



SOT-23



SO-8



SO-16



SO-16L



SO-20  
SO-28  
SO-34



PowerSO-10  
PowerSO-16



PowerSO-20  
PowerSO-30  
PowerSO-36



PowerQFN



DPAK



PPAK



PowerSSO-12



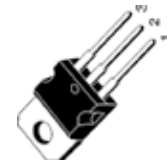
PowerSSO-24  
PowerSSO-36



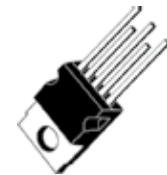
MultiPowerSO-30



IPAK



TO-220



PENTAWATT



P2PAK



HPAK

# Smart power solutions for car body applications



## Selection guide





## High-side switches — Single channel

Part number	Package	Technology	Supply voltage ( $V_{cc}$ )		Absolute max supply voltage (V)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )	Drain current limit ( $I_{lim}$ ) typ (A)	Current sense	Digital status
			min (V)	max (V)					
VN5E025AJ-E	PowerSSO-12	M0-5 Enhanced	4.5	28	41	25	60	•	
VN460SP-E	PowerSO-10	M0-2	5.5	36	45	20	50		•
VN920DB5-E	P <sup>2</sup> PAK	M0-3	5.5	36	41	18	45		•
VN920B5-E	P <sup>2</sup> PAK	M0-3	5.5	36	41	16	45	•	
VN920DSP-E	PowerSO-10	M0-3	5.5	36	41	16	45		•
VN920-E	PENTAWATT	M0-3	5.5	36	41	16	45	•	
VN5016AJ-E	PowerSSO-12	M0-5	4.5	36	41	16	60	•	
VN5E016AH-E	HPAK	M0-5 Enhanced	4.5	28	41	16	73	•	
VN5E016MH-E	HPAK	M0-5 Enhanced (M Vers.)	4.5	28	41	16	73	•	
VN920PEP-E	PowerSSO-24	M0-3	5.5	36	41	15	45	•	
VN920SP-E	PowerSO-10	M0-3	5.5	36	41	15	45	•	
VN5012AK-E	PowerSSO-24	M0-5	4.5	36	41	12	65	•	
VN5010AK-E	PowerSSO-24	M0-5	4.5	36	41	10	65	•	
VN5E010AH-E	HPAK	M0-5 Enhanced	4.5	28	41	10	85	•	
VN5E010MH-E	HPAK	M0-5 Enhanced (M Vers.)	4.5	28	41	10	85	•	
VN610SP-E	PowerSO-10	M0-3	5.5	36	41	10	75	•	
VN5E006ASP-E	PowerSO-10	M0-5	4.5	28	41	6	100	•	

## High-side switches — Double channel

Part number	Package	Technology	Supply voltage (V <sub>cc</sub> )		Absolute max supply voltage (V)	Max on-state resistance R <sub>DS(on)</sub> max (mΩ)	Drain current limit (I <sub>lim</sub> ) typ (A)	Current sense	Digital status
			min (V)	max (V)					
VND05BSP-E	PowerSO-10	M0-2	6	26	40	200	9		•
VND5160AJ-E	PowerSSO-12	M0-5	4.5	36	41	160	5	•	
VND5160J-E	PowerSSO-12	M0-5	4.5	36	41	160	5		•
VND5E160AJ-E	PowerSSO-12	M0-5Enhanced	4.5	28	41	160	10	•	
VND5E160J-E	PowerSSO-12	M0-5Enhanced	4.5	28	41	160	10		•
VND5E160MJ-E	PowerSSO-12	M0-5Enhanced (M Vers.)	4.5	28	41	160	10	•	
VND10BSP-E	PowerSO-10	M0-2	6	26	40	100	14		•
VND810P-E	SO-16	M0-3	5.5	36	41	160	5		•
VND810PEP-E	PowerSSO-12	M0-3	5.5	36	41	160	5		•
VND810SP-E	PowerSO-10	M0-3	5.5	36	41	160	5		•
VND810MSP-E	PowerSO-10	M0-3	5.5	36	41	150	0.9		•
VND830AEP-E	PowerSSO-24	M0-3	5.5	36	41	60	10	•	
VND830ASP-E	PowerSO-10	M0-3	5.5	36	41	60	9	•	
VND830LSP-E	PowerSO-10	M0-3	5.5	36	41	60	23		•
VND830P-E	SO-16L	M0-3	5.5	36	41	60	9		•
VND830MSP-E	PowerSO-10	M0-3	5.5	36	41	60	9		•
VND830PEP-E	PowerSSO-24	M0-3	5.5	36	41	60	9		•
VND830SP-E	PowerSO-10	M0-3	5.5	36	41	60	9		•
VND5050AJ-E	PowerSSO-12	M0-5	4.5	36	41	50	18	•	
VND5050AK-E	PowerSSO-24	M0-5	4.5	36	41	50	18	•	
VND5050J-E	PowerSSO-12	M0-5	4.5	36	41	50	18		•
VND5050K-E	PowerSSO-24	M0-5	4.5	36	41	50	18		•
VND5E050AJ-E	PowerSSO-12	M0-5Enhanced	4.5	28	41	50	27	•	
VND5E050AK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	50	27	•	
VND5E050J-E	PowerSSO-12	M0-5Enhanced	4.5	28	41	50	27		•
VND5E050K-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	50	27		•
VND5E050MJ-E	PowerSSO-12	M0-5Enhanced (M Vers.)	4.5	28	41	50	27	•	
VND5E050MK-E	PowerSSO-24	M0-5Enhanced (M Vers.)	4.5	28	41	50	27	•	

