

# Power MOSFET

## 20V MOSFET series



SOP-8

N-Channel, Enhancement type

| Type No. | Absolute Maximum Ratings |                 |                 |                |                | Electrical Characteristics                                   |                                   |                                   |                                  |                                   | Outline |      |
|----------|--------------------------|-----------------|-----------------|----------------|----------------|--------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|---------|------|
|          | Tch                      | V <sub>DS</sub> | V <sub>GS</sub> | I <sub>D</sub> | P <sub>T</sub> | R <sub>DS(ON)</sub><br>V <sub>GS</sub> =2.5V<br>(max)<br>[Ω] | C <sub>iss</sub><br>(typ)<br>[pF] | C <sub>rss</sub><br>(typ)<br>[pF] | t <sub>on</sub><br>(typ)<br>[ns] | t <sub>off</sub><br>(typ)<br>[ns] | Package | Fig. |
| F5H2ND   | 150                      | 20              | ±12             | 5              | 2              | 0.047                                                        | 700                               | 95                                | 100                              | 170                               | SOP-8   | 94   |
| F7H2N    |                          |                 |                 | 7              | 2              | 0.029                                                        | 1450                              | 170                               | 230                              | 215                               |         |      |

※ : D : Dual, without D is Single

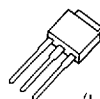
## 30V MOSFET series



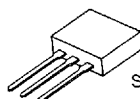
SOP-8



E-pack  
(SMD)



E-pack  
(Lead type)



