

## TR MOSFET 产品选型

| Part Number | Type  | BV   | ID  | VTH  | Vgs | R <sub>ON</sub> (Ω)@V <sub>GS</sub> =10V |     | R <sub>ON</sub> (Ω)@V <sub>GS</sub> =4.5V |     | Package   | SPQ  | MOQ  |
|-------------|-------|------|-----|------|-----|------------------------------------------|-----|-------------------------------------------|-----|-----------|------|------|
|             |       |      |     |      |     | Typ                                      | Max | Typ                                       | Max |           |      |      |
| ZN1012MA    | N     | 16   | 7   | 0.75 | ±12 | -                                        | -   | 12                                        | 16  | DFN2x2-6L | 3000 | 3000 |
| ZN1008DA    | N     | 16   | 40  | 0.8  | ±12 | -                                        | -   | 7.7                                       | 10  | TO-252    | 2500 | 2500 |
| ZN1006DA    | N     | 16   | 40  | 0.7  | ±12 | -                                        | -   | 6.2                                       | 8   | TO-252    | 2500 | 2500 |
| ZN1005DA    | N     | 16   | 50  | 0.8  | ±12 | -                                        | -   | 5                                         | 6.5 | TO-252    | 2500 | 2500 |
| ZN8205UA    | N     | 19.5 | 5   | 0.65 | ±12 | -                                        | -   | 18.5                                      | 25  | SOT-23-6L | 3000 | 3000 |
| ZN8205UB    | N     | 20   | 6   | 0.65 | ±12 | -                                        | -   | 18.5                                      | 25  | SOT-23-6L | 3000 | 3000 |
| ZN2302A     | N     | 20   | 4   | 0.75 | ±12 | -                                        | -   | 21                                        | 27  | SOT-23    | 3000 | 3000 |
| ZN2302B     | N     | 20   | 4   | 0.7  | ±12 | -                                        | -   | 21                                        | 27  | SOT-23    | 3000 | 3000 |
| ZN2302C     | N     | 20   | 3   | 0.75 | ±12 | -                                        | -   | 45.5                                      | 60  | SOT-23    | 3000 | 3000 |
| ZN2302D     | N     | 20   | 4   | 0.7  | ±12 | -                                        | -   | 45                                        | 60  | SOT-23    | 3000 | 3000 |
| ZN2302E     | N     | 20   | 4   | 0.7  | ±12 | -                                        | -   | 32                                        | 42  | SOT-23    | 3000 | 3000 |
| ZN2312A     | N     | 20   | 6.8 | 0.65 | ±12 | -                                        | -   | 16                                        | 21  | SOT-23    | 3000 | 3000 |
| ZN2312MB    | N     | 20   | 6   | 0.7  | ±12 | -                                        | -   | 15                                        | 20  | DFN2x2-6L | 3000 | 3000 |
| ZN2011DA    | N     | 20   | 25  | 0.8  | ±12 | -                                        | -   | 9.3                                       | 12  | TO-252    | 2500 | 2500 |
| ZN2009DA    | N     | 20   | 30  | 0.75 | ±12 | -                                        | -   | 7.8                                       | 11  | TO-252    | 2500 | 2500 |
| ZN2007DA    | N     | 20   | 50  | 0.8  | ±12 | -                                        | -   | 6.3                                       | 8.5 | TO-252    | 2500 | 2500 |
| ZN2006DA    | N     | 20   | 60  | 0.7  | ±12 | -                                        | -   | 4.8                                       | 6.5 | TO-252    | 2500 | 2500 |
| ZN2005DA    | N     | 20   | 75  | 0.7  | ±12 | -                                        | -   | 4.1                                       | 5   | TO-252    | 2500 | 2500 |
| ZN2003DA    | N     | 20   | 180 | 0.75 | ±12 | 2.1                                      | 2.7 | 2.3                                       | 3   | TO-252    | 2500 | 2500 |
| ZN90N02D    | N     | 20   | 90  | 0.85 | ±12 | -                                        | -   | 2.7                                       | 4   | TO-252    | 2500 | 2500 |
| ZN20090A    | N     | 20   | 3   | 0.7  | ±12 | -                                        | -   | 19                                        | 25  | SOT-23    | 3000 | 3000 |
| ZN3416K     | N-ESD | 20   | 5   | 0.7  | ±12 | -                                        | -   | 14                                        | 18  | SOT-23    | 3000 | 3000 |
