

# MOSFETs



## COMPANY OVERVIEW

Diodes Incorporated is a leading global provider of Discrete and Analog semiconductors.

Its global footprint includes sales offices in 5 countries and manufacturing locations in China, Europe and the USA.

A focus on product innovation, cost reduction, acquisitions and customer service has made Diodes Incorporated an industry leader.



Combining leading silicon and packaging technologies, Diodes provides a broad portfolio of discrete semiconductors comprising Bipolar Transistors, MOSFETs, Schottky diodes, SBR, switching diodes and functional specific arrays to enable our customers' next generation designs.

The Diodes' Analog IC portfolio consists of 6 main areas: Power Management ICs, Standard Linear, Lighting, Sensors, Direct Broadcast by Satellite and Applications Specific Standard Products.

## DIODES MEANS MOSFET BUSINESS

A focus on cost reduction, product innovation and customer service has resulted in Diodes Incorporated's MOSFET portfolio increasing market share and outperforming the market.

**Diodes means MOSFET business.**

Embracing both industry standard and differentiated products such as the industry's smallest self-protected MOSFET – the ZXMS6004FFTA, the Diodes MOSFET portfolio encompasses N channel, P channel, and complementary devices with breakdown voltages up to 450V. These are packaged in single, dual, complementary, and H-bridge configurations in a wide range of package options, from the tiniest DFN1006 package, through to large surface mount packages such as TO252-3L.

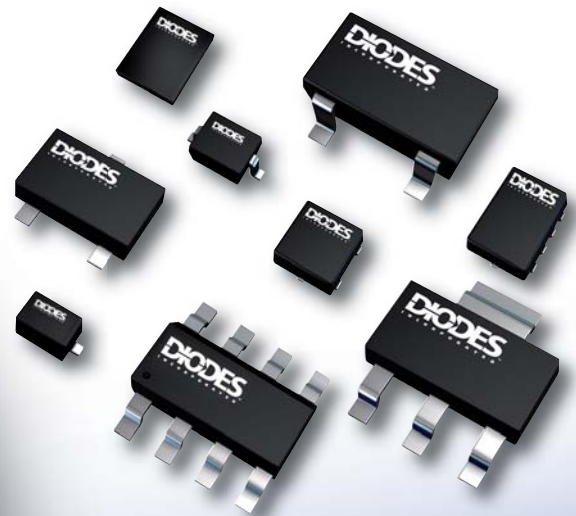
The breadth of the Diodes Incorporated MOSFET portfolio, now incorporating the Zetex brand, enables designers to select a device optimised for their end application and thus enable next generation consumer, computer and communication product designs.

The Diodes portfolio is ideally suited to meeting the circuit requirements of:

- DC-DC conversion
- Load switching
- Motor control
- Backlighting
- Battery protection
- Battery chargers
- Audio circuits
- Automotive applications

The majority of products in the Diodes MOSFET portfolio are designed to meet the stringent requirements of AECQ101 of the Automotive Electronic Council. Furthermore, all packaging will feature environmentally 'green' mould compound by Q1 2010.

Diodes Incorporated's MOSFET product development strategy is focused on high growth market segments such as LED Lighting; Notebook PC's, Netbooks and voice over internet applications.

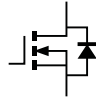


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# 20V N-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =10V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =4.5V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	4.5V	2.5V	1.8V			
DMN2009L5S	Single	N	20	±12	12	2	9	12	-	2555	58.3	SO-8
DMN2020LSN	Dual	N	20	±12	6.9	0.6	20	28	-	1149	11.6	SC59
ZXMN2A02N8	Single	N	20	±12	10.2	2.5	20	40	-	1900	18.9	SO-8
ZXMN2A02X8	Single	N	20	±20	7.8	1.67	20	40	-	1900	18.6	MSOP8
DMG8601UFG	Dual	Y	20	±8	6.1	0.92	23	27	34	143	8.8	DFN3030-8
DMG6968UTS	Dual	Y	20	±8	5.2	1	23	27	34	143	8.8	TSSOP-8
DMG6968LSD	Dual	Y	20	±12	9.4	0.85	24	28	34	142	8.8	SO-8
DMG6968UDM	Dual	Y	20	±8	6.5	0.85	24	28	34	142	8.8	SOT23-6
DMG9926USD	Dual	N	20	±8	8.2	1.3	24	29	37	867	8.8	SO-8
DMG3414U	Single	N	20	±8	4.2	0.78	25	29	37	830	9.6	SOT23
DMG6968U	Single	Y	20	±8	6.5	0.81	25	29	36	151	8.5	SOT23
DMG8822UTS	Dual	N	20	±8	4.9	0.87	25	29	37	841	9.6	TSSOP-8
ZXMN2A04DN8	Dual	N	20	±12	7.7	2.1	25	35	-	1880	40.5	SO-8
DMG9926UDM	Dual	N	20	±8	4.2	0.98	28	32	40	856	8.3	SOT23-6
DMN2041LSD	Dual	N	20	±12	3	1.4	28	41	-	550	7.3	SO-8
DMN2050L	Single	N	20	±12	5.9	1.4	29	50	-	532	6.7	SOT23
DMN2027LK3	Single	N	20	±12	17	8.9	27	40	-	857	9.1	TO252-3L
DMN2075U	Single	N	20	±8	4.2	0.8	38	45	-	594	7	SOT23
DMN2075UDM	Single	N	20	±8	2.8	0.9	38	45	-	594	7	SOT23-6
DMN2075UTS	Single	N	20	±8	2.8	0.87	38	45	-	594	7	TSSOP-8
DMN2075UW	Single	N	20	±8	2.8	0.29	38	45	-	594	7	SOT323
ZXMN2B03E6	Single	N	20	±8	5.4	1.1	40	55	75	1160	14.5	SOT23-6
ZXM64N02X	Single	N	20	±12	5.4	1.1	40	50	-	1100	16	MSOP8
ZXMN2F30FH	Single	N	20	±12	4.9	1.4	45	65	-	452	4.8	SOT23
DMN2100UDM	Single	Y	20	±8	3.3	0.9	55	70	90	555	-	SOT23-6
ZXMN2B14FH	Single	N	20	±8	4.3	1	55	75	100	872	11	SOT23
ZXMN2A03E6	Single	N	20	±12	4.6	1.7	55	100	-	837	8.2	SOT23-6
ZXMN2A14F	Single	N	20	±12	4.1	1	60	110	-	544	6.6	SOT23
ZXMN2F34FH	Single	N	20	±12	4	1.4	60	120	-	277	2.8	SOT23
DMN2170U	Single	Y	20	±12	2.3	0.6	70	100	170@1.5V	617	-	SOT23
DMG2302U	Single	N	20	±8	2.8	0.8	90	120	-	594	7	SOT23
DMN2112SN	Single	Y	20	±8	1.2	0.5	100	140	250@1.5V	220	-	SC59
DMN2215UDM	Dual	N	20	±12	2	0.65	100	140	215	188	-	SOT23-6
ZXMN2B01F	Single	N	20	±8	2.4	0.625	100	150	200	370	4.8	SOT23
DMN21145N	Single	Y	20	±12	1.2	0.5	100	160	-	180	-	SC59
ZXM62N02E6	Single	N	20	±12	3.2	1.1	100	125	-	460	6.3	SOT23-6
ZXMN2088E6	Dual	N	20	±12	2.1	1.1	200	240	310	279	3.8	SOT23-6
DMN2230U	Single	N	20	±12	2	0.6	110	145	230	188	-	SOT23
ZXMN2A01E6	Single	N	20	±12	3.1	1.7	120	225	-	303	3	SOT23-6
ZXMN2A01F	Single	N	20	±12	2.2	0.806	120	225	-	303	3	SOT23
ZXMD63N02X	Dual	N	20	±12	2.4	1.25	130	150	-	350	6	MSOP8
ZXM61N02F	Single	N	20	±12	1.7	0.625	180	240	-	160	-	SOT23
DMG1012UW	Single	Y	20	±6	1	-	450	600	750	61	0.74	SOT323
DMG1012T	Single	Y	20	±6	0.6	-	450	600	750	61	0.74	SOT523
DMN2004K	Single	Y	20	±8	0.54	0.35	550	700	900	150	-	SOT23
DMN2004TK	Single	Y	20	±8	0.54	-	550	700	900	150 (max)	-	SOT523
DMN2004VK	Dual	Y	20	±8	0.54	-	550	700	900	150 (max)	-	SOT563
DMN2005K	Single	Y	20	±10	0.3	0.35	1500	1700	3500	39	-	SOT23
DMN2005DLP4K	Dual	Y	20	±10	0.2	0.35	1500	1700	3500	39	-	DFN1310H4-6
DMN2005LP4K	Single	Y	20	±10	0.2	0.2	1500	1700	3500	39	-	DFN1006H4-3
DMN2005LPK	Single	Y	20	±10	0.44	0.45	1500	1700	3500	39	-	DFN1006-3
DMN2016UTS	Dual	Y	20	±8	7	0.88	14	16	TBD	1495	16.5	TSSOP-8
DMN2016LFG	Dual	N	20	±12	6	0.99	17	24	39	TBD	TBD	DFN3030-8
DMN2400UV	Dual	Y	20	±12	1.33	0.53	500	700	TBD	36	0.5	SOT563
DMG3420U	Single	Y	20	±12	2.8	0.6	35	48	91	TBD	TBD	SOT23