STO-220

N-Channel, P-Channel, Enhancement type

| Type No. | Absolute Maximum Ratings |      |      |     |      | Electrical Characteristics        |                       |                       |                      |                       | Outline |      |    |
|----------|--------------------------|------|------|-----|------|-----------------------------------|-----------------------|-----------------------|----------------------|-----------------------|---------|------|----|
|          | Tch                      | Vbss | Vgss | Id  | PT   | RDS(ON)<br>VGS=4V<br>(max)<br>[Ω] | Ciss<br>(typ)<br>[pF] | Crss<br>(typ)<br>[pF] | ton<br>(typ)<br>[ns] | toff<br>(typ)<br>[ns] |         |      |    |
|          | [°C]                     | [V]  | [V]  | [A] | [W]  |                                   |                       |                       |                      |                       | Package | Fig. |    |
| 2SK2816  | 150                      | 30   | ±20  | 5   | 10   | 0.16                              | 180                   | 40                    | 30                   | 60                    | E-pack  | 80-4 |    |
| 2SK2817  |                          |      |      | 10  | 15   | 0.1                               | 300                   | 60                    | 60                   | 100                   |         |      |    |
| 2SK2818  |                          |      |      | 15  | 20   | 0.07                              | 440                   | 90                    | 95                   | 150                   |         |      |    |
| 2SK2819  |                          |      |      | 20  | 25   | 0.04                              | 730                   | 150                   | 125                  | 230                   |         |      |    |
| 2SK2820  |                          |      |      | 45  | 55   | 0.02                              | 1720                  | 330                   | 305                  | 465                   |         |      |    |
| 2SK2821  |                          |      |      | 70  | 70   | 0.01                              | 3800                  | 710                   | 400                  | 950                   |         |      |    |
| 2SJ487   |                          | -30  |      | -3  | 10   | 0.5                               | 230                   | 30                    | 50                   | 55                    | E-pack  | 80-4 |    |
| 2SJ488   |                          |      |      | -5  | 15   | 0.3                               | 320                   | 40                    | 60                   | 85                    |         |      |    |
| 2SJ489   |                          |      |      | -7  | 20   | 0.21                              | 480                   | 50                    | 85                   | 130                   |         |      |    |
| 2SJ490   |                          |      |      | -10 | 25   | 0.12                              | 760                   | 90                    | 120                  | 195                   |         |      |    |
| 2SJ491   |                          |      |      | -20 | 55   | 0.06                              | 1900                  | 210                   | 245                  | 385                   |         |      |    |
| F4H3N    |                          |      |      | 30  | 4    | 2                                 | 0.1                   | 300                   | 60                   | 40                    |         |      | 95 |
| F5H3N    |                          | 5    |      |     | 2    | 0.07                              | 440                   | 90                    | 50                   | 140                   |         |      |    |
| F8H3N    |                          | 8    |      |     | 2    | 0.04                              | 730                   | 150                   | 60                   | 220                   |         |      |    |
| F10H3N   |                          | 10   |      |     | 2    | 0.023                             | 1400                  | 340                   | 130                  | 450                   |         |      |    |
| F2H3ND   |                          | 2.5  |      |     | 2    | 0.25                              | 130                   | 30                    | 25                   | 47                    |         |      |    |
| F3H3ND   |                          | 3    |      |     | 2    | 0.16                              | 180                   | 40                    | 30                   | 65                    |         |      |    |
| F4H3ND   |                          | 4    |      |     | 2    | 0.1                               | 300                   | 60                    | 40                   | 95                    |         |      |    |
| F5H3ND   |                          | 5    |      |     | 2    | 0.07                              | 440                   | 90                    | 50                   | 140                   |         |      |    |
| F3H3P    |                          | -2.5 |      |     | 2    | 0.3                               | 320                   | 40                    | 45                   | 90                    |         |      |    |
| F4H3P    |                          | -3.5 |      |     | 2    | 0.21                              | 480                   | 50                    | 55                   | 120                   |         |      |    |
| F5H3P    |                          | -4.5 |      |     | 2    | 0.12                              | 760                   | 90                    | 60                   | 190                   |         |      |    |
| F7H3P    |                          | -6.5 |      |     | 2    | 0.06                              | 1550                  | 210                   | 160                  | 550                   |         |      |    |
| F3H3PD   |                          | -2.5 |      |     | 2    | 0.3                               | 320                   | 40                    | 45                   | 90                    |         |      |    |
| F4H3PD   |                          | -3.5 |      |     | 2    | 0.21                              | 480                   | 50                    | 55                   | 120                   |         |      |    |
| F3H3C    |                          | 30   |      |     | 2.5  | 2                                 | 0.25                  | 130                   | 30                   | 25                    | 47      |      |    |
|          |                          | -30  |      |     | -2.5 |                                   | 0.3                   | 320                   | 40                   | 45                    | 90      |      |    |
|          |                          | 30   |      |     | 4    |                                   | 0.1                   | 300                   | 60                   | 40                    | 95      |      |    |
| F4H3C    |                          | -30  |      |     | -3.5 |                                   | 0.21                  | 480                   | 50                   | 55                    | 120     |      |    |

※ : D : Dual, C : Complement, without D and C is Single

## 40V MOSFET series

N-Channel, Enhancement type

| Type No. | Absolute Maximum Ratings |                 |                 |                |                | Electrical Characteristics                                 |                                   |                                   |                                  |                                   | Outline |      |
|----------|--------------------------|-----------------|-----------------|----------------|----------------|------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|---------|------|
|          | Tch                      | V <sub>DS</sub> | V <sub>GS</sub> | I <sub>D</sub> | P <sub>T</sub> | R <sub>DS(ON)</sub><br>V <sub>GS</sub> =4V<br>(max)<br>[Ω] | C <sub>iss</sub><br>(typ)<br>[pF] | C <sub>rss</sub><br>(typ)<br>[pF] | t <sub>on</sub><br>(typ)<br>[ns] | t <sub>off</sub><br>(typ)<br>[ns] | Package | Fig. |
| ☆F9H4N   | 150                      | 40              | ±20             | 9              | 2              | 0.03                                                       | 1500                              | 220                               | 110                              | 380                               | SOP-8   | 94   |

☆ : New products

※ : D : Dual, without D is Single

8219387 0005190 262