| ZN3400A     | N     | 30   | 5.8 | 0.95 | ±12 | 19                                       | 26  | 23                                        | 32  | SOT-23    | 3000 | 3000 |
| ZN3400MB    | N     | 30   | 5   | 0.95 | ±12 | 23                                       | 30  | 25                                        | 35  | DFN2x2-6L | 3000 | 3000 |
| ZN3402A     | N     | 30   | 4   | 0.95 | ±12 | 32                                       | 42  | 36                                        | 48  | SOT-23    | 3000 | 3000 |

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|-------------|------|----|-----|------|-----|------------------------------------------|-----|-------------------------------------------|-----|-------------|------|------|
|             |      |    |     |      |     | Typ                                      | Max | Typ                                       | Max |             |      |      |
| ZN3402B     | N    | 30 | 2   | 0.95 | ±12 | 65                                       | 82  | 75                                        | 95  | SOT-23      | 3000 | 3000 |
| ZN3404A     | N    | 30 | 5.8 | 1.85 | ±20 | 18                                       | 24  | 28                                        | 40  | SOT-23      | 3000 | 3000 |
| ZN3404B     | N    | 30 | 5   | 1.6  | ±20 | 20                                       | 25  | 28                                        | 42  | SOT-23      | 3000 | 3000 |
| ZN3406A     | N    | 30 | 4   | 1.5  | ±20 | 29                                       | 38  | 49                                        | 65  | SOT-23      | 3000 | 3000 |
| ZN3305DA    | N    | 30 | 90  | 1.85 | ±20 | 3.5                                      | 4.6 | 5.8                                       | 9   | TO-252      | 2500 | 2500 |
| ZN3012DA    | N    | 30 | 20  | 1.5  | ±20 | 10                                       | 13  | 15                                        | 22  | TO-252      | 2500 | 2500 |
| ZN3010DA    | N    | 30 | 40  | 1.6  | ±20 | 7.5                                      | 10  | 11                                        | 17  | TO-252      | 2500 | 2500 |
| ZN3008DA    | N    | 30 | 50  | 1.7  | ±20 | 6.5                                      | 7.5 | 10                                        | 14  | TO-252      | 2500 | 2500 |
| ZN3006DA    | N    | 30 | 70  | 1.7  | ±20 | 4.8                                      | 6.2 | 7.2                                       | 12  | TO-252      | 2500 | 2500 |
| ZN3004DA    | N    | 30 | 100 | 1.9  | ±20 | 2.9                                      | 4   | 4.8                                       | 6.5 | TO-252      | 2500 | 2500 |
| ZN3003DA    | N    | 30 | 150 | 1.75 | ±20 | 2.5                                      | 3   | 3.8                                       | 6   | TO-252      | 2500 | 2500 |
| ZN3002BA    | N    | 30 | 180 | 1.9  | ±20 | 2                                        | 2.5 | 3.5                                       | 5   | TO-263      | 800  | 800  |
| ZN3001DA    | N    | 30 | 190 | 1.6  | ±20 | 1.85                                     | 2.3 | 2.45                                      | 3.1 | TO-252      | 2500 | 2500 |
| ZN80N03DA   | N    | 30 | 90  | 1.85 | ±20 | 3                                        | 4.5 | 5                                         | 8   | TO-252      | 2500 | 2500 |
| ZN80N03DB   | N    | 30 | 90  | 1.85 | ±20 | 3.5                                      | 4.5 | 5                                         | 6.5 | TO-252      | 2500 | 2500 |
| ZN4036A     | N    | 40 | 5   | 1.85 | ±20 | 30                                       | 40  | 40                                        | 60  | SOT-23      | 3000 | 3000 |
| ZN4028NA    | N    | 40 | 6   | 1.3  | ±20 | 22.5                                     | 30  | 27.5                                      | 40  | PDFN3.3x3.3 | 5000 | 5000 |
| ZN4028QB    | N    | 40 | 6   | 1.8  | ±20 | 22.5                                     | 30  | 28.5                                      | 40  | SOP-8       | 4000 | 4000 |
| ZN4024QA    | N    | 40 | 9   | 1.25 | ±20 | 18                                       | 23  | 26                                        | 36  | SOP-8       | 4000 | 4000 |
| ZN4024QB    | N    | 40 | 9   | 1.7  | ±20 | 18                                       | 23  | 26                                        | 36  | SOP-8       | 4000 | 4000 |