# 20V P-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A) @T <sub>A</sub> =25°C	P <sub>D</sub> (W) @T <sub>A</sub> =25°C	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =				C <sub>iss</sub> typ. (pF) @V <sub>DS</sub> =-10V	Q <sub>g</sub> typ. (nC) @V <sub>GS</sub> =4.5V	Package
							10V	4.5V	2.5V	1.8V			
DMP2022LSS	Single	N	-20	±12	-10	2.5	13	16	22	-	2444	56.9	SO-8
DMP2035U	Single	Y	-20	±8	-4	0.85	-	35	45	62	1610	15.4	SOT23
DMP2066LDM	Single	N	-20	±12	-4.6	1.25	-	35	66	-	820	10.1	SOT23-6
DMP2066LSD	Dual	N	-20	±12	-5.8	2	-	35	66	-	820	10.1	SO-8
DMG2301U	Single	N	-20	±8	-2.4	0.8	-	39	52	65	608	-	SOT23
DMG3415U	Single	Y	-20	±8	-4	0.9	-	39	52	65	294	9.1	SOT23
DMG3415UFY4	Single	Y	-16	±8	-2.5	-	-	39	52	65	281	10	DFN2015H4-3
DMP2066LSN	Single	N	-20	±12	-4.6	1.25	-	40	70	-	820	10.1	SC59
DMP2066LSS	Single	N	-20	±12	-6.5	2.5	-	40	70	-	820	10.1	SO-8
DMP2305U	Single	N	-20	±8	-4.2	1.4	-	60	90	113	727	7.6	SOT23
DMP2160UFDB	Dual	N	-20	±12	-3.8	1.4	-	70	85	-	632	-	DFN2020B-6
DMP2123L	Single	N	-20	±12	-3	1.4	-	72	123	-	443	7.3	SOT23
DMP2130L	Single	N	-20	±12	-3	1.4	-	80	110	-	240	7.3	SOT23
DMP2130LDM	Single	N	-20	±12	-3.4	1.25	-	80	130	-	240	7.3	SOT23-6
ZXM64P02X	Single	N	-20	±12	-3.5	1.1	-	90	130	-	900	6.9	MSOP8
DMP2160UW	Single	N	-20	±12	-1.5	0.35	-	100	120	160	627	-	SOT323
DMP2225L	Single	N	-20	±12	-2.6	1.08	-	110	225	-	250	4.3	SOT23
DMP2104LP	Single	N	-20	±12	-1.5	0.5	-	150	200	240	320	-	DFN1411-3
DMP2104V	Single	N	-20	±12	-0.95	0.2	-	150	200	240	320	-	SOT563
DMP2240UDM	Dual	N	-20	±12	-2	0.6	-	150	200	240	320	-	SOT23-6
ZXM62P02E6	Single	N	-20	±12	-2.3	1.1	-	200	275	-	320	5.8	SOT23-6
DMP2240UW	Single	N	-20	±8	-1.5	0.25	-	200	240	300	-	-	SOT323
ZXM62P03E6	Single	N	-20	±12	-1.5	0.625	150	230	-	-	330	10.2	SOT23-6
ZXMD63P02X	Dual	N	-20	±12	-1.7	1.25	-	270	400	-	290	5.25	MSOP8
ZXM61P02F	Single	N	-20	±12	-0.9	0.625	-	600	900	-	150	3.5	SOT23
DMG1013UW	Single	Y	-20	±6	-0.82	0.3	-	750	1050	1500	60	0.62	SOT323
DMG1013T	Single	Y	-20	±6	-0.46	0.27	-	750	1050	1500	60	0.62	SOT523
DMP2004K	Single	Y	-20	±8	-0.6	0.55	-	900	1400	2000	175 (max)	-	SOT23
DMP2004WK	Single	Y	-20	±8	-0.4	0.25	-	900	1400	2000	175 (max)	-	SOT323
DMP2004VK	Dual	Y	-20	±8	-0.53	0.25	-	900	1400	2000	175 (max)	-	SOT563
DMP22D6UT	Single	Y	-20	±8	-0.43	0.15	-	1100	1600	2600	175 (max)	-	SOT523

THE DIODES ADVANTAGE

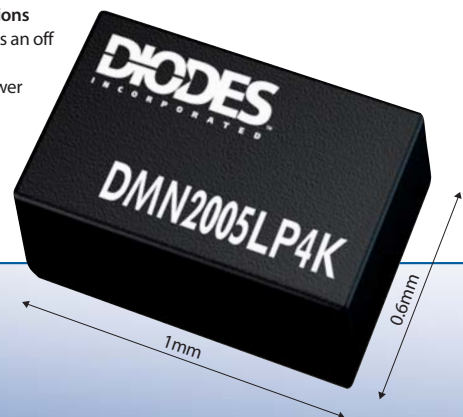
## Probably the smallest MOSFET in the world...

**Did you know?** Diodes Incorporated designed, developed and manufactures what is probably the world's smallest MOSFET.

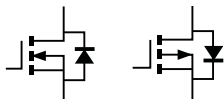
With a PCB footprint of just 0.6mm<sup>2</sup> the DMN2005LP4K delivers an R<sub>DS(ON)</sub> performance equivalent to that of the industry standard 2N7002 but occupies just 7.5% percent of the PCB area.