## High-side switches — Double channel

Part number	Package	Technology	Supply voltage ( $V_{cc}$ )		Absolute max supply voltage (V)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )	Drain current limit ( $I_{lim}$ ) typ (A)	Current sense	Digital status
			min (V)	max (V)					
VND600P-E	SO-16L	M0-3	5.5	36	41	35	40	•	
VND600PEP-E	PowerSSO-24	M0-3	5.5	36	41	30	40	•	
VND600SP-E	PowerSO-10	M0-3	5.5	36	41	30	40	•	
VND5025AK-E	PowerSSO-24	M0-5	4.5	36	41	25	40	•	
VND5E025AK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	25	60	•	
VND5E025AY-E	PowerSSO-36	M0-5Enhanced	4.5	28	41	25	60	•	
VND5E025BK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	25	60	•	
VND5E025LK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	25	40	•	
VND5E025MK-E	PowerSSO-24	M0-5Enhanced (M Vers.)	4.5	28	41	25	60	•	
VND920P-E	SO-28	M0-3	5.5	36	41	16	45	•	
VND5E012AY-E	PowerSSO-36	M0-5Enhanced	4.5	28	41	12	74	•	
VND5E012MY-E	PowerSSO-36	M0-5Enhanced (M Vers.)	4.5	28	41	12	74	•	
VND5012AK-E	PowerSSO-24	M0-5	4.5	36	41	12	60	•	
VND5E008AY-E	PowerSSO-36	M0-5Enhanced	4.5	28	41	8	85	•	
VND5E008MY-E	PowerSSO-36	M0-5Enhanced (M Vers.)	4.5	28	41	8	85	•	
VND5E006ASP-E	PowerSO-16	M0-5Enhanced	4.5	28	41	6	100	•	
VND5E004A-E	PQFN	M0-5Enhanced	4.5	28	41	4	100	•	
VND5E004A30-E	MultiPowerSO-30	M0-5Enhanced	4.5	28	41	4	100	•	