| ZN4020DA    | N    | 40 | 30  | 1.7  | ±20 | 13.6                                     | 18  | 15.2                                      | 20  | TO-252      | 2500 | 2500 |
| ZN4020DB    | N    | 40 | 30  | 1.8  | ±20 | 14.5                                     | 19  | 18                                        | 25  | TO-252      | 2500 | 2500 |
| ZN4016DA    | N    | 40 | 40  | 1.3  | ±12 | 10                                       | 13  | 13                                        | 20  | TO-252      | 2500 | 2500 |
| ZN4016DB    | N    | 40 | 40  | 1.85 | ±20 | 10                                       | 13  | 13                                        | 20  | TO-252      | 2500 | 2500 |
| ZN4009DA    | N    | 40 | 50  | 1.85 | ±20 | 7.5                                      | 10  | 11                                        | 16  | TO-252      | 2500 | 2500 |
| ZN60N04D    | N    | 40 | 60  | 1.9  | ±20 | 5.6                                      | 7.5 | 8                                         | 12  | TO-252      | 2500 | 2500 |
| ZN4006DA    | N    | 40 | 70  | 1.85 | ±20 | 4.8                                      | 6.2 | 7.2                                       | 11  | TO-252      | 2500 | 2500 |

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|-------------|-------|-----|------|-------|-----|------------------------------------------|------|-------------------------------------------|------|------------|------|------|
|             |       |     |      |       |     | Typ                                      | Max  | Typ                                       | Max  |            |      |      |
| ZN4005DA    | N     | 40  | 80   | 1.85  | ±20 | 4.2                                      | 5.5  | 6.5                                       | 10   | TO-252     | 2500 | 2500 |
| ZN4003PA    | N     | 40  | 190  | 3     | ±20 | 2.8                                      | 3.5  | -                                         | -    | TO-220     | 50   | 1000 |
| ZN4003PB    | N     | 40  | 190  | 1.5   | ±20 | 2.8                                      | 3.5  | -                                         | -    | TO-220     | 50   | 1000 |
| ZN4002BA    | N     | 40  | 210  | 1.65  | ±20 | 1.6                                      | 1.8  | 1.8                                       | 2    | TO-263     | 800  | 800  |
| ZN4002AA    | N     | 40  | 210  | 2.8   | ±20 | 1.9                                      | 2.5  | 2.5                                       | 4    | PDFN5x6-8L | 5000 | 5000 |
| ZN80N06D    | N     | 60  | 80   | 3     | ±20 | 5.3                                      | 7    | -                                         | -    | TO-252     | 2500 | 2500 |
| ZN58N06P    | N     | 60  | 55   | 1.7   | ±20 | 7.5                                      | 10   | 10                                        | 14   | TO-220     | 50   | 1000 |
| ZN55N06D    | N     | 60  | 55   | 3     | ±20 | 8                                        | 10   | -                                         | -    | TO-252     | 2500 | 2500 |
| ZN50N06D    | N     | 60  | 50   | 1.85  | ±20 | 12                                       | 17   | 16                                        | 25   | TO-252     | 2500 | 2500 |
| ZN40N06D    | N     | 60  | 40   | 1.4   | ±20 | 9                                        | 12   | 11                                        | 13   | TO-252     | 2500 | 2500 |
| ZN35N06D    | N     | 60  | 35   | 1.4   | ±20 | 15                                       | 16.5 | 18                                        | 20   | TO-252     | 2500 | 2500 |
| ZN20N06D    | N     | 60  | 30   | 1.6   | ±20 | 21                                       | 29   | -                                         | -    | TO-252     | 2500 | 2500 |
| ZN15N06D    | N     | 60  | 20   | 1.6   | ±20 | 26                                       | 33   | 33                                        | 45   | TO-252     | 2500 | 2500 |
| ZN2310A     | N     | 60  | 5    | 1.5   | ±20 | 75                                       | 100  | 87                                        | 125  | SOT-23     | 3000 | 3000 |
| ZN06004PA   | N     | 60  | 120  | 3     | ±20 | 4.8                                      | 7    | -                                         | -    | TO-220     | 50   | 1000 |