## The DMN2005LP4K enables designers to:

- Reduce PCB footprint**  
 DMN2005LP4K delivers a performance comparable to industry standard MOSFETs from a footprint 13 times smaller.
- Enables thinner applications**  
 The DFN1006 package has an off board height of 0.4mm enabling the design of lower profile end applications.



## 20V Complementary



Part Number	Configuration	Type	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =-10V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =4.5V	Package
						@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	4.5V	2.5V	1.8V			
DMG1016UDW	Complementary	N	Y	20	±6	1.066	0.33	450	600	750	61	0.74	SOT363
		P	Y	20	±6	-0.87		750	1050	1500	60	0.62	
DMC2004LPK	Complementary	N	Y	20	±8	0.75	0.5	550	700	900	150 (max)	0.175	DFN1612-6
		P	Y	-20	±8	-0.6		900	1400	2000	175 (max)	0.15	
DMG1016V	Complementary	N	Y	20	±6	0.87	0.53	400	500	700	61	0.74	SOT563
		P	Y	-20	±6	-0.64		700	900	1300	61	0.62	

THE DIODES ADVANTAGE

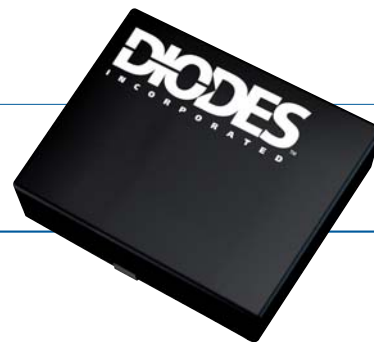
### MOSFET plus SBR®

**Did you know?** Diodes Incorporated's proprietary Super Barrier Rectifier (SBR®) technology delivers significantly lower forward voltage (V<sub>F</sub>) and stability at higher temperature than conventional Schottky diodes. The DMS2220UFDB co-packages SBR and a P channel enhancement MOSFET in a small leadless package to deliver a small form factor charging solution.

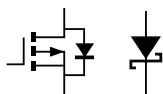


### Product benefits

- Saves Space**  
 With a footprint of just 2mm<sup>2</sup>, the DMS2220UFB occupies 55% less board space than larger 3mm by 3mm packaged solutions
- Enables thinner applications**  
 The DFN2020 has an off board height of 0.5mm enabling the design of lower profile end applications
- Reduce component count**  
 Combines two discrete devices in one small form factor package reducing PCB footprint



## MOSFET plus SBR®



Part Number	Configuration	Type	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =-10V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =4.5V	Package
						@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	4.5V	2.5V	1.8V			
DMS2220LFDB	MOSFET plus SBR	P	Y	-20	±12	-2.9	1.4	95	120	150	627	-	DFN2020
DMS2120LFWB	MOSFET plus SBR	P	Y	-20	±12	-3.5	1.5	95	120	150	627	-	DFN3020
DMS2220LFW	MOSFET plus SBR	P	Y	-20	±12	-2.9	1.5	95	120	130	281	632	DFN3020

SBR is a proprietary trademark of Diodes Incorporated

# 30V N-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =				C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =15V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =4.5V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	10V	4.5V	2.5V	1.8V				
DMG8896SS	Single	N	30	±20	94	TBA	5.7	6.8	-	-	2525	-	24	SO-8
DMN3007LSS	Single	N	30	±20	16	2.5	7	10	-	-	2714	-	64.2	SO-8
DMG8880LK3	Single	N	30	±20	58	TBA	9	12	-	-	1260	-	13	TO252-3L
DMG8880LSS	Single	N	30	±20	58	TBA	9	12	-	-	1260	-	13	SO-8
DMN3010LSS	Single	N	30	±20	16	2.5	9	13	-	-	2096	-	13	SO-8
DMN4800LSS	Single	N	30	±25	9	1.46	16	20	-	-	798	8.7	-	SO-8
DMN4468LSS	Single	N	30	±20	8.7	1.52	14	20	-	-	867	-	18.85	SO-8
DMG4468LFG	Single	N	30	±20	8.7	1.52	14	20	-	-	867	-	18.85	DFN3030-8
DMG4468LK3	Single	N	30	±20	8.7	1.52	14	20	-	-	867	-	18.85	TO252-3L
DMG4800LSD	Dual	N	30	±25	8.5	1.17	16	20	-	-	798	8.7	-	SO-8
DMG4800LK3	Single	N	30	±25	10	1.7	16	22	-	-	798	8.7	-	TO252-3L
DMG4800LFG	Single	N	30	±20	10	0.94	17	24	-	-	798	8.7	-	DFN3030-8
DMN3020LK3	Single	N	30	±20	16.7	8.9	20	34	-	-	608	6.3	12.9	TO252-3L
ZXMN3A04K	Single	N	30	±20	18.4	10.1	20	34	-	-	1890	-	36.8	TO252-3L
ZXMN3A04DN8	Dual	N	30	±20	8.5	2.8	20	30	-	-	1890	-	36.8	SO-8
DMN3024LSS	Single	N	30	±20	8.5	2.8	24	36	-	-	608	6.3	12.9	SO-8
DMN3024LSD	Dual	N	30	±20	7.2	2.0	24	36	-	-	608	6.3	12.9	SO-8
ZXMN3A02N8	Single	N	30	±20	9	2.5	25	35	-	-	1400	-	26.8	SO-8
ZXMN3A02X8	Single	N	30	±20	6.7	1.8	25	35	-	-	1400	-	26.8	MSOP8
DMN3024LK3	Single	N	30	±20	14.4	8.9	24	39	-	-	608	6.3	12.9	TO252-3L
ZXMN3F318DN8	Dual	N	30	±20	7.3	2.1	24	39	-	-	608	6.3	12.9	SO-8
ZXMN3F31DN8	Dual	N	30	±20	7.3	2.1	24	39	-	-	608	6.3	12.9	SO-8
DMN3052LSS	Single	N	30	±12	7.1	2.5	30	40	63	-	555	-	-	SO-8
DMG6402LDM	Single	N	30	±20	5.9	1.1	28	42	-	-	386	-	9.2	SOT23-6
DMN3404L	Single	N	30	±20	4.3	0.78	28	42	-	-	386	-	9.2	SOT23
DMN3052L	Single	N	30	±12	5.4	1.4	32	42	64	-	-	-	-	SOT23
ZXMN3G32DN8	Dual	N	30	±20	7.1	2.1	28	45	-	-	472	-	10.5	SO-8
ZXMN3A06DN8	Dual	N	30	±20	6.2	2.1	35	50	-	-	796	-	17.5	SO-8
DMN3115UDM	Single	Y	30	±8	3.2	0.9	-	60	80	130	476	-	-	SOT23-6
DMN3051LDM	Single	N	30	±20	4	0.9	38	64	-	-	424	-	-	SOT23-6
ZXMN3F30FH	Single	N	30	±20	4.6	1.4	47	65	-	-	318	-	7.7	SOT23
ZXMN3A03E6	Single	N	30	±20	4.6	1.7	50	65	-	-	600	-	12.6	SOT23-6
ZXMN3B14F	Single	N	30	±12	3.5	1.5	-	80	140	-	568	6.7	-	SOT23
DMN3150L	Single	N	30	±12	3.2	1.25	-	85	115	-	305	-	-	SOT23
DMN3150LW	Single	N	30	±12	1.6	0.35	-	88	138	-	305	-	-	SOT323
DMN3200U	Single	N	30	±8	2.2	0.65	-	90	110	200	290	-	-	SOT23
ZXMN3A14F	Single	N	30	±20	3.9	1.5	65	95	-	-	448	-	8.6	SOT23
DMN3112SSS	Single	N	30	±20	6.0	2.5	57	112	**	-	268	-	-	SO-8
DMN3300U	Single	N	30	±12	2	0.6	-	150	200	250	193	-	-	SOT23
ZXMN3B01F	Single	N	30	±12	2	0.806	-	150	240	-	258	2.93	-	SOT23
ZXM62N03G	Single	N	30	±20	4.7	2	110	150	-	-	380	-	9.6	SOT223
ZXMN3A01E6	Single	N	30	±20	3	1.7	120	180	-	-	190	-	3.9	SOT23-6
ZXMN3A01F	Single	N	30	±20	2	0.625	120	180	-	-	190	-	3.9	SOT23
ZXMD63N03X	Dual	N	30	±20	2.3	1.25	135	200	-	-	290	-	8	MSOP8
DMN100	Single	Y	30	±20	1.1	0.5	170	240	-	-	150	-	5.5	SC59
ZXM61N03F	Single	N	30	±20	1.4	0.625	220	300	-	-	150	-	4.1	SOT23
DMN32D2LDF	Dual	Y	30	±10	0.4	0.28	-	1200(@4V)	1500	2200	39	-	-	SOT353
DMN32D2LFB4	Single	Y	30	±10	0.3	0.35	-	1200(@4V)	1500	2200	39	-	-	DFN1006H4-3
DMN32D2LV	Dual	Y	30	±10	0.4	0.2	-	1200(@4V)	1500	2200	39	-	-	SOT563
DMG3418XXX	Single	Y	30	±12	3.8	1.4	60	70	155	-	TBD	-	TBD	SOT23
DMN3029LFX	Single	Y	30	±12	7.2	TBD	-	26	34	-	TBD	-	TBD	DFN5020-6

