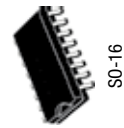




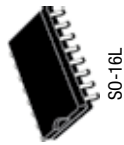
SOT-223



SO-8



SO-16



SO-16L



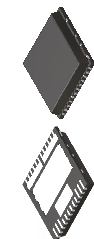
SO-20  
SO-28  
SO-34



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

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## High-side switches

## High-side switches — Single 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) |                                 |                                                      |                                                 |               |                |
| VN02HSP-E   | PowerSO-10         | M0-1                   | 5.5                               | 36      | 60                              | 400                                                  | 6                                               |               | •              |
| VN06SP-E    | PowerSO-10         | M0-1                   | 5.5                               | 36      | 60                              | 180                                                  | 9                                               |               | •              |
| VN5160S-E   | SO-8               | M0-5                   | 4.5                               | 36      | 41                              | 160                                                  | 5                                               |               | •              |
| VN5E160AS-E | SO-8               | M0-5Enhanced           | 4.5                               | 28      | 41                              | 160                                                  | 10                                              | •             |                |
| VN5E160MS-E | SO-8               | M0-5Enhanced (M Vers.) | 4.5                               | 28      | 41                              | 160                                                  | 10                                              | •             |                |
| VN5E160S-E  | SO-8               | M0-5Enhanced           | 4.5                               | 28      | 41                              | 160                                                  | 10                                              |               | •              |
| VN800PS-E   | SO-8               | M0-3                   | 5.5                               | 36      | 41                              | 135                                                  | 1.3                                             |               | •              |
| VN800PT-E   | PPAK               | M0-3                   | 5.5                               | 36      | 41                              | 135                                                  | 1.3                                             |               | •              |
| VN16BSP-E   | PowerSO-10         | M0-2                   | 6                                 | 26      | 40                              | 60                                                   | 20                                              |               | •              |
| VN750B5-E   | P <sup>2</sup> PAK | M0-3                   | 5.5                               | 36      | 41                              | 60                                                   | 9                                               |               | •              |
| VN750-E     | PENTAWATT          | M0-3                   | 5.5                               | 36      | 41                              | 60                                                   | 9                                               |               | •              |
| VN750PS-E   | SO-8               | M0-3                   | 5.5                               | 36      | 41                              | 60                                                   | 9                                               |               | •              |
| VN750PT-E   | PPAK               | M0-3                   | 5.5                               | 36      | 41                              | 60                                                   | 9                                               |               | •              |
| VN750SMP-E  | SO-8               | M0-3                   | 5.5                               | 36      | 41                              | 55                                                   | 9                                               |               | •              |
| VN5050AJ-E  | PowerSSO-12        | M0-5                   | 4.5                               | 36      | 41                              | 50                                                   | 18                                              | •             |                |
| VN5050J-E   | PowerSSO-12        | M0-5                   | 4.5                               | 36      | 41                              | 50                                                   | 18                                              |               | •              |
| VN5E050AJ-E | PowerSSO-12        | M0-5Enhanced           | 4.5                               | 28      | 41                              | 50                                                   | 27                                              | •             |                |
| VN5E050J-E  | PowerSSO-12        | M0-5Enhanced           | 4.5                               | 28      | 41                              | 50                                                   | 27                                              |               | •              |
| VN5E050MJ-E | PowerSSO-12        | M0-5Enhanced (M Vers.) | 4.5                               | 28      | 41                              | 50                                                   | 27                                              | •             |                |
| VN820B5-E   | P <sup>2</sup> PAK | M0-3                   | 5.5                               | 36      | 41                              | 40                                                   | 13                                              |               | •              |
| VN820PT-E   | PPAK               | M0-3                   | 5.5                               | 36      | 41                              | 40                                                   | 13                                              |               | •              |
| VN820SP-E   | PowerSO-10         | M0-3                   | 5.5                               | 36      | 41                              | 40                                                   | 13                                              |               | •              |
| VN31SP-E    | PowerSO-10         | M0-2                   | 5.5                               | 26      | 60                              | 30                                                   | 31                                              |               | •              |
| VN5025AJ-E  | PowerSSO-12        | M0-5                   | 4.5                               | 36      | 41                              | 25                                                   | 40                                              | •             |                |
| VN5E025MJ-E | PowerSSO-12        | M0-5Enhanced (M Vers.) | 4.5                               | 28      | 41                              | 25                                                   | 60                                              | •             |                |