## High-side switches — Quad channel

Part number	Package	Technology	Supply voltage (V <sub>cc</sub> )		Absolute max supply voltage (V)	Max on-state resistance R <sub>DS(on)</sub> max (mΩ)	Drain current limit (I <sub>lim</sub> ) typ (A)	Current sense	Digital status
			min (V)	max (V)					
VNQ5E250AJ-E	PowerSSO 16	M0-5Enhanced	4.5	28	41	250	5	•	
VNQ5160K-E	PowerSSO-24	M0-5	4.5	36	41	160	5		•
VNQ5E160AK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	160	10	•	
VNQ5E160K-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	160	10		•
VNQ5E160MK-E	PowerSSO-24	M0-5Enhanced (M Vers.)	4.5	28	41	160	10	•	
VNQ810P-E	SO-28	M0-3	5.5	36	41	160	5		•
VNQ810PEP-E	PowerSSO-24	M0-3	5.5	36	41	160	7.5		•
VNQ05XSP16-E	PowerSO-16	M0-3	5.5	36	41	110	7.5	•	
VNQ690SP-E	PowerSO-10	M0-3	6	36	41	90	14		•
VNQ830P-E	SO-28	M0-3	5.5	36	41	65	9		•
VNQ830PEP-E	PowerSSO-24	M0-3	5.5	36	41	60	18		•
VNQ500PEP-E	PowerSSO-12	M0-3	5.5	36	41	500	0.6		•
VNQ5050AK-E	PowerSSO-24	M0-5	4.5	36	41	50	18	•	
VNQ5050K-E	PowerSSO-24	M0-5	4.5	36	41	50	18		•
VNQ5E050AK-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	50	27	•	
VNQ5E050K-E	PowerSSO-24	M0-5Enhanced	4.5	28	41	50	27		•
VNQ5E050MK-E	PowerSSO-24	M0-5Enhanced (M Vers.)	4.5	28	41	50	27	•	
VNQ660SP	PowerSO-10	M0-3	6	36	41	50	10		•
VNQ600AP-E	SO-28	M0-3	5.5	36	41	35	40	•	
VNQ600P-E	SO-28	M0-3	5.5	36	41	35	40	•	
VNQ5027AK-E	PowerSSO-24	M0-5	4.5	36	41	27	40	•	

## High-side switches with asymmetrical output

Part number	Package	Technology	Supply voltage ( $V_{CC}$ )		Absolute max supply voltage (V)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )	Drain current limit ( $I_{lim}$ ) typ (A)	Current sense	SPI	Description
			min (V)	max (V)						
VNQ6040S-E	PowerSSO-36	M0-6	4.5	28	40	4x40	25	•	•	Rear corner lights
VNQ6004S-E	PowerSSO-36	M0-6	4.5	28	40	2x10 2x30	50 25	•	•	Front corner lights

## High-side switches for 24 V applications — Truck devices

Part number	Package	Technology	Supply voltage ( $V_{CC}$ ) min (V)	Supply voltage ( $V_{DD}$ ) max (V)	Absolute max supply voltage (V)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )	Drain current limit ( $I_{lim}$ ) typ (A)	Current sense
VND5T100A-E (*)	SO-16N	M0-5T	8	36	58	100	22	•
VND5T100AJ-E	PowerSSO-12	M0-5T	8	36	58	100	22	•
VND5T050AK-E (*)	PowerSSO-24	M0-5T	8	36	58	50	34	•
VND5T035AK-E	PowerSSO-24	M0-5T	8	36	58	35	42	•
VND5T035AS-E (*)	SO-16L	M0-5T	8	36	58	35	42	•
VN5T016AH-E (*)	HPAK	M0-5T	8	36	58	16	67	•
VND5T016ASP-E (*)	PowerSO-16	M0-5T	8	36	58	16	60	•
VN5T006ASP-E (*)	PowerSO-10	M0-5T	8	36	58	6	84	•

(\*) in development

## Smart power low-side switches

Part number	Package	Number of channels	Technology	Clamp voltage typ (V)	Drain current limit ( $I_{lim}$ ) typ (A)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )
VND10N06-1-E	IPAK	1	MO-2	60	10	300
VNP10N06-E	TO-220	1	MO-2	60	10	300
VNN1NV04PTR-E	SOT-223	1	MO-3	45	2.6	250
VNS1NV04DP-E	SO-8	2	MO-3	45	2.6	250
VNS1NV04P-E	SO-8	1	MO-3	45	2.6	250
VND1NV04-E	DPAK	1	MO-3	45	2.6	250
VND1NV04-1-E	IPAK	1	MO-3	45	2.6	250
VND5N07-E	DPAK	1	MO-2	70	5	200
VND5N07-1-E	IPAK	1	MO-2	70	5	200
VNP5N07-E	TO-220	1	MO-2	70	5	200
VND7N04-E	DPAK	1	MO-2	42	7	140
VND7N04-1-E	IPAK	1	MO-2	42	7	140
VNP7N04-E	TO-220	1	MO-2	42	7	140
VND3NV04-E	DPAK	1	MO-3	45	5	120
VND3NV04-1-E	IPAK	1	MO-3	45	5	120
VNN3NV04PTR-E	SOT-223	1	MO-3	45	5	120
VNS3NV04DP-E	SO-8	2	MO-3	45	5	120
VNS3NV04P-E	SO-8	1	MO-3	45	5	120
VNB10N07-E	D <sup>2</sup> PAK	1	MO-2	70	10	100
VNP10N07-E	TO-220	1	MO-2	70	10	100
VNV10N07-E	PowerSO-10	1	MO-2	70	10	100
VNB14N04-E	D <sup>2</sup> PAK	1	MO-2	42	14	70
VNV14N04-E	PowerSO-10	1	MO-2	42	14	70
VND7NV04-E	DPAK	1	MO-3	45	9	60
VND7NV04-1-E	IPAK	1	MO-3	45	9	60
VNN7NV04PTR-E	SOT-223	1	MO-3	45	9	65
VNS7NV04P-E	SO-8	1	MO-3	45	9	65
VNB20N07-E	D <sup>2</sup> PAK	1	MO-2	70	20	50
VNP20N07-E	TO-220	1	MO-2	70	20	50
VNV20N07-E	PowerSO-10	1	MO-2	70	20	50