# 30V P-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ.(pF) @ V <sub>DS</sub> =-15V	Q <sub>g</sub> typ.(nC) @ V <sub>GS</sub> =4.5V	Q <sub>g</sub> typ.(nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C		@T <sub>A</sub> =25°C	10V	4.5V				
DMG4413LSS	Single	N	-30	±20	-10.5	2.5	7.5	10.2	-	4965	46	-	SO-8
DMP3015LSS	Single	N	-30	±20	-13	2.5	11	17	-	2748	-	60.4	SO-8
ZXMP3F35N8	Single	N	-30	±20	-17.1	2.8	12	18	-	4600	-	55	SO-8
DMP3020LSS	Single	N	-30	±25	-12	2.5	14	25	-	1802	15.3	30.7	SO-8
DMP3035LSS	Single	N	-30	±25	-12	2.5	16	35	-	1655	-	30.7	SO-8
ZXMP3F36N8	Single	N	-30	±20	-12.8	2.8	20	28	-	2265	-	43.9	SO-8
DMP3025LK3	Single	N	-30	20	-16	10	25	41	-	1678	16.5	31.6	TO252-3L
ZXMP3F37DN8	Dual	N	-30	±20	-8.3	1.8	25	41	-	1678	16.5	31.6	SO-8
ZXMP3F37N8	Single	N	-30	±20	-10.7	2.8	25	41	-	1678	16.5	31.6	SO-8
DMP3056LDM	Single	N	-30	±20	-4.3	1.25	45	56	-	722	6.8	13.7	SOT23-6
DMP3056LSD	Dual	N	-30	±20	-6.9	2.5	45	65	-	722	6.8	13.7	SO-8
DMP3056LSS	Single	N	-30	±20	-7.1	2.5	45	65	-	722	6.8	13.7	SO-8
ZXMP3A16DN8	Dual	N	-30	±20	-5.5	2.1	45	70	-	1022	-	29.6	SO-8
ZXMP3A16G	Single	N	-30	±20	-7.5	3.9	45	70	-	1022	-	25	SOT223
DMP3098LDM	Single	N	-30	±20	-4	1.25	65	115	-	336	4	7.8	SOT23-6
DMP3098LSD	Dual	N	-30	±20	-4.4	1.8	65	115	-	336	4	7.8	SO-8
DMP3098LSS	Single	N	-30	±20	-5.3	2.5	65	115	-	336	4	7.8	SO-8
ZXMP3A17DN8	Dual	N	-30	±20	-4.4	2.1	70	110	-	630	-	15.8	SO-8
ZXMP3A17E6	Single	N	-30	±20	-4	1.7	70	110	-	630	-	15.8	SOT23-6
DMP3098L	Single	N	-30	±20	-3.8	1.08	70	120	-	336	4	7.8	SOT23
ZXM64P03X	Single	N	-30	±20	-3.8	1.1	75	100	-	825	-	46	MSOP8
DMP3130L	Single	N	-30	±12	-3.5	1.4	77	95	150	432	5.9	12	SOT23
ZXMP3F30FH	Single	N	-30	±20	-3.4	1.4	80	140	-	370	-	7	SOT23
DMP3100L	Single	N	-30	±20	-2.7	1.08	100	170	-	227	-	-	SOT23
DMP3160L	Single	N	-30	±20	-2.7	1.08	122	190	-	227	-	-	SOT23
ZXMD63P03X	Dual	N	-30	±20	2	1.25	185	270	-	270	-	7	MSOP8
ZXMP3A13F	Single	N	-30	±20	-1.6	0.806	210	330	-	206	-	6.4	SOT23
DMP3030SN	Single	Y	-30	±20	-0.7	0.5	250	450	-	160	-	-	SC59
ZXM61P03F	Single	N	-30	±20	-1.1	0.625	350	550	-	140	-	4.8	SOT23

THE DIODES ADVANTAGE



## Reliability and the Environment

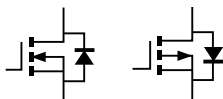
**Did you know?** The majority of Diodes MOSFET portfolio is designed and manufactured to meet the stringent requirements of AECQ101 of the Automotive Electronic Council and complies with the requirements of TS16949.

Moreover, Diodes has achieved ISO14001 certification for its environmental practice and responsible industrial management.

As an active supporter of environmentally friendly practices all Diodes products are RoHS (Restriction of Hazardous Substances) compliant and will utilise environmentally friendly ('Green') mould compound by Q1, 2010.