## Notes

# High-side switches — Single channel

| Part number  | Package            | Technology                | Supply voltage (V <sub>cc</sub> ) |         | Absolute max supply voltage (V) | Max on-state resistance<br>R <sub>DS(on)</sub> max (mΩ) | Drain current limit<br>(I <sub>lim</sub> ) 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               | M0-5Enhanced<br>(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               | M0-5Enhanced              | 4.5                               | 28      | 41                              | 10                                                      | 85                                                 | •             |                |
| VN5E010MH-E  | HPAK               | M0-5Enhanced<br>(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<br>R <sub>DS(on)</sub> max (mΩ) | Drain current limit<br>(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<br>(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<br>(M Vers.) | 4.5                               | 28      | 41                              | 50                                                      | 27                                                 | •             |                |
| VND5E050MK-E | PowerSSO-24 | M0-5Enhanced<br>(M Vers.) | 4.5                               | 28      | 41                              | 50                                                      | 27                                                 | •             |                |

## High-side switches — Double channel

| Part number   | Package         | Technology                | Supply voltage (V <sub>cc</sub> ) |         | Absolute max supply voltage (V) | Max on-state resistance<br>R <sub>DS(on)</sub> max (mΩ) | Drain current limit<br>(I <sub>lim</sub> ) typ (A) | Current sense | Digital status |
|---------------|-----------------|---------------------------|-----------------------------------|---------|---------------------------------|---------------------------------------------------------|----------------------------------------------------|---------------|----------------|
|               |                 |                           | min (V)                           | max (V) |                                 |                                                         |                                                    |               |                |
| VND600P-E     | S0-16L          | M0-3                      | 5.5                               | 36      | 41                              | 35                                                      | 40                                                 | •             |                |
| VND600PEP-E   | PowerSS0-24     | M0-3                      | 5.5                               | 36      | 41                              | 30                                                      | 40                                                 | •             |                |
| VND600SP-E    | PowerS0-10      | M0-3                      | 5.5                               | 36      | 41                              | 30                                                      | 40                                                 | •             |                |
| VND5025AK-E   | PowerSS0-24     | M0-5                      | 4.5                               | 36      | 41                              | 25                                                      | 40                                                 | •             |                |
| VND5E025AK-E  | PowerSS0-24     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 25                                                      | 60                                                 | •             |                |
| VND5E025AY-E  | PowerSS0-36     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 25                                                      | 60                                                 | •             |                |
| VND5E025BK-E  | PowerSS0-24     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 25                                                      | 60                                                 | •             |                |
| VND5E025LK-E  | PowerSS0-24     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 25                                                      | 40                                                 | •             |                |
| VND5E025MK-E  | PowerSS0-24     | M0-5Enhanced<br>(M Vers.) | 4.5                               | 28      | 41                              | 25                                                      | 60                                                 | •             |                |
| VND920P-E     | S0-28           | M0-3                      | 5.5                               | 36      | 41                              | 16                                                      | 45                                                 | •             |                |
| VND5E012AY-E  | PowerSS0-36     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 12                                                      | 74                                                 | •             |                |
| VND5E012MY-E  | PowerSS0-36     | M0-5Enhanced<br>(M Vers.) | 4.5                               | 28      | 41                              | 12                                                      | 74                                                 | •             |                |
| VND5012AK-E   | PowerSS0-24     | M0-5                      | 4.5                               | 36      | 41                              | 12                                                      | 60                                                 | •             |                |
| VND5E008AY-E  | PowerSS0-36     | M0-5Enhanced              | 4.5                               | 28      | 41                              | 8                                                       | 85                                                 | •             |                |
| VND5E008MY-E  | PowerSS0-36     | M0-5Enhanced<br>(M Vers.) | 4.5                               | 28      | 41                              | 8                                                       | 85                                                 | •             |                |
| VND5E006ASP-E | PowerS0-16      | M0-5Enhanced              | 4.5                               | 28      | 41                              | 6                                                       | 100                                                | •             |                |
| VND5E004A-E   | PQFN            | M0-5Enhanced              | 4.5                               | 28      | 41                              | 4                                                       | 100                                                | •             |                |
| VND5E004A30-E | MultiPowerS0-30 | 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    | S0-28       | M0-3                   | 5.5                               | 36      | 41                              | 160                                                  | 5                                               |               | •              |