## Smart power low-side switches

Part number	Package	Number of channels	Technology	Clamp voltage typ (V)	Drain current limit ( $I_{lim}$ ) typ (A)	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )
VNB49N04-E	D <sup>2</sup> PAK	1	M0-2	42	49	40
VNB28N04-E	D <sup>2</sup> PAK	1	M0-2	42	28	35
VNP28N04-E	TO-220	1	M0-2	42	28	35
VNV28N04-E	PowerSO-10	1	M0-2	42	28	35
VNB14NV04-E	D <sup>2</sup> PAK	1	M0-3	45	18	35
VND14NV04-E	DPAK	1	M0-3	45	18	35
VND14NV04-1-E	IPAK	1	M0-3	45	18	35
VNP14NV04-E	TO-220	1	M0-3	45	18	35
VNS14NV04P-E	SO-8	1	M0-3	45	18	35
VNB35N07-E	D <sup>2</sup> PAK	1	M0-3	70	35	28
VNP35N07-E	TO-220	1	M0-2	70	35	28
VNV35N07-E	PowerSO-10	1	M0-2	70	35	28
VNP49N04-E	TO-220	1	M0-2	42	49	20
VNV49N04-E	PowerSO-10	1	M0-2	42	49	20
VNB35NV04-E	D <sup>2</sup> PAK	1	M0-3	45	45	10
VNP35NV04-E	TO-220	1	M0-3	45	45	10

## Smart power low-side switches

Part number	Package	Number of channels	Technology	Clamp voltage typ (V)	Drain current limit (I <sub>lim</sub> ) typ (A)	Max on-state resistance R <sub>DS(on)</sub> max (mΩ)	Digital status
VNL5160N3-E	SOT-223	1	M0-5	46	5	160	
VNL5160S5-E	S0-8	1	M0-5	46	5	160	•
VNLD5160-E (*)	S0-8	2	M0-5	46	5	160	•
VNL5090N3-E (*)	SOT-223	1	M0-5	46	18	90	
VNLD5090-E (*)	S0-8	2	M0-5	46	18	90	•
VNL5050N3-E	SOT-223	1	M0-5	46	27	50	
VNL5050S5-E	S0-8	1	M0-5	46	27	50	•
VNL5030J-E (*)	PowerSS0-12	1	M0-5	46	35	30	•
VNL5030S5-E (*)	S0-8	1	M0-5	46	35	30	•