| ZN2N7002K   | N-ESD | 60  | 0.3  | 1.6   | ±20 | 1.69                                     | 2.2  | 2.05                                      | 2.87 | SOT-23     | 3000 | 3000 |
| ZN70N07D    | N     | 68  | 80   | 3     | ±20 | 7.5                                      | 9    | -                                         | -    | TO-252     | 2500 | 2500 |
| ZN07004DA   | N     | 68  | 80   | 3     | ±20 | 6.6                                      | 9    | 6.9                                       | 10   | TO-252     | 2500 | 2500 |
| ZN10004PA   | N     | 100 | 90   | 3     | ±20 | 15                                       | 20   | -                                         | -    | TO-220     | 50   | 1000 |
| ZN30N10D    | N     | 100 | 30   | 1.5   | ±20 | 24                                       | 30   | 26                                        | 34   | TO-252     | 2500 | 2500 |
| ZN20N10D    | N     | 100 | 20   | 1.5   | ±20 | 33                                       | 40   | 35                                        | 45   | TO-252     | 2500 | 2500 |
| ZN10N10R    | N     | 100 | 10   | 1.5   | ±20 | 84                                       | 105  | 89                                        | 111  | SOT-23-3L  | 3000 | 3000 |
| ZN2N10R     | N     | 100 | 4.5  | 1.5   | ±20 | 225                                      | 295  | 235                                       | 330  | SOT-23-3L  | 3000 | 3000 |
| ZN2301A     | P     | -17 | -2   | -0.65 | ±12 | 65                                       | 85   | 88                                        | 110  | SOT-23     | 3000 | 3000 |
| ZN2301B     | P     | -20 | -3   | -0.65 | ±12 | -                                        | -    | 55                                        | 70   | SOT-23     | 3000 | 3000 |
| ZN2301C     | P     | -20 | -2   | -0.7  | ±12 | -                                        | -    | 120                                       | 150  | SOT-23     | 3000 | 3000 |
| ZN2301D     | P     | -20 | -2.5 | -0.7  | ±12 | 80                                       | 104  | 110                                       | 154  | SOT-23     | 3000 | 3000 |

| Part Number | Type  | BV  | ID   | VTH   | Vgs | R <sub>ON</sub> (Ω)@V <sub>GS</sub> =10V |     | R <sub>ON</sub> (Ω)@V <sub>GS</sub> =4.5V |      | Package    | SPQ  | MOQ  |
|-------------|-------|-----|------|-------|-----|------------------------------------------|-----|-------------------------------------------|------|------------|------|------|
|             |       |     |      |       |     | Typ                                      | Max | Typ                                       | Max  |            |      |      |
| ZN2305A     | P     | -17 | -5.6 | -0.65 | ±12 | -                                        | -   | 23                                        | 30   | SOT-23     | 3000 | 3000 |
| ZN2305B     | P     | -20 | -4.1 | -0.7  | ±12 | -                                        | -   | 27                                        | 35   | SOT-23     | 3000 | 3000 |
| ZN2305C     | P     | -20 | -3.2 | -0.9  | ±12 | -                                        | -   | 40                                        | 54   | SOT-23     | 3000 | 3000 |
| ZN2333A     | P     | -18 | -6   | -0.65 | ±12 | -                                        | -   | 19.5                                      | 27   | SOT-23     | 3000 | 3000 |
| ZN19068A    | P     | 19  | -3.8 | -0.62 | ±12 | -                                        | -   | 21                                        | 27   | SOT-23     | 3000 | 3000 |
| ZN50P02D    | P     | -20 | -50  | -0.65 | ±12 | -                                        | -   | 6.6                                       | 8.5  | TO-252     | 2500 | 2500 |
| ZN20P02M    | P     | -20 | -12  | -0.7  | ±12 | -                                        | -   | 12                                        | 16   | DFN2x2-6L  | 3000 | 3000 |
| ZN120P02A   | P     | -20 | -85  | -0.7  | ±12 | -                                        | -   | 2.1                                       | 2.6  | PDFN5x6-8L | 5000 | 5000 |
| ZN15P02     | P     | -20 | -5   | -0.7  | ±12 | -                                        | -   | 15.3                                      | 19.2 | SOT-23     | 3000 | 3000 |
| ZN20011A    | P     | 20  | -50  | -0.85 | ±12 | -                                        | -   | 6.6                                       | 8.5  | SOT-23     | 3000 | 3000 |