| VNQ810PEP-E  | PowerSSO-24 | M0-3                   | 5.5                               | 36      | 41                              | 160                                                  | 7.5                                             |               | •              |
| VNQ05XSP16-E | PowerS0-16  | M0-3                   | 5.5                               | 36      | 41                              | 110                                                  | 7.5                                             | •             |                |
| VNQ690SP-E   | PowerS0-10  | M0-3                   | 6                                 | 36      | 41                              | 90                                                   | 14                                              |               | •              |
| VNQ830P-E    | S0-28       | 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     | PowerS0-10  | M0-3                   | 6                                 | 36      | 41                              | 50                                                   | 10                                              |               | •              |
| VNQ600AP-E   | S0-28       | M0-3                   | 5.5                               | 36      | 41                              | 35                                                   | 40                                              | •             |                |
| VNQ600P-E    | S0-28       | 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  | PowerSS0-36 | M0-6       | 4.5                         | 28      | 40                              | 4x40                                                   | 25                                        | •             | •   | Rear corner lights  |
| VNQ6004S-E  | PowerSS0-36 | M0-6       | 4.5                         | 28      | 40                              | 2x10<br>2x30                                           | 50<br>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      | PowerSS0-12 | M0-5T      | 8                                   | 36                                  | 58                              | 100                                                    | 22                                        | •             |
| VND5T050AK-E (*)  | PowerSS0-24 | M0-5T      | 8                                   | 36                                  | 58                              | 50                                                     | 34                                        | •             |
| VND5T035AK-E      | PowerSS0-24 | 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                  | M0-2       | 60                    | 10                                        | 300                                                    |
| VNP10N06-E    | TO-220             | 1                  | M0-2       | 60                    | 10                                        | 300                                                    |
| VNN1NV04PTR-E | SOT-223            | 1                  | M0-3       | 45                    | 2.6                                       | 250                                                    |
| VNS1NV04DP-E  | SO-8               | 2                  | M0-3       | 45                    | 2.6                                       | 250                                                    |
| VNS1NV04P-E   | SO-8               | 1                  | M0-3       | 45                    | 2.6                                       | 250                                                    |
| VND1NV04-E    | DPAK               | 1                  | M0-3       | 45                    | 2.6                                       | 250                                                    |
| VND1NV04-1-E  | IPAK               | 1                  | M0-3       | 45                    | 2.6                                       | 250                                                    |
| VND5N07-E     | DPAK               | 1                  | M0-2       | 70                    | 5                                         | 200                                                    |
| VND5N07-1-E   | IPAK               | 1                  | M0-2       | 70                    | 5                                         | 200                                                    |
| VNP5N07-E     | TO-220             | 1                  | M0-2       | 70                    | 5                                         | 200                                                    |
| VND7N04-E     | DPAK               | 1                  | M0-2       | 42                    | 7                                         | 140                                                    |
| VND7N04-1-E   | IPAK               | 1                  | M0-2       | 42                    | 7                                         | 140                                                    |
| VNP7N04-E     | TO-220             | 1                  | M0-2       | 42                    | 7                                         | 140                                                    |
| VND3NV04-E    | DPAK               | 1                  | M0-3       | 45                    | 5                                         | 120                                                    |
| VND3NV04-1-E  | IPAK               | 1                  | M0-3       | 45                    | 5                                         | 120                                                    |
| VNN3NV04PTR-E | SOT-223            | 1                  | M0-3       | 45                    | 5                                         | 120                                                    |
| VNS3NV04DP-E  | SO-8               | 2                  | M0-3       | 45                    | 5                                         | 120                                                    |
| VNS3NV04P-E   | SO-8               | 1                  | M0-3       | 45                    | 5                                         | 120                                                    |
| VNB10N07-E    | D <sup>2</sup> PAK | 1                  | M0-2       | 70                    | 10                                        | 100                                                    |
| VNP10N07-E    | TO-220             | 1                  | M0-2       | 70                    | 10                                        | 100                                                    |
| VNV10N07-E    | PowerSO-10         | 1                  | M0-2       | 70                    | 10                                        | 100                                                    |
| VNB14N04-E    | D <sup>2</sup> PAK | 1                  | M0-2       | 42                    | 14                                        | 70                                                     |
| VNV14N04-E    | PowerSO-10         | 1                  | M0-2       | 42                    | 14                                        | 70                                                     |