(\*) in development

# Voltage regulators

Part number	Package	Number of outputs	Regulated output voltage (V)	Output current ( $I_{out}$ ) (mA)	Output tolerance (%)	Dropout voltage ( $V_{DP}$ )		Reset output	Enable pin	Early warning	Watchdog timer	Watchdog enable	Supply current (standby) typ ( $\mu$ A)	Quiescent current at low load typ ( $\mu$ A)
						typ (mV)	max (mV)							
L4925PD	PowerSO-20	1	5	500	$\pm 2$	300		•						190
L4938ED-E	SO-20	2	5 Adj	100	$\pm 2$	300		•	•	•				210
L4938EPD	PowerSO-20	2	5 Adj	400	$\pm 2$	300		•	•	•				210
L4949ED-E	SO-8	1	5	100	$\pm 1$	300		•		•				200
L4949EP-E	SO-20	1	5	100	$\pm 1$	300		•		•				200
L4979D-E	SO-8	1	5	150	$\pm 2$	200		•	•		•		6	200
L4979MD	SO-20	1	5	150	$\pm 2$	200		•	•		•		6	100
L4988D	SO-8	1	5	200	$\pm 2$	270		•			•	•		130
L4988MD	SO-20	1	5	200	$\pm 2$	270		•			•	•		130
L4989D	SO-8	1	5	150	$\pm 3$	180		•			•	•		110
L4989MD	SO-20	1	5	150	$\pm 3$	180		•			•	•		110
L4993D	SO-8	1	5	150	$\pm 2$	200		•			•	•		100
L4993MD	SO-20	1	5	150	$\pm 2$	200		•			•	•		100
L4995RJ	PowerSSO-12	1	5	500	$\pm 2$	270		•						90
L4995RK	PowerSSO-24	1	5	500	$\pm 2$	270		•						90
L4995AJ	PowerSSO-12	1	5	500	$\pm 2$	270		•	•				3	90
L4995AK	PowerSSO-24	1	5	500	$\pm 2$	270		•	•				3	90
L4995J	PowerSSO-12	1	5	500	$\pm 2$	270		•	•		•		3	90
L4995K	PowerSSO-24	1	5	500	$\pm 2$	270		•	•		•		3	90
L5150BNTR	SOT-223	1	5	150	$\pm 2$									38
L5150CJ	PowerSSO-12	1	5	150	$\pm 2$		500	• (1)		•				55
L5150CS	SO-8	1	5	150	$\pm 2$		500	• (1)		•				55
L5150GJ	PowerSSO-12	1	5	150	$\pm 2$		500	• (1)	•	•			5	55
L5300AH7	HPAK	1	5	300	$\pm 2$		500	•	•				5	55
L5300GJ	PowerSSO-12	1	5	300	$\pm 2$		500	•	•	•			5	55
L5300EPT	PPAK	1	5	300	$\pm 2$		500	•	•				5	55
L5300RPT	PPAK	1	5	300	$\pm 2$		500	•					5	55

(1) adjustable threshold

## Door zone modules

Part number	Package	Driver stages	Max on-state resistance $R_{DS(on)}$ (m $\Omega$ )	Current limitation $I_{lim}$ (A)	Operating range Vs (V)	PWM control	Short-circuit protection	Current sense	Thermal shutdown	Reverse battery protection	Diagnostics and programming	EC control	LED mode	Description
<b>L9949</b>	PowerSO-20	1 full bridge	150	6	7 to 28		•	•	•		SPI	-		Mid-end front-door module
		3 half bridges	800	1.6										
		1 high-side switch	100	6										
<b>L9950</b> <b>L9950XP</b>	PowerSO-36 PowerSSO-36	2 half bridges	300	3	7 to 28	•	•	•	•	•	SPI	-		High-end front-door module
		2 half bridges	800	1.5										
		1 full bridge	150	6										
		4 high-side switches	800	1.5										
<b>L9951</b> <b>L9951XP</b>	PowerSO-36 PowerSSO-36	1 half bridge	150	7.4	7 to 28	•	•	•	•	•	SPI	-		Rear-door module
		2 half bridges	200	5										
		2 high-side switches	800	1.25										
		3 half bridges	800	1.5										
<b>L9953</b> <b>L9953XP</b>	PowerSO-36 PowerSSO-36	1 full bridge	150	6	7 to 28	•	•	•	•	•	SPI	-		Mid-end front-door module
		2 high-side switches	500	1.5										
		1 high-side switch	100	6										
		3 half bridges	800	1.5										
<b>L9953LXP</b>	PowerSSO-36	1 full bridge	150	6	7 to 28	•	•	•	•	•	SPI	-	2x	Mid-end front-door module compatible with bulbs/LEDs
		2 high-side switches	500/1800	1.5/0.35										
		1 high-side switch	100	6										
<b>L9954</b> <b>L9954XP</b>	PowerSO-36 PowerSSO-36	3 half bridges	800	1.5	7 to 28	•	•	•	•	•	SPI	-		Mid-end front-door module without door lock
		2 high-side switches	500	1.5										
		1 high-side switch	100	6										
		3 half bridges	800	1.5										
<b>L9954LXP</b>	PowerSSO-36	2 high-side switches	500/1800	1.5/0.35	7 to 28	•	•	•	•	•	SPI	-	2x	Mid-end front-door module without door lock compatible with bulbs/LEDs
		1 high-side switch	100	6										
		1 full bridge	150	6										
<b>L99DZ70XP</b>	PowerSSO-36	2 half bridges	300	3	7 to 28	•	•	•	•	•	SPI	6-bit resolution 1.2 V/1.5 V	4x	High-end front-door module compatible with bulbs/LEDs. Control circuitry for electrochromic mirror glass.
		2 half bridges	1600	0.75										
		1 high-side switch	90	6										
		2 configurable high-side switches	500/1800	1.5/0.4										
		2 high-side switches	1600	0.5										
		1 full bridge	150	6										