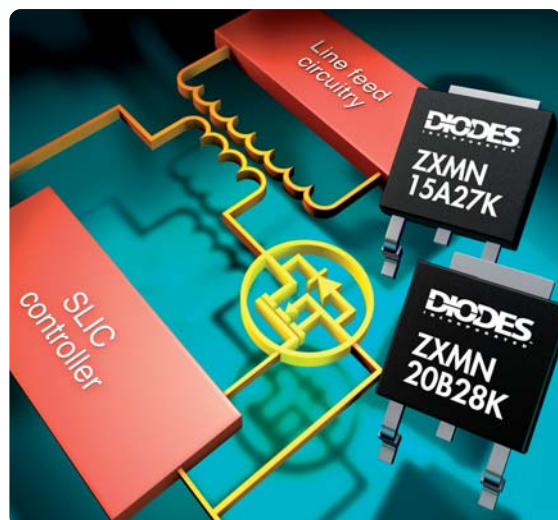


# 30V Complementary



Part Number	Configuration	Type	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A) @T <sub>A</sub> =25°C	P <sub>D</sub> (W) @T <sub>A</sub> =25°C	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =		C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =±15V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =4.5V	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
								10V	4.5V				
DMC3018LSD	Complementary	N	N	30	±20	9.1	2.5	20	32	631	5.9	12.4	SO-8
		P	N	-30	±20	-6		45	65	772	7	13.7	
ZXMC3F31DN8	Complementary	N	N	30	±20	7	2.1	24	39	742	-	16.4	SO-8
		P	N	-30	±20	-4.5		46	80	820	-	15.2	
DMC3028LSD	Complementary	N	N	30	±20	7.1	2.1	28	45	472	5.2	10.5	SO-8
		P	N	-30	±20	-7.4		25	41	1678	16.4	31.6	
DMC3035LSD	Complementary	N	N	30	±20	6.9	2	35	61	384	4.3	8.6	SO-8
		P	N	-30	±20	-5.5		65	115	336	4	7.8	
DMC3036LSD	Complementary	N	N	30	±20	6.9	2.5	36	61	384	4.3	8.6	SO-8
		P	N	-30	±20	-5.5		36	64	336	4	7.8	
ZXMD63C03X	Complementary	N	N	30	±20	2.3	1.25	135	200	300	-	6.1	MSOP8
		P	N	-30	±20	-2		185	270	280	-	5.4	

THE DIODES ADVANTAGE



## A focus on Applications

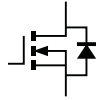
**Did you know?** Strong customer relationships and a deep understanding of their end applications are the driving forces behind Diodes Incorporated's MOSFET product development strategy.

For example, The ZXMN15A27K and ZXMN20B28K are 150V and 200V N-channel MOSFETs specifically designed to meet the stringent requirements of the primary switch position in transformer based Subscriber Line Interface Circuits (SLIC) DC/DC converters in a variety of VoIP applications including voice over broadband systems, PBX systems, Cable and DSL gateways. These devices are avalanche rated and withstand the high pulse avalanche energy that will be induced by the transformer during switching transitions without the need for additional protection circuitry.

**ZETEX**

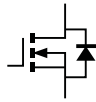
A Product Line of  
Diodes Incorporated

# 31V to 99V N-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =1/2V <sub>DS</sub>	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	10V	4.5V	2.5V			
DMN4009LK3	Single	N	40	±20	27.6	10.3	8.5	14	-	2072	42	TO252-3L
DMN4015LK3	Single	N	40	±20	20.8	10.3	15	20	-	2072	42	TO252-3L
DMN4030LK3	Single	N	40	±20	13.7	8.9	30	50	-	604	12.9	TO252-3L
DMN4036LK3	Single	N	40	±20	12.2	8.5	36	61	-	453	9.2	TO252-3L
ZXMN6A09DN8	Dual	N	60	±20	5.6	2.1	40	60	-	1407	24.2	S0-8
ZXMN6A09G	Single	N	60	±20	7.5	3.9	40	60	-	1407	24.2	SOT223
ZXMN6A09K	Single	N	60	±20	12.2	10.1	40	60	-	1426	29	TO252-3L
ZXMN6A25DN8	Dual	N	60	±20	5	2.1	50	70	-	1063	20.4	S0-8
ZXMN6A25G	Single	N	60	±20	6.7	3.9	50	70	-	1063	20.4	SOT223
ZXMN6A25K	Single	N	60	±20	10.7	9.85	50	70	-	1063	20.4	TO252-3L
ZXMN6A25N8	Single	N	60	±20	5.7	2.8	50	70	-	1063	20.4	S0-8
ZXMN4A06G	Single	N	40	±20	7	3.9	50	75	-	770	18.2	SOT223
ZXMN4A06K	Single	N	40	±20	10.9	9.5	50	75	-	827	17.1	TO252-3L
DMN6068LK3	Single	N	60	±20	8.5	8.5	68	100	-	502	10.3	TO252-3L
DMN6068SE	Single	N	60	±20	5.6	3.7	68	100	-	502	10.3	SOT223
ZXMN6A08E6	Single	N	60	±20	3.5	1.7	80	150	-	459	5.8	SOT23-6
ZXMN6A08G	Single	N	60	±20	5.3	3.9	80	150	-	459	5.8	SOT223
ZXMN6A08K	Single	N	60	±20	18.2	9.25	80	150	-	459	5.8	TO252-3L
ZXMN6A11DN8	Dual	N	60	±20	3.2	2.1	120	180	-	330	5.7	S0-8
ZXMN6A11G	Single	N	60	±20	4.4	3.9	120	180	-	330	5.7	SOT223
ZXMN6A11Z	Single	N	60	±20	3.6	2.6	120	180	-	330	5.7	SOT89
ZXMN7A11G	Single	N	70	±20	3.8	3.9	130	190	-	298	7.4	SOT223
ZXMN7A11K	Single	N	70	±20	6.1	8.5	130	190	-	298	7.4	TO252-3L
ZXMN6A07F	Single	N	60	±20	1.4	0.806	250	350	-	166	3.2	SOT23
ZXMN6A07Z	Single	N	60	±20	2.5	2.6	250	350	-	166	3.2	SOT89
DMN601VK	Dual	Y	60	±20	0.305	0.2	2000	3000	-	50 (max)	-	SOT563
DMN601WK	Single	Y	60	±20	0.3	0.2	2000	3000	-	50 (max)	-	SOT323
2N7002E	Single	N	60	±20	0.24	0.3	3000	4000	-	22	-	SOT23
MMBF170	Single	N	60	±20	-0.5	0.3	5000	5300	-	22	-	SOT23
BS870	Single	N	60	±20	0.25	0.3	5000	-	-	22	-	SOT23
BSS138 - 7	Single	N	50	±20	0.2	0.3	3500	-	-	50 (max)	-	SOT23
BSS138DW	Dual	N	50	±20	0.2	0.2	3500	-	-	50	-	SOT363
BSS138W	Single	N	50	±20	0.2	0.2	3500	-	-	50 (max)	-	SOT323
ZVN2106A	Single	N	60	±20	0.45	0.7	2000	-	-	75	-	E-Line
ZVN2106G	Single	N	60	±20	0.71	2	2000	-	-	75	-	SOT223
ZVN3306A	Single	N	60	±20	0.27	0.625	5000	-	-	35	-	E-Line
ZVN3306F	Single	N	60	±20	0.15	0.33	5000	-	-	35	-	SOT23
ZVN4206AV	Single	N	60	±20	0.6	0.7	1000	1500 (@5V)	-	100	-	E-Line
ZVN4206G	Single	N	60	±20	1	2	1000	1500 (@5V)	-	100	-	SOT223
ZVN4206GV	Single	N	60	±20	1	2	1000	1500 (@5V)	-	100	-	SOT223
2N7002W	Single	N	60	±20	0.115	0.2	2600	1800 (@5V)	-	22	-	SOT323
DMN5010VAK	Dual	Y	50	±20	0.28	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT563
DMN506DMK	Dual	Y	50	±20	0.305	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT23-6
DMN506DWK	Dual	Y	50	±20	0.305	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT363
DMN506K	Single	Y	50	±20	0.3	0.35	-	2000 (@5V)	2500	50 (max)	-	SOT23
DMN506TK	Single	N	50	±20	0.28	0.15	-	2000 (@5V)	2500	50 (max)	-	SOT523
DMN506VAK	Dual	Y	50	±20	0.28	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT563
DMN506VK	Dual	Y	50	±20	0.28	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT563
DMN506WK	Single	Y	50	±20	0.3	0.25	-	2000 (@5V)	2500	50 (max)	-	SOT323
2N7002K	Single	Y	60	±20	0.3	0.35	2000	3000 (@5V)	-	50 (max)	-	SOT23
DMN601DWK	Dual	Y	60	±20	0.305	0.2	2000	3000 (@5V)	-	50 (max)	-	SOT363
DMN601K	Single	Y	60	±20	0.3	0.35	2000	3000 (@5V)	-	50 (max)	-	SOT23
ZVN4306AV	Single	N	60	±20	1.1	0.85	330	450 (@5V)	-	350	-	E-Line