| VND7NV04-E    | DPAK               | 1                  | M0-3       | 45                    | 9                                         | 60                                                     |
| VND7NV04-1-E  | IPAK               | 1                  | M0-3       | 45                    | 9                                         | 60                                                     |
| VNN7NV04PTR-E | SOT-223            | 1                  | M0-3       | 45                    | 9                                         | 65                                                     |
| VNS7NV04P-E   | SO-8               | 1                  | M0-3       | 45                    | 9                                         | 65                                                     |
| VNB20N07-E    | D <sup>2</sup> PAK | 1                  | M0-2       | 70                    | 20                                        | 50                                                     |
| VNP20N07-E    | TO-220             | 1                  | M0-2       | 70                    | 20                                        | 50                                                     |
| VNV20N07-E    | PowerSO-10         | 1                  | M0-2       | 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    | T0-220             | 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   | T0-220             | 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    | T0-220             | 1                  | M0-2       | 70                    | 35                                        | 28                                                     |
| VNV35N07-E    | PowerSO-10         | 1                  | M0-2       | 70                    | 35                                        | 28                                                     |
| VNP49N04-E    | T0-220             | 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   | T0-220             | 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<br>$R_{DS(on)}$ (mΩ) | Current limitation<br>$I_{lim}$ (A) | Operating range $V_s$ (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><br><b>L9950XP</b> | PowerSO-36<br>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><br><b>L9951XP</b> | PowerSO-36<br>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                                |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
| <b>L9953</b><br><b>L9953XP</b> | PowerSO-36<br>PowerSSO-36 | 3 half bridges                    | 800                                          | 1.5                                 | 7 to 28                   | •           | •                        | •             | •                | •                          | SPI                         | -                               |          | Mid-end front-door module                                                                                 |
|                                |                           | 1 full bridge                     | 150                                          | 6                                   |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
|                                |                           | 2 high-side switches              | 500                                          | 1.5                                 |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
| <b>L9953LXP</b>                | PowerSSO-36               | 1 high-side switch                | 100                                          | 6                                   | 7 to 28                   | •           | •                        | •             | •                | •                          | SPI                         | -                               | 2x       | Mid-end front-door module compatible with bulbs/LEDs                                                      |
|                                |                           | 3 half bridges                    | 800                                          | 1.5                                 |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
|                                |                           | 1 full bridge                     | 150                                          | 6                                   |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
|                                |                           | 2 high-side switches              | 500/1800                                     | 1.5/0.35                            |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
| <b>L9954</b><br><b>L9954XP</b> | PowerSO-36<br>PowerSSO-36 | 1 high-side switch                | 100                                          | 6                                   | 7 to 28                   | •           | •                        | •             | •                | •                          | SPI                         | -                               |          | Mid-end front-door module without door lock                                                               |
|                                |                           | 3 half bridges                    | 800                                          | 1.5                                 |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
|                                |                           | 2 high-side switches              | 500                                          | 1.5                                 |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
| <b>L9954LXP</b>                | PowerSSO-36               | 1 high-side switch                | 100                                          | 6                                   | 7 to 28                   | •           | •                        | •             | •                | •                          | SPI                         | -                               | 2x       | Mid-end front-door module without door lock compatible with bulbs/LEDs                                    |
|                                |                           | 2 high-side switches              | 500/1800                                     | 1.5/0.35                            |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
| <b>L99DZ70XP</b>               | PowerSSO-36               | 1 full bridge                     | 150                                          | 6                                   | 7 to 28                   | •           | •                        | •             | •                | •                          | SPI                         | 6-bit resolution<br>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                    | 300                                          | 3                                   |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |
|                                |                           | 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                                 |                           |             |                          |               |                  |                            |                             |                                 |          |                                                                                                           |