# Power management for automotive systems

Part number	Package	Transceiver		Voltage regulators					Driver stages		On-board features	Description
		Transmission rate	Transceiver description	Outputs	Accuracy	Drop voltage $V_{DP}$ (typ) (mV)	Reset	Watchdog	Outputs	Driver description		
<b>L4969URD-E</b>	S0-20	125 kbaud	Fault tolerant low-speed CAN transceiver	5 V @ 200mA	$\pm 2\%$	250 @ ILOAD = 100 mA	•	•				System basic chip
<b>L4969UR-E</b>	PowerS0-20	125 kbaud	Fault tolerant low-speed CAN transceiver	5 V @ 200mA	$\pm 2\%$	400 @ ILOAD = 150 mA	•	•				System basic chip
<b>L9952GXP</b>	PowerSS0-36	20 kbaud	LIN transceiver	5 V @ 250mA	$\pm 2\%$	300 @ ILOAD = 100 mA	•	•	4	HSD 1 $\Omega$ @ 120 mA	4 wake-up inputs for contact monitoring Fail-safe output Two op-amps for current sense interfacing Inhibit input for wake up from external CAN	Power management IC with LIN
				5 V @ 100mA	$\pm 4\%$	400 @ ILOAD = 50 mA			1	HSD 1 $\Omega$ @ 400 mA		
									2	Relay drivers (2 $\Omega$ )		
<b>L99PM62GXP</b>	PowerSS0-36	20 kbaud	LIN and HS CAN transceivers	5 V @ 250mA	$\pm 2\%$	300 @ ILOAD = 100 mA	•	•	4	HSD 1 $\Omega$ @ 120 mA	Complete 3-channel contact monitoring interface with programmable cyclic sense functionality 4 internal PWM timers Two op-amps with rail-to-rail outputs (VS) and low voltage inputs Programmable periodic system wake up feature	Power management IC with LIN and high-speed CAN
				5 V @ 100mA	$\pm 4\%$ (3% @ 50 mA)	400 @ ILOAD = 50 mA			1	HSD 1 $\Omega$ @ 400 mA		
									2	Relay drivers (2 $\Omega$ )		
<b>L99PM60J</b>	PowerSS0-16	20 kbaud	LIN transceiver	5 V @ 100mA	$\pm 2\%$	300 @ ILOAD = 100 mA	•	•	2	HSD 7 $\Omega$ @ 60 mA	Configurable fail-safe output ST SPI interface for mode control and diagnostics Direct drive feature for HSD	Power management IC with LIN
									2	Relay drivers (2 $\Omega$ )		