## 31V to 99V N-channel (continued)



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> =1/2V <sub>DS</sub>	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	10V	4.5V	2.5V			
ZVN4306G	Single	N	60	±20	2.1	3	330	450 (@5V)	-	350	-	SOT223
ZVN4306GV	Single	N	60	±20	2.1	3	330	450 (@5V)	-	350	-	SOT223
ZVN4106F	Single	N	60	±20	0.2	0.33	2500	5000 (@5V)	-	35	-	SOT23
DMN55DOUT	Single	Y	50	±12	0.16	0.2	-	6000 (@4V)	5000	25	-	SOT523
DMN66D0LDW	Dual	Y	60	±20	0.115	0.25	5000	6000 (@5V)	-	23	-	SOT363
DMN66D0LT	Single	Y	60	±20	0.115	0.22	5000	6000 (@5V)	-	23	-	SOT523
DMN66D0LW	Single	Y	60	±20	0.115	0.25	5000	6000 (@5V)	-	23	-	SOT323
2N7002 -7	Single	N	60	±20	0.115	0.3	13500	7500 (@5V)	-	22	-	SOT23
2N7002DW	Dual	N	60	±20	0.115	0.3	13500	7500 (@5V)	-	22	-	SOT363
2N7002T	Single	N	60	±20	0.115	0.15	13500	7500 (@5V)	-	22	-	SOT523
2N7002VAC	Dual	N	60	±20	0.28	0.15	13500	7500 (@5V)	-	50 (max)	-	SOT563
VN10LP	Single	N	60	±20	0.27	0.625	5000	7500 (@5V)	-	60	-	E-Line

THE DIODES ADVANTAGE



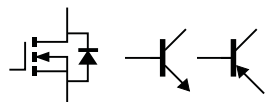
### Co-packaged MOSFET and Bipolar

**Did you know?** Diodes Incorporated offers designers a range of co-packaged discrete circuit elements.

The DMB5xxx series co-packages an N channel enhancement mode MOSFET and a Bipolar Junction Transistor in small leadless packages such as SOT363/563. The DMB5xxx series allows designers to replace two discrete circuit elements or to configure load switches that provide the benefits of both technologies.

For example, a load switch that utilises a bipolar as the 'pass element' can be used in circuits where the output voltage is higher than that of the input – the intrinsic body diode of a MOSFET would conduct under such conditions.

## MOSFET plus BJT



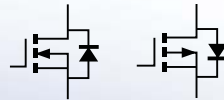
Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF)	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					25°C	25°C	10V	4.5V	2.5V			
DMB53D0UDW	N channel plus NPN	Y	50	±12	0.16	0.25	-	4000 (@4V)	5000	25	-	SOT363
DMB53D0UV	N channel plus NPN	Y	50	±12	0.16	0.25	-	4000 (@4V)	5000	25	-	SOT563
DMB54D0UDW	N channel plus PNP	Y	50	±12	0.16	0.25	-	4000 (@4V)	5000	25	-	SOT363
DMB54D0UV	N channel plus PNP	Y	50	±12	0.16	0.25	-	4000 (@4V)	5000	25	-	SOT563

# 31V to 99V P-channel



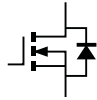
Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF)	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	10V	4.5V	2.5V			
DMP4051LK3	Single	N	-40	±20	-10.5	8.9	51	85	-	674	14	TO252-3L
ZXMP6A18DN8	Dual	N	-60	±20	-4.8	2.1	55	80	-	1580	44	S0-8
ZXMP6A18K	Single	N	-60	±20	-10.4	10.1	55	80	-	1580	44	TO252-3L
ZXMP4A16G	Single	N	-40	±20	-6.4	3.9	60	100	-	1007	26.1	SOT223
ZXMP4A16K	Single	N	-40	±20	-9.9	9.5	60	100	-	965	29.6	TO252-3L
ZXMP6A16DN8	Dual	N	-60	±20	-3.9	2.15	85	125	-	1021	24.2	S0-8
ZXMP6A16K	Single	N	-60	±20	-8.2	9.76	85	125	-	1021	24.2	TO252-3L
ZXMP6A17DN8	Dual	N	-60	±20	-3.2	2.15	125	190	-	637	17.7	S0-8
ZXMP6A17E6	Single	N	-60	±20	-3	1.7	125	190	-	637	17.7	SOT23-6
ZXMP6A17G	Single	N	-60	±20	-4.1	3.9	125	190	-	637	17.7	SOT223
ZXMP6A17K	Single	N	-60	±20	-6.6	9.3	125	190	-	637	17.7	S0-8
ZXMP7A17G	Single	N	-70	±20	-3.7	3.9	160	250	-	635	18	SOT223
ZXMP7A17K	Single	N	-70	±20	-5.7	9.25	160	250	-	635	18	TO252-3L
ZXMP6A13G	Single	N	-60	±20	-2.3	3.9	390	595	-	219	5.9	SOT223
ZXMP6A13F	Single	N	-60	±20	-1.1	0.806	400	600	-	219	5.9	SOT23
BSS138	Single	N	50	±20	0.2	0.3	3500	-	-	50 (max)	-	SOT23
BSS138DW	Dual	N	50	±20	0.2	0.2	3500	-	-	50	-	SOT363
BSS138W	Single	N	50	±20	0.2	0.2	3500	-	-	50 (max)	-	SOT323
ZVP2106A	Single	N	-60	±20	-0.28	0.7	5000	-	-	100	-	E-Line
ZVP2106G	Single	N	-60	±20	-0.45	2	5000	-	-	100	-	SOT223
BS250F	Single	N	-45	±20	-0.09	0.33	14000	-	-	25	-	SOT23
ZVP3306A	Single	N	-60	±20	-0.16	0.625	14000	-	-	50	-	E-Line
ZVP3306F	Single	N	-60	±20	-0.09	0.33	14000	-	-	50	-	SOT23
BSS84DW	Dual	N	-50	±20	-0.13	0.3	-	10000 (@10V)	-	45 (max)	-	SOT363
BSS84W	Single	N	-50	±20	-0.13	0.2	-	10000 (@5V)	-	45 (max)	-	SOT323
BSS84V	Single	N	-50	±20	-0.13	0.2	-	10000 (@5V)	-	45 (max)	-	SOT323
BSS84V	Dual	N	-50	±20	-0.13	0.15	-	10000 (@5V)	-	45 (max)	-	SOT563
BSS84	Single	N	-50	±20	-0.13	0.3	-	10000 (@-5V)	-	45	-	SOT23
DMP57D5UFB	Single	Y	-50	±8	-0.2	0.425	-	6000 (@4V)	8000	29	-	DFN1006-3
DMP57D5UV	Dual	Y	-50	±8	-0.16	-0.4	-	6000 (@4V)	8000	29	-	SOT563
DMP58D0SV	Dual	Y	-50	±20	-0.16	-	-	8000 (@5V)	-	27	-	DFN1006-3

