

## 2SJ118, 2SJ119

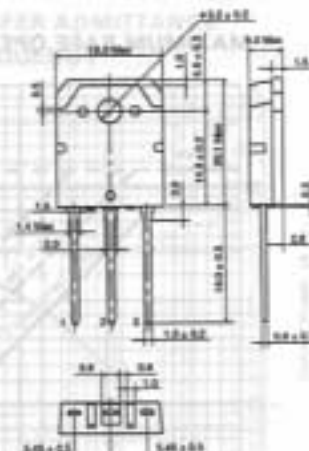
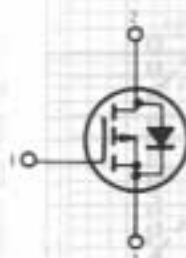
**SILICON P-CHANNEL MOS FET**

## 高速度電力スイッチング

2SK413, 2SK414 とコンプリメンタリペア

## ■特長

- オン抵抗が低い。
- スイッチングスピードが速い。
- 周波数特性が優れている。
- 安全動作領域 (ASO) が広い。
- スイッチングレギュレータ、DC-DCコンバータ、モータコントロール、PWMアンプ出力などに最適。



1. Gate
2. Drain  
(Flange)
3. Source

(Dispersal rate in m/s)

(TO-3P)

■ ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

| Item                                   | Symbol      | 2SJ118     | 2SJ119 | Unit |
|----------------------------------------|-------------|------------|--------|------|
| Drain-Source Voltage                   | $V_{DS}$    | -140       | -160   | V    |
| Gate-Source Voltage                    | $V_{GS}$    | $\pm 20$   |        | V    |
| Drain Current                          | $I_D$       | -8         |        | A    |
| Drain Peak Current                     | $I_{Dpeak}$ | -12        |        | A    |
| Body-Drain Diode Reverse Drain Current | $I_{DS}$    | -8         |        | A    |
| Channel Dissipation                    | $P_{ch}$ *  | 100        |        | W    |
| Channel Temperature                    | $T_{ch}$    | 150        |        | °C   |
| Storage Temperature                    | $T_{stg}$   | -55 ~ +150 |        | °C   |

<sup>a</sup> Value at  $T_g = 25^\circ\text{C}$ ■ ELECTRICAL CHARACTERISTICS ( $T_s=25^\circ\text{C}$ )

| Item                                    |        | Symbol        | Test Condition                                                 | min. | typ. | max.    | Unit          |
|-----------------------------------------|--------|---------------|----------------------------------------------------------------|------|------|---------|---------------|
| Drain-Source Breakdown Voltage          | 2SJ118 | $V_{(BR)DS}$  | $I_D=-10\text{mA}, V_{GS}=0$                                   | -140 | —    | —       | V             |
|                                         | 2SJ119 |               |                                                                | -160 | —    | —       | V             |
| Gate-Source Leak Current                |        | $I_{GSS}$     | $V_{GS}=\pm 20\text{V}, V_{DS}=0$                              | —    | —    | $\pm 1$ | $\mu\text{A}$ |
| Zero Gate Voltage Drain Current         | 2SJ118 | $I_{DSS}$     | $V_{DS}=-120\text{V}, V_{GS}=0$                                | —    | —    | -1      | mA            |
|                                         | 2SJ119 |               | $V_{DS}=-140\text{V}, V_{GS}=0$                                |      |      |         |               |
| Gate-Source Cutoff Voltage              |        | $V_{GSOFF}$   | $I_D=-1\text{mA}, V_{DS}=-10\text{V}$                          | -2.0 | —    | -5.0    | V             |
| Static Drain-Source On State Resistance |        | $R_{DS(on)}$  | $I_D=-4\text{A}, V_{GS}=-15\text{V}^*$                         | —    | 0.4  | 0.5     | $\Omega$      |
| Drain-Source Saturation Voltage         |        | $V_{DS(sat)}$ | $I_D=-4\text{A}, V_{GS}=-15\text{V}^*$                         | —    | -1.6 | -2.0    | V             |
| Forward Transfer Admittance             |        | $ y_{fs} $    | $I_D=-4\text{A}, V_{DS}=-10\text{V}^*$                         | 1.0  | 1.8  | —       | S             |
| Input Capacitance                       |        | $C_{iss}$     | $V_{DS}=-10\text{V}, V_{GS}=0,$<br>$f=1\text{MHz}$             | —    | 1050 | —       | pF            |
| Output Capacitance                      |        | $C_{oss}$     |                                                                | —    | 450  | —       | pF            |
| Reverse Transfer Capacitance            |        | $C_{rss}$     |                                                                | —    | 80   | —       | pF            |
| Turn-on Delay Time                      |        | $t_{d(on)}$   | $I_D=-2\text{A}, V_{GS}=-15\text{V}$<br>$R_L=15\Omega$         | —    | 20   | —       | ns            |
| Rise Time                               |        | $t_r$         |                                                                | —    | 50   | —       | ns            |
| Turn-off Delay Time                     |        | $t_{d(off)}$  |                                                                | —    | 90   | —       | ns            |
| Fall Time                               |        | $t_f$         |                                                                | —    | 70   | —       | ns            |
| Body-Drain Diode Forward Voltage        |        | $V_{DF}$      | $I_F=-4\text{A}, V_{GS}=0$                                     | —    | -0.9 | —       | V             |
| Body-Drain Diode Reverse Recovery Time  |        | $t_{rr}$      | $I_F=-4\text{A}, V_{GS}=0$<br>$di_F/dt=50\text{A}/\mu\text{s}$ | —    | 300  | —       | ns            |

\*Pulse Test

### POWER VS. TEMPERATURE DERATING