# Motor drivers

Part number	Package	Technology	Output mode	Max on-state resistance $R_{DS(on)}$ max (m $\Omega$ )	Current limitation ( $I_{lim}$ ) typ (A)	Supply voltage ( $V_{CC}$ )		Absolute max supply voltage (V)	Highlights
						min (V)	max (V)		
L9997ND	S0-20	BCD	2 half bridge	700	1.6	7	16.5	26	- Short-circuit and over temperature protected
L99H01XP	PowerSS0-36	BCD5	H-bridge	280	-	6	28	35	- Programmable free wheeling - Current-sense amplifier/free configuration - Sensing circuitry of external MOSFET with embedded thermal sensor
L99H01QF	LQFP-32	BCD5	H-bridge	280	-	6	28	35	- Programmable free wheeling - Current-sense amplifier/free configuration - Sensing circuitry of external MOSFET with embedded thermal sensor
VN5770AKP-E	S0-28	M0-5, M0-3	2 HSD and 2 LSD	280	8.5	4.5	36	41	- Active power limitation(patent IP) on high side - Thermal shutdown
VN5772AK-E	S0-28	M0-5	2 HSD and 2 LSD	100	18	4.5	36	41	- Active power limitation(patent IP) on both high and low side - Thermal shutdown
VN770KP-E	S0-28	M0-3	2 HSD and 2 LSD	225	9	5.5	36	41	- Short circuit and over temperature protected
VN771KP-E	S0-28	M0-3	2 HSD and 2 LSD	95	9	5.5	36	41	- Short circuit and over temperature protected
VN772KP-E	S0-28	M0-3	2 HSD and 2 LSD	125	9	5.5	36	41	- Short circuit and over temperature protected
VNH2SP30-E	MultiPowerS0-30	M0-4	Full bridge	19	50	5.5	16	41	- Cross conduction protection - PWM operations up to 20 KHz - Current sense
VNH3ASP30-E	MultiPowerS0-30	M0-4	Full bridge	42	50	5.5	16	41	- Cross conduction protection - PWM operations up to 20 KHz - Current sense
VNH3SP30-E	MultiPowerS0-30	M0-3	Full bridge	45	50	5.5	36	40	- Cross conduction protection - PWM operations up to 10 KHz - Current sense
VNH5019A-E	MultiPowerS0-30	M0-5	Full bridge	18	50	5.5	24	41	- Cross conduction protection - PWM operations up to 20 KHz - Current sense - Charge pump output for reverse polarity protection
VNH5050A-E	PowerSS0-36	M0-5	Full bridge	50	42	5.5	18	41	- Cross conduction protection - PWM operations up to 20 KHz - Current sense - Output protected against short to ground and short to $V_{CC}$
VNH5180A-E	PowerSS0-36	M0-5	Full bridge	180	12	5.5	18	41	- Cross conduction protection - PWM operations up to 20 KHz - Current sense - Output protected against short to ground and short to $V_{CC}$

## Special devices

Part number	Package	Driver stages	Operating range $V_{CC}$ (V)	Max supply voltage $V_{CC}$ (V)	Highlights	Description
L9700D-E	SO-8	Six-channel limiter	4.75 to 5.25	20	Fast active clamping	Limiter
L9686MD	SO-8	Relay driver for car direction indicator	8 to 18		Lamp failure detection Load dump protected	Indicator driver
L99MC6	PowerSSO-16	3 configurable HSD/LSD 3 low-side switches	6 to 28	40	$R_{DS(on)} = 0.7 \Omega$ at $T_J = 25^\circ C$	Various loads driver H-bridge configuration
VN1160-E	DPAK	Power switch for motorbike direction indicator	9 to 16	40	Lamp failure detection Indicator reverse battery protected	Motorbike indicator driver
VN1160-1-E	IPAK	Power switch for motorbike direction indicator	9 to 16	40	Lamp failure detection Indicator reverse battery protected	Motorbike indicator driver
VN1160C-E	DPAK	Power switch for motorbike direction indicator	9 to 16	40	Lamp failure detection Indicator reverse battery protected	Motorbike indicator driver
VN1160C-1-E	IPAK	Power switch for motorbike direction indicator	9 to 16	40	Lamp failure detection Indicator reverse battery protected	Motorbike indicator driver

## Special devices — Reverse battery

Part number	Package	Operating range $V_{CC}$ (V)	Max supply voltage $V_{CC}$ (V)	Max on-state resistance $R_{DS(on)}$ (max) (m $\Omega$ )	Description
VN5R003H-E	HPAK	4.5 to 28	41	3	Reverse-battery protection for an electronic control unit

## Special devices — Integrated solenoid driver - Injection gas system

Part number	Package	Operating range $V_{CC}$ (V)	Max supply voltage $V_{CC}$ (V)	Max on-state resistance $R_{DS(on)}$ (m $\Omega$ )		I <sub>peak</sub> (A)	Clamp voltage (min) (V)	Description
				Excitation path	Recirculation path			
L99SD01-E (*)	PowerSSO-36	6 to 28	40	60	60	14	44	Current-sense amplifier with internal sense resistor