# 31V to 100V Complementary



Part Number	Configuration	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =		C <sub>iss</sub> typ. (pF)	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
				25°C	25°C	10V	4.5V			
ZXMC4A16DN8	Complementary	40	±20	5.2	2.1	50	75	770	17	SO-8
		-40		-4.7		60	100	1000	26	
ZXMC4559DN8	Complementary	60	±20	4.7	2.2	55	75	1063	20.4	SO-8
		-60		-3.9		85	125	1021	24.2	
ZXMC10A816N8	Complementary	100	±20	2.1	2.4	230	300	497	9.2	SO-8
		-100		-2.2		235	320	717	16.5	

# 100V plus N-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)		P <sub>D</sub> (W)			R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF)	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					25°C	25°C	25°C	25°C	10V	4.5V	2.5V				
ZXMN10A09K	Single	N	100	±20	7.7	10.1	85	100 (@6V)	-	1313	26	TO252-3L			
ZXMN10A25K	Single	N	100	±20	6.4	4.25	125	150 (@6V)	-	859	17.16	TO252-3L			
ZXMN10A25G	Single	N	100	±20	4	2	125	150 (@6V)	-	859	17	SOT223			
ZXMN10A08E6	Single	N	100	±20	1.9	1.7	250	300 (@6V)	-	405	7.7	SOT23-6			
ZXMN10B08E6	Single	N	100	±20	1.9	1.7	230	300	-	497	9.2	SOT23-6			
ZXMN10A08DN8	Dual	N	100	±20	2.1	1.25	250	300 (@6V)	-	405	7.7	S0-8			
ZXMN10A08G	Single	N	100	±20	2.9	2	250	300 (@6V)	-	405	7.7	SOT223			
ZXMN10A11G	Single	N	100	±20	2.4	3.9	350	450 (@6V)	-	274	5.4	SOT223			
ZXMN10A11K	Single	N	100	±20	3.5	4.06	350	450 (@6V)	-	274	5.4	TO252-3L			
ZVN4310A	Single	N	100	±20	0.9	0.85	500	650 (@5V)	-	350	-	E-Line			
ZVN4310G	Single	N	100	±20	1.67	3	540	750 (@5V)	-	350	-	SOT223			
ZXMN10A07F	Single	N	100	±20	0.8	0.625	700	900 (@6V)	-	138	2.9	SOT23			
ZXMN10A07Z	Single	N	100	±20	1.4	1.5	700	900 (@6V)	-	138	2.9	SOT89			
ZXMN15A27K	Single	N	150	±20	2.6	9.5	650	-	-	169	6.6	TO252-3L			
ZXMN20B28K	Single	N	200	±20	2.3	10.2	750	780	-	358	12.9	TO252-3L			
ZVN4210A	Single	N	100	±20	0.45	0.7	1500	1800 (@5V)	-	100	-	E-Line			
ZVN4210G	Single	N	100	±20	0.8	2	1500	1800 (@5V)	-	100	-	SOT223			
ZVNL110A	Single	N	100	±20	0.32	0.7	3000	4500 (@5V)	-	75	-	E-Line			
ZVNL110G	Single	N	100	±20	0.6	2	3000	4500 (@5V)	-	75	-	SOT223			
ZVN2110A	Single	N	100	±20	0.32	0.7	4000	-	-	75	-	E-Line			
ZVN2110G	Single	N	100	±20	0.5	2	4000	-	-	59	-	SOT223			
ZVN4424A	Single	N	240	±40	0.26	0.75	5500	-	6000	110	-	E-Line			
ZVN4424G	Single	N	240	±40	0.5	2.5	5500	-	6000	110	-	SOT223			
ZVN4424Z	Single	N	240	±40	0.3	1	5500	-	6000	110	-	SOT89			
BSS123	Single	N	100	±20	0.17	0.3	6000	10000	-	29	-	SOT23			
BSS123(Z)	Single	N	100	±20	0.17	0.36	6000	-	-	20	-	SOT23			
BSS123A	Single	N	100	±20	0.17	0.36	6000	10000	-	25	-	SOT23			
BSS123W	Single	N	100	±20	0.17	0.2	6000	10000	-	29	-	SOT323			
ZVN4525E6	Single	N	250	±40	0.23	1.1	8500	9000	9500 (@2.4V)	72	2.6	SOT23-6			
ZVN4525G	Single	N	250	±40	0.31	2	8500	9000	9500 (@2.4V)	72	2.6	SOT223			
ZVN4525Z	Single	N	250	±40	0.24	1.2	8500	9000	9500 (@2.4V)	72	2.6	SOT89			
ZVN3310A	Single	N	100	±20	0.2	0.625	10000	-	-	40	-	E-Line			
ZVN3310F	Single	N	100	±20	0.1	0.33	10000	-	-	40	-	SOT23			
ZVN2120A	Single	N	200	±20	0.18	0.7	10000	-	-	85	-	E-Line			
ZVN2120G	Single	N	200	±20	0.32	2	10000	-	-	85	-	SOT223			
ZVN0124A	Single	N	240	±20	0.16	0.7	16000	-	-	85	-	E-Line			
ZVN3320F	Single	N	200	±20	0.06	0.33	25000	-	-	45	-	SOT23			
BS107P	Single	N	200	±20	0.12	0.5	-	30000	23000 (@2.6V)	58	2.7	E-Line			
ZVNL120A	Single	N	200	±20	0.18	0.7	-	10000 (@5V)	10000 (@3V)	85	-	E-Line			
ZVNL120G	Single	N	200	±20	0.32	2	-	10000 (@5V)	10000 (@3V)	85	-	SOT223			
ZVN0540A	Single	N	400	±20	0.09	0.7	50000	-	-	70	-	E-Line			
ZVN0545A	Single	N	450	±20	0.09	0.7	50000	-	-	70	-	E-Line			
ZVN0545G	Single	N	450	±20	0.14	2	50000	-	-	70	-	SOT223			
ZXMN0545G4	Single	N	450	±20	0.14	2	50000	-	-	70	-	SOT223			