# 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> | SO-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>  | PowerSO-20  | 125 kbaud         | Fault tolerant low-speed CAN transceiver | 5 V @ 200mA        | $\pm 2\%$              | 400 @ ILOAD = 150 mA             | •     | •        |               |                             |                                                                                                                                                                                                                                            | System basic chip                               |
| <b>L9952GXP</b>   | PowerSSO-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<br>Fail-safe output<br>Two op-amps for current sense interfacing<br>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> | PowerSSO-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<br>4 internal PWM timers<br>Two op-amps with rail-to-rail outputs (VS) and low voltage inputs<br>Programmable periodic system wake up feature | Power management IC with LIN and high-speed CAN |
|                   |             |                   |                                          |                    |                        |                                  |       |          | 1             | HSD 1 $\Omega$ @ 400 mA     |                                                                                                                                                                                                                                            |                                                 |
|                   |             |                   |                                          | 5 V @ 100mA        | $\pm 4\%$ (3% @ 50 mA) | 400 @ ILOAD = 50 mA              |       |          | 2             | Relay drivers (2 $\Omega$ ) |                                                                                                                                                                                                                                            |                                                 |
| <b>L99PM60J</b>   | PowerSSO-16 | 20 kbaud          | LIN transceiver                          | 5 V @ 100mA        | $\pm 2\%$              | 300 @ ILOAD = 100 mA             | •     | •        | 2             | HSD 7 $\Omega$ @ 60 mA      | Configurable fail-safe output<br>ST SPI interface for mode control and diagnostics<br>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<br>$R_{DS(on)}$ max (m $\Omega$ ) | Current limitation<br>(lim) typ (A) | Supply voltage ( $V_{CC}$ ) |         | Absolute max supply voltage (V) | Highlights                                                                                                                                            |
|--------------------|-----------------|------------|-----------------|-----------------------------------------------------------|-------------------------------------|-----------------------------|---------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |                 |            |                 |                                                           |                                     | min (V)                     | max (V) |                                 |                                                                                                                                                       |
| <b>L9997ND</b>     | S0-20           | BCD        | 2 half bridge   | 700                                                       | 1.6                                 | 7                           | 16.5    | 26                              | - Short-circuit and over temperature protected                                                                                                        |
| <b>L99H01XP</b>    | PowerSS0-36     | BCD5       | H-bridge        | 280                                                       | -                                   | 6                           | 28      | 35                              | - Programmable free wheeling<br>- Current-sense amplifier/free configuration<br>- Sensing circuitry of external MOSFET with embedded thermal sensor   |
| <b>L99H01QF</b>    | LQFP-32         | BCD5       | H-bridge        | 280                                                       | -                                   | 6                           | 28      | 35                              | - Programmable free wheeling<br>- Current-sense amplifier/free configuration<br>- Sensing circuitry of external MOSFET with embedded thermal sensor   |
| <b>VN5770AKP-E</b> | 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<br>- Thermal shutdown                                                                               |
| <b>VN5772AK-E</b>  | 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<br>- Thermal shutdown                                                                  |
| <b>VN770KP-E</b>   | S0-28           | M0-3       | 2 HSD and 2 LSD | 225                                                       | 9                                   | 5.5                         | 36      | 41                              | - Short circuit and over temperature protected                                                                                                        |
| <b>VN771KP-E</b>   | S0-28           | M0-3       | 2 HSD and 2 LSD | 95                                                        | 9                                   | 5.5                         | 36      | 41                              | - Short circuit and over temperature protected                                                                                                        |
| <b>VN772KP-E</b>   | S0-28           | M0-3       | 2 HSD and 2 LSD | 125                                                       | 9                                   | 5.5                         | 36      | 41                              | - Short circuit and over temperature protected                                                                                                        |
| <b>VNH2SP30-E</b>  | MultiPowerS0-30 | M0-4       | Full bridge     | 19                                                        | 50                                  | 5.5                         | 16      | 41                              | - Cross conduction protection<br>- PWM operations up to 20 KHz<br>- Current sense                                                                     |
| <b>VNH3ASP30-E</b> | MultiPowerS0-30 | M0-4       | Full bridge     | 42                                                        | 50                                  | 5.5                         | 16      | 41                              | - Cross conduction protection<br>- PWM operations up to 20 KHz<br>- Current sense                                                                     |
| <b>VNH3SP30-E</b>  | MultiPowerS0-30 | M0-3       | Full bridge     | 45                                                        | 50                                  | 5.5                         | 36      | 40                              | - Cross conduction protection<br>- PWM operations up to 10 KHz<br>- Current sense                                                                     |
| <b>VNH5019A-E</b>  | MultiPowerS0-30 | M0-5       | Full bridge     | 18                                                        | 50                                  | 5.5                         | 24      | 41                              | - Cross conduction protection<br>- PWM operations up to 20 KHz<br>- Current sense<br>- Charge pump output for reverse polarity protection             |
| <b>VNH5050A-E</b>  | PowerSS0-36     | M0-5       | Full bridge     | 50                                                        | 42                                  | 5.5                         | 18      | 41                              | - Cross conduction protection<br>- PWM operations up to 20 KHz<br>- Current sense<br>- Output protected against short to ground and short to $V_{CC}$ |
| <b>VNH5180A-E</b>  | PowerSS0-36     | M0-5       | Full bridge     | 180                                                       | 12                                  | 5.5                         | 18      | 41                              | - Cross conduction protection<br>- PWM operations up to 20 KHz<br>- Current sense<br>- Output protected against short to ground and short to $V_{CC}$ |