(\*) in development

## Ignition drivers

Part number	Package	Technology	High voltage clamp (VCL) typ (V)	Current limitation ( $I_{lim}$ ) max (A)	Power stage saturation voltage ( $V_{CE\ SAT}$ )		Supply voltage ( $V_{CC}$ ) min (V)	Supply voltage ( $V_{CC}$ ) max (V)	Supply current on state ( $I_{CC}$ ) max (mA)	Description
					(@ 6 A) max (V)	(@ 15 A) max (V)				
VB525SP-E	PowerSO-10	M1	380	11	2		4.5	5.5	40	Quasi proportional current driving Current flag
VB526SP-E	PowerSO-10	M1	360	11	2		4.5	5.5	40	Quasi proportional current driving Current flag
VB125ASPTR-E	PowerSO-10	M1	370	11	2		6	24	200	Temperature compensated high-voltage flag Current flag Voltage regulator not required
VB027SP-E	PowerSO-10	M1	360	9	2		4.5	5.5	130	Quasi proportional current driving Current flag



# Part numbering scheme

## Get the right product for your needs

### M0-5 standard

Standard M0-5 is a complete product portfolio intended for any typical loads in automotive applications, (such as a high beam, low beam, turn indicator, interior lighting).

For each  $R_{DS(on)}$  rating, single-, dual- and quad-channel options are available. Moreover, the devices are equipped with digital diagnostics or with analog current sense.

### M0-5Enhanced

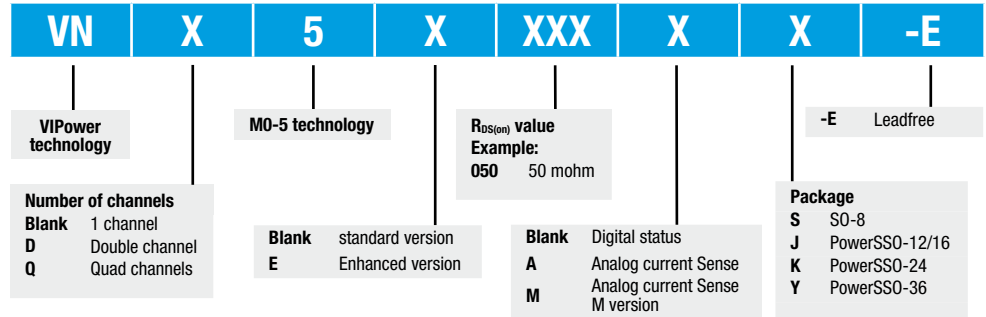
In addition to the standard protection and diagnostic features, the M0-5Enhanced products offer:

- Extended load compatibility due to higher current limitation
- Immediate diagnosis reaction over short-to-ground or overload (power limitation detection)
- Open-load/short-to- $V_{CC}$  detection in off-state for analog current sense option as well

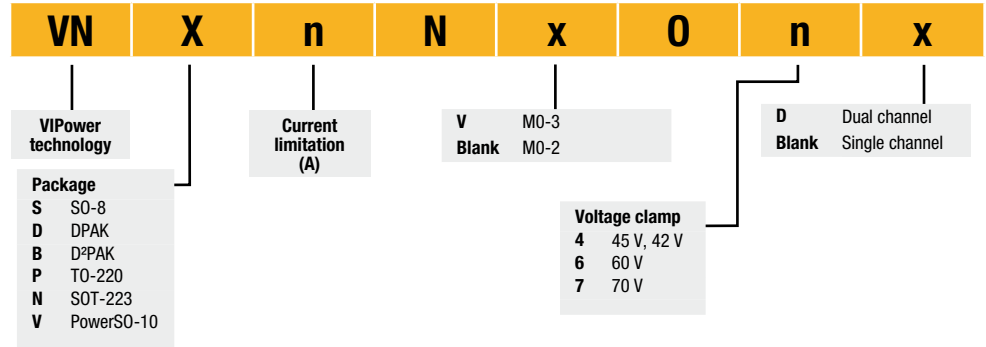
### M0-5Enhanced M version

The M versions complete the product portfolio with devices having the same specification as M0-5Enhanced except for the open-load detection in off-state.

## M0-5/M0-5Enhanced/M version part numbering scheme



## OMNIFET part numbering scheme





Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
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- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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