Issue Number | 001
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New Product Announcement

DMP3010LPS

DMP3010LPS increases performance and reduces PCB space

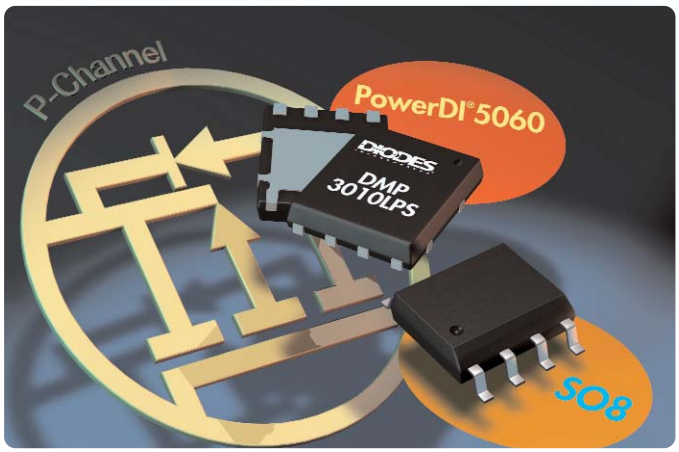
The DMP3010LPS 30V rated p-channel enhancement mode MOSFET from Diodes Incorporated is the first device to be released by the company in its unique PowerDI®5060 package, offering designers of notebooks, netbooks and other consumer electronics improvements in reliability and reductions in PCB space requirements.

The PowerDI®5060 is an 'enhanced SO8' package in that it fits the familiar SO8 footprint but has superior performance. The powerdi5060 has a junction to case thermal resistance (Rthj-c) of 2.1°C/W that is 10 times lower than an SO8 alternative.

The low Rthj-c of the PowerDI®5060 package improves power dissipation performance and reduces the junction temperature (Tj)of the device which can result in cooler running and more reliable product design because a 10°C reduction in MOSFET junction temperature (Tj) can double the lifetime of the end application.

With a large drain pad significantly reducing package inductance and resistance parameters, the PowerDI®5060 package helps to significantly boost p-channel MOSFET performance. With the DMP3010LPS's low typical on-resistance of 7mΩ, on-state losses are effectively minimized in load switching and battery charging duties.

Its off-board height of 1.1mm is also 54% less than that of SO8, making it well suited for low profile applications.



The Diodes advantage

- **Low thermal resistance**
  The PowerDI®5060 package has an Rthj-c of 2.1°C/W which is 10 times lower than the familiar SO8 package. This superior thermal performance improves power dissipation, reduces MOSFET junction temperature enabling cooler running more reliable .
- **Low profile package**
  The PowerDI®5060 has a package profile that is < 1.1mm making it ideal for thin applications.
- **Low $R_{DS(ON)}$**
  The low typical $R_{DS(ON)}$ of the DMP3010LPs ensures that on state losses are kept to a minimum during load switching and bettery charging.
- **Avalanche rated**
  The DMP3010LPS has been designed to withstand the high pulse avalanche energy that can be induced by inductive loads.
- **AECQ101, 'Green' and RoHS compliant**
  The DMP3010LPS is qualified to AECQ101 standard and is RoHS compliant.

Applications

- **Adaptor switch**
- **Load switch**

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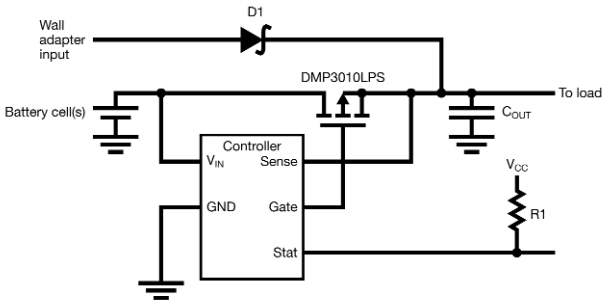
Figure 1 – Typical Adaptor switch application circuit



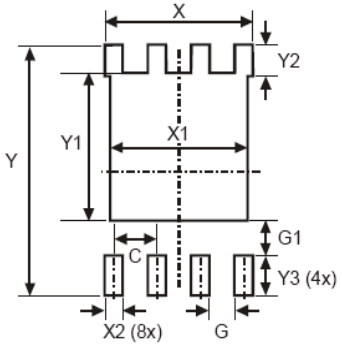
Product portfolio

Product	Configuration	Package	Type	VDS (V)	VGS (±V)	ESD Diode (Y/N)	Id (A) @ 25C	RDS(ON) (mΩ max) at VGS=			Vgsth min(V)	Vth max (V)	Ciss typ. (pF)	Qg (nC) @10V	Qg (nC) @4.5V
								V_{GS}=10V	V_{GS}=4.5V	V_{GS}=2.5V					
DMP3010LPS	Single	PowerDI 5056	P	30	20	N	15	7.5	10	*	1.1	2.1	6324	126.2	59.2

Cross Reference

	AOS	Fairchild	ON Semi	NXP	Vishay
DMP3010LPS	AON6405L	FDMS6673BZ	X	X	SI7143DP

PowerDI5060 footprint



Dimensions	Value (in mm)
C	1.270
G	0.660
G1	0.820
X	4.420
X1	4.100
X2	0.610
Y	6.610
Y1	3.810
Y2	1.020
Y3	1.270

Note: Powerdi5060 is footprint compatible with powerpak, power56 and other enhanced SO8 packages.