## Special devices

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

## Special devices — Reverse battery

| Part number       | Package | Operating range<br>$V_{CC}$ (V) | Max supply voltage<br>$V_{CC}$ (V) | Max on-state<br>resistance $R_{DS(on)}$ (max)<br>(m $\Omega$ ) | Description                                               |
|-------------------|---------|---------------------------------|------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------|
| <b>VN5R003H-E</b> | 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<br>$V_{CC}$ (V) | Max supply<br>voltage $V_{CC}$ (V) | Max on-state resistance $R_{DS(on)}$ (m $\Omega$ ) |                    | I <sub>peak</sub> (A) | Clamp voltage<br>(min) (V) | Description                                          |
|----------------------|-------------|---------------------------------|------------------------------------|----------------------------------------------------|--------------------|-----------------------|----------------------------|------------------------------------------------------|
|                      |             |                                 |                                    | Excitation path                                    | Recirculation path |                       |                            |                                                      |
| <b>L99SD01-E (*)</b> | 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) |                                     |                                     |                                               |                                                                                             |
| <b>VB525SP-E</b>    | PowerSO-10 | M1         | 380                              | 11                                       | 2                                                |                  | 4.5                                 | 5.5                                 | 40                                            | Quasi proportional current driving<br>Current flag                                          |
| <b>VB526SP-E</b>    | PowerSO-10 | M1         | 360                              | 11                                       | 2                                                |                  | 4.5                                 | 5.5                                 | 40                                            | Quasi proportional current driving<br>Current flag                                          |
| <b>VB125ASPTR-E</b> | PowerSO-10 | M1         | 370                              | 11                                       | 2                                                |                  | 6                                   | 24                                  | 200                                           | Temperature compensated high-voltage flag<br>Current flag<br>Voltage regulator not required |
| <b>VB027SP-E</b>    | PowerSO-10 | M1         | 360                              | 9                                        | 2                                                |                  | 4.5                                 | 5.5                                 | 130                                           | Quasi proportional current driving<br>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

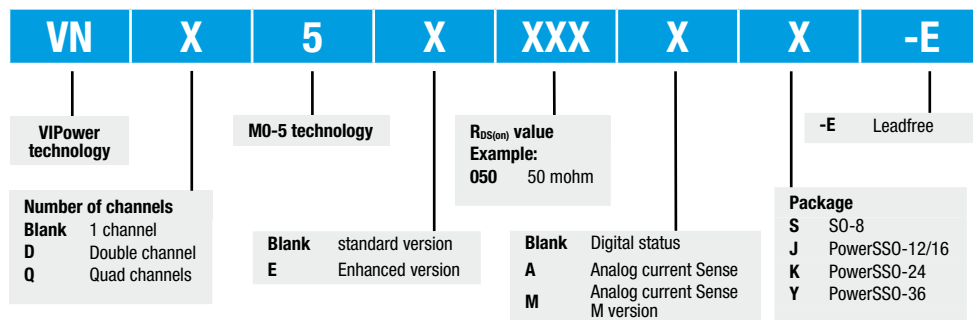
In addition to the standard protection and diagnostic features, the M0-5Enhanced products offer:

- 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

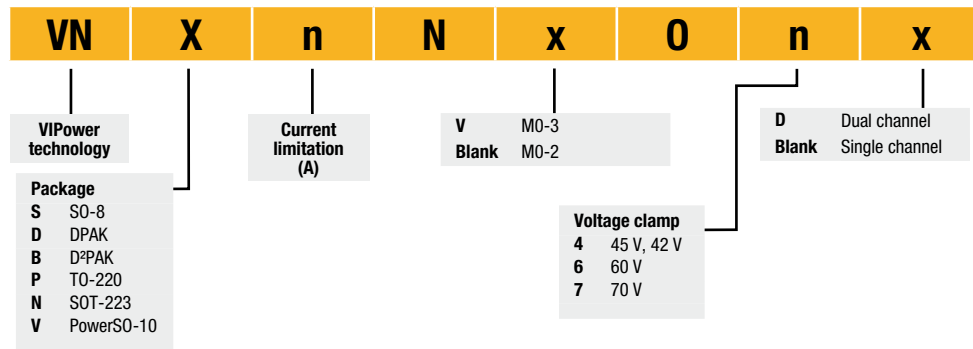
### M0-5Enhanced M version

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 «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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