280UN	PMGD280UN	20		280	350	460
PMF3800SN		60	2800	3800		

### μTrenchMOS™ part numbering



MSE177

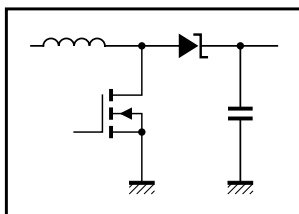
**PHILIPS**

# $\mu$ TrenchMOS™ a new dimension in power

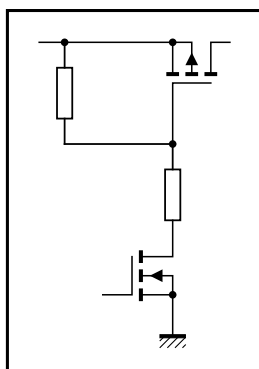
20 V, 30 V and 60 V N-channel MOSFETs in SOT323 and SOT363



## Boost Converter Application



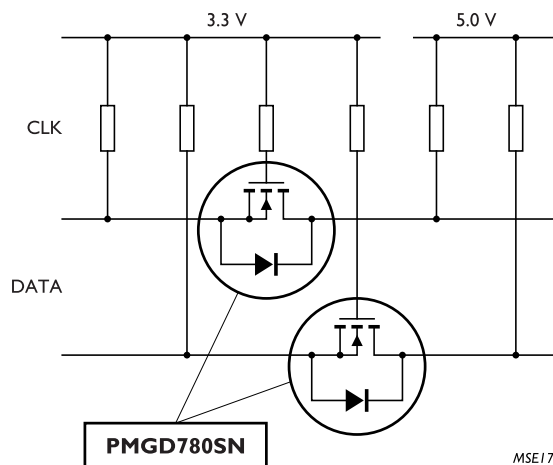
## Load Switching Application



## $\mu$ TrenchMOS: typical applications

Philips  $\mu$ 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



## Philips Semiconductors

Philips Semiconductors is a worldwide company with over 100 sales offices in more than 50 countries. For a complete up-to-date list of our sales offices please e-mail [sales.addresses@www.semiconductors.philips.com](mailto:sales.addresses@www.semiconductors.philips.com). A complete list will be sent to you automatically. You can also visit our website <http://www.semiconductors.philips.com/sales>

© Koninklijke Philips Electronics N.V. 2003

SCS 77

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.



date of release: April 2005

document order number: 9397 750 14935

Published in the Netherlands