# 100V plus P-channel



Part Number	Configuration	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =			C <sub>iss</sub> typ. (pF) @ V <sub>DS</sub> = 1/2V <sub>DS</sub>	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
					@T <sub>A</sub> =25°C	@T <sub>A</sub> =25°C	10V	4.5V	2.5V			
ZXMP10A18G	Single	N	-100	±20	-3.7	3.9	150	190 (@6V)	-	1055	26.9	SOT223
ZXMP10A18K	Single	N	-100	±20	-5.9	10.2	150	190 (@6V)	-	1055	26.9	TO252-3L
ZXMP10A16K	Single	N	-100	±20	4.6	9.76	235	285 (@6V)	-	717	16.5	TO252-3L
ZXMP10A17K	Single	N	-100	±20	-1.6	1.7	350	450 (@6V)	-	424	10.7	TO252-3L
ZXMP10A17E6	Single	N	-100	±20	-1.6	1.7	350	450 (@6V)	-	424	10.7	SOT236
ZXMP10A17G	Single	N	-100	±20	-2.4	3.9	350	450 (@6V)	-	424	10.7	SOT233
ZXMP10A13F	Single	N	-100	±20	-0.7	0.806	1000	1450 (@6V)	-	141	3.5	SOT23
ZVP2110A	Single	N	-100	±20	-0.23	0.7	8000	-	-	100	-	E-Line
ZVP2110G	Single	N	-100	±20	-0.31	2	8000	-	-	100	-	SOT223
ZVP4424A	Single	N	-240	±40	-0.2	0.75	9000	-	11000 (@3.5V)	100	-	E-Line
ZVP4424G	Single	N	-240	±40	-0.48	2.5	9000	-	11000 (@3.5V)	100	-	SOT223
ZVP4424Z	Single	N	-240	±40	-0.2	1	9000	-	11000 (@3.5V)	100	-	SOT89
ZVP4525E6	Single	N	-250	±40	-0.197	1.1	14000	-	18000 (@3.5V)	73	2.45	SOT23-6
ZVP4525G	Single	N	250	±40	-0.265	2	14000	-	18000 (@3.5V)	73	2.45	SOT223
ZVP4525Z	Single	N	250	±40	-0.205	1.2	14000	-	18000 (@3.5V)	73	2.45	SOT89
ZVP3310A	Single	N	-100	±20	-0.14	0.625	20000	-	-	50	-	E-Line
ZVP3310F	Single	N	-100	±20	-0.075	0.33	20000	-	-	50	-	SOT23
ZVP2120A	Single	N	-200	±20	-0.12	0.7	25000	-	-	100	-	E-Line
ZVP2120G	Single	N	-200	±20	-0.2	2	25000	-	-	100	-	SOT223
ZXMP2120G4*	Single	N	-200	±20	0.2	2	25000	-	-	100	-	SOT223
ZXMP2120E5*	Single	N	-200	±20	-0.122	0.75	28000	-	-	100	-	SOT23-5
ZXMP2120FF	Single	N	-200	±20	-0.137	1	28000	-	-	100	-	SOT23F
ZVP1320F	Single	N	-200	±20	-0.035	0.33	80000	-	-	50	-	SOT23
ZVP0545A	Single	N	-450	±20	-0.045	0.7	150000	-	-	120	**	E-Line
ZVP0545G	Single	N	-450	±20	-0.075	2	150000	-	-	120	**	SOT223

THE DIODES ADVANTAGE

**Did you know?** Diodes Incorporated designed, developed and manufactures the industry's smallest self protected MOSFET – the ZXMS6004FF.

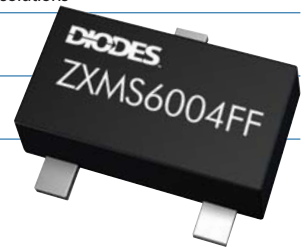


## Product features

- **SOT23 Flat footprint occupies just 15% of SOT223 PCB area**  
Placement flexibility and potential cost saving from reduced PCB area
- **Thermally efficient small form factor SOT23 Flat package**  
Provides a power dissipation that is comparable to larger SOT223 solutions
- **ESD, over voltage, over current and over temperature protection features**  
Provides the same functionality as larger SOT223 solutions
- **On state resistance of 500mOhm**  
Minimises power dissipation
- **3V to 5.5V input range**  
Directly interfaces to microcontroller outputs
- **Qualified to AECQ101**

**ZETEX**

A Product Line of  
Diodes Incorporated



# Protected MOSFETs (IntelliFET)

Part Number	Polarity	TAB	BV <sub>DSS</sub> (V)	I <sub>D</sub> (A) V <sub>IN</sub> =5V	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>IN</sub> =			V <sub>DS(S/C)</sub>	E <sub>AS</sub> (mJ)	T <sub>j</sub> (°C)	Package
						3V	5V	10V	V <sub>IN</sub> =5V			
BSP75G	N	Drain	60	1.4	2.5	-	675	550	36	550	150	SOT223
BSP75N	N	Source	60	1.2	1.5	-	675	550	36	550	150	SOT223
ZXMS6001N3	N	Source	60	1.1	1.5	2000	675	-	36	550	150	SOT223
ZXMS6002G	N	Drain	60	1.4	2.5	-	675	550	36	550	150	SOT223
ZXMS6003G	N	Drain	60	1.4	2.5	-	675	550	36	550	150	SOT223
ZXMS6004DG	N	Drain	60	1.3	3	600	500	-	36	490	150	SOT223
ZXMS6004FF	N	N/A	60	1.3	1.5	600	500	-	36	90	150	SOT23F
ZXMS6004SG	N	Source	60	1.3	1.6	600	500	-	36	480	150	SOT223

## H-bridge

Part Number	Configuration	Type	ESD Diode (Y/N)	V <sub>DS</sub> (V)	V <sub>GS</sub> (±V)	I <sub>DS</sub> (A)	P <sub>D</sub> (W)	R <sub>DS(ON)</sub> (mΩ max) at V <sub>GS</sub> =		C <sub>iss</sub> typ. (pF)	Q <sub>g</sub> typ. (nC) @ V <sub>GS</sub> =10V	Package
						25°C		25°C	10V			
ZXMHC3F381N8	H Bridge	2*N	N	30	±20	5	1.3	33	60	430	9	SO-8
		2*P	N	-30	±20	-4.1		55	80			
ZXMHC3A01N8	H Bridge	2*N	N	30	±20	2.7	1.3	125	180	194	3.9	SO-8
		2*P	N	-30	±20	-2.1		210	330			
ZXMHC3A01T8	H Bridge	2*N	N	30	±20	3.1	1.7	125	180	194	3.9	SM8
		2*P	N	-30	±20	-2.3		210	330			
ZXMHC6A07N8	H Bridge	2*N	N	60	±20	1.8	1.3	250	350	166	3.2	SO-8
		2*P	N	-60	±20	-1.4		400	600			
ZXMHC6A07T8	H Bridge	2*N	N	60	±20	1.8	1.7	300	450	166	3.2	SM8
		2*P	N	-60	±20	-1.5		425	630			
ZXMHN6A07T8	H Bridge	4*N	N	60	±20	1.8	1.7	300	450	166	3.2	SM8
ZXMHC10A07N8	H Bridge	2*N	N	100	±20	1.1	1.3	700	900	138	2.9	SO-8
		2*P	N	-100	±20	-0.9		1000	1450			
ZXMHC10A07T8	H Bridge	2*N	N	100	±20	1.1	1.3	700	900	138	2.9	SM8
		2*P	N	-100	±20	-0.9		1000	1450			

THE DIODES ADVANTAGE

### H-bridge

**Did you know?** Diodes Incorporated is the only semiconductor vendor to offer a range of unique H-bridges packaged in SO8 or SM8.

These unique products can replace either four discrete (SOT23) or two dual (SO8) devices.

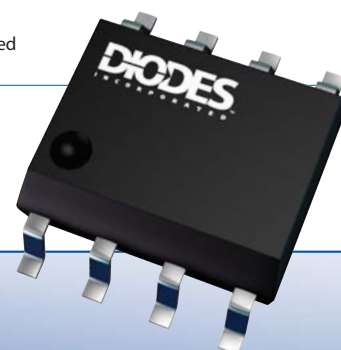


### Product benefits

- Simplified designs**  
 One MOSFET H-bridge can replace two dual SO8's, reducing PCB area footprint by 50%
- Reduce component count**  
 One MOSFET H-bridge can replace two dual SO8's, reducing component count and PCB area
- Reduce inventory cost**  
 Only one component needs to be stocked instead of 2 or 4

**ZETEX**

A Product Line of  
Diodes Incorporated



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