| ZN20090A    | P     | -20 | -3   | -0.7  | ±12 | -                                        | -   | 44                                        | 55   | SOT-23     | 3000 | 3000 |
| ZN3415K     | P-ESD | -20 | -4.1 | -0.7  | ±12 | -                                        | -   | 31                                        | 40   | SOT-23     | 3000 | 3000 |
| ZN4407QA    | P     | -30 | -12  | -1.5  | ±20 | 7.2                                      | 9   | 10                                        | 12.5 | SOP-8      | 4000 | 4000 |
| ZN4407QB    | P     | -30 | -12  | -1.5  | ±20 | 8                                        | 11  | 12                                        | 15   | SOP-8      | 4000 | 4000 |
| ZN3401A     | P     | -30 | -4.2 | -0.9  | ±12 | 45                                       | 55  | 53                                        | 68   | SOT-23     | 3000 | 3000 |
| ZN3401B     | P     | -30 | -4   | -0.95 | ±12 | 48                                       | 60  | 54                                        | 75   | SOT-23     | 3000 | 3000 |
| ZN3407A     | P     | -30 | -4.1 | -1.5  | ±20 | 42                                       | 55  | 62                                        | 85   | SOT-23     | 3000 | 3000 |
| ZN3407B     | P     | -30 | -3.2 | -1.5  | ±20 | 53                                       | 70  | 78                                        | 108  | SOT-23     | 3000 | 3000 |
| ZN4449QA    | P     | -30 | -7   | -1.5  | ±20 | 21                                       | 27  | 29                                        | 37   | SOP-8      | 4000 | 4000 |
| ZN4449QB    | P     | -30 | -7   | -1.5  | ±20 | 22                                       | 30  | 30                                        | 40   | SOP-8      | 4000 | 4000 |
| ZN20P03D    | P     | -30 | -20  | -1.6  | ±20 | 16                                       | 20  | 23                                        | 33   | TO-252     | 2500 | 2500 |
| ZN60P03D    | P     | -30 | -60  | -1.5  | ±20 | 5                                        | 6.3 | 7.3                                       | 9.5  | TO-252     | 2500 | 2500 |
| ZN60P03D    | P     | -30 | -60  | -1.5  | ±20 | 5.8                                      | 7.5 | 9                                         | 12.6 | TO-252     | 2500 | 2500 |
| ZN55P03D    | P     | -30 | -55  | -1.6  | ±20 | 7.5                                      | 10  | 11.6                                      | 15   | TO-252     | 2500 | 2500 |
| ZN90P03D    | P     | -30 | -90  | -1.6  | ±20 | 4.29                                     | 5   | 5                                         | 7    | TO-252     | 2500 | 2500 |
| ZN15P03Q    | P     | -30 | -9   | -1.5  | ±20 | 19                                       | 25  | 27                                        | 38   | SOP-8      | 4000 | 4000 |
| ZN100P03D   | P     | -30 | -80  | -1.5  | ±20 | 4                                        | 5.3 | 5.8                                       | 8.2  | TO-252     | 2500 | 2500 |

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|-------------|------|-----|------|------|-----|------------------------------------------|------|-------------------------------------------|-----|---------|------|------|
|             |      |     |      |      |     | Typ                                      | Max  | Typ                                       | Max |         |      |      |
| ZN30044     | P    | -30 | -4.1 | -1.3 | ±12 | -                                        | -    | 42                                        | 55  | SOT-23  | 3000 | 3000 |
| ZN10P04QA   | P    | -40 | -10  | -1.5 | ±20 | 30                                       | 37.5 | 37                                        | 46  | SOP-8   | 4000 | 4000 |
| ZN10P04QB   | P    | -40 | -10  | -1.5 | ±20 | 36                                       | 47   | 47                                        | 66  | SOP-8   | 4000 | 4000 |
| ZN40P04D    | P    | -40 | -40  | -1.7 | ±20 | 10                                       | 13   | 15                                        | 22  | TO-252  | 2500 | 2500 |
| ZN5P04Q     | P    | -40 | -5   | -1.6 | ±20 | 70                                       | 88   | 90                                        | 117 | SOP-8   | 4000 | 4000 |