

1. L²- π -MOS IV ($V_{GS}=4V$ drive type)

Low withstand voltage series suitable for motor driving and DC-to-DC converters

- 30% less on-resistance per unit area (2 Mcell/inch², In comparison with L²- π -MOS III)
- Operation at logic level voltage. ($V_{GS}=4V$ drive)
- Series of ultralow on-resistance for both P-channel and N-channel
- P channel and N channel power MOS FET series available in each package type
- Built-in zener diode for protection between the gate and source
- Improved avalanche breakdown

2SJ240 : $V_{DSS} = -60V$, $I_D = -20A$, $R_{DS(ON)} = 35m\Omega$ (TYP.)

2SK1653 : $V_{DSS} = 60V$, $I_D = 45A$, $R_{DS(ON)} = 15m\Omega$ (TYP.)

| Application | Type No. | Maximum ratings | | | Package | $R_{DS(ON)}$ | | | | $R_{DS(ON)}$ | | | | $V_{th}(V)$ ($I_b=1mA$) |
|---|----------------|-----------------|------------------|--------------|-------------|--------------|-------|-----------------|--------------|--------------|-------|-----------------|--------------|------------------------------|
| | | I_D (A) | V_{DSS} (V) | P_D (W) | | (Ω) | | V_{GS} (V) | I_b (A) | (Ω) | | V_{GS} (V) | I_b (A) | |
| | | | | | | TYP. | MAX. | | | TYP. | MAX. | | | |
| DC/DC converter Solenoid drive Large-current switching | 2SJ238 | -1 | -60 | 0.5 | POWER-MINI | 0.70 | 0.85 | -10 | -0.5 | 1.0 | 1.40 | -4 | -0.5 | -0.8~-2.0 |
| | 2SK1717 | 2 | 60 | 0.5 | POWER-MINI | 0.28 | 0.37 | 10 | 1 | 0.39 | 0.53 | 4 | 1 | 0.8~ 2.0 |
| | 2SJ239 | -5 | -60 | 20 | POWER-MOLD | 0.21 | 0.25 | -10 | -2.5 | 0.31 | 0.40 | -4 | -2.5 | -0.8~-2.0 |
| | 2SK1719 | 5 | 60 | 20 | POWER-MOLD | 0.08 | 0.11 | 10 | 2.5 | 0.11 | 0.16 | 4 | 2.5 | 0.8~ 2.0 |
| | 2SJ312 | -14 | -60 | 40 | TO-220FL/SM | 0.080 | 0.12 | -10 | -7 | 0.13 | 0.19 | -4 | -5 | -0.8~-2.0 |
| | 2SJ304 | -14 | -60 | 40 | TO-220(NIS) | 0.080 | 0.12 | -10 | -7 | 0.13 | 0.19 | -4 | -5 | -0.8~-2.0 |
| | 2SJ240 | -20 | -60 | 45 | TO-220(NIS) | 0.035 | 0.045 | -10 | -10 | 0.058 | 0.090 | -4 | -10 | -0.8~-2.0 |
| | 2SJ241 | -20 | -60 | 100 | TO-220FL/SM | 0.035 | 0.045 | -10 | -10 | 0.058 | 0.090 | -4 | -10 | -0.8~-2.0 |
| | 2SK1882 | 25 | 60 | 40 | TO-220(NIS) | 0.03 | 0.050 | 10 | 12 | 0.045 | 0.080 | 4 | 12 | 0.8~ 2.0 |
| | 2SK1997 | 36 | 60 | 40 | TO-220(NIS) | 0.022 | 0.030 | 10 | 18 | 0.034 | 0.055 | 4 | 15 | 0.8~ 2.0 |
| | (Note2)2SK1542 | 45 | 60 | 125 | TO-220AB | 0.015 | 0.020 | 10 | 20 | 0.022 | 0.035 | 4 | 20 | 0.8~ 2.0 |
| | (Note2)2SK1653 | 45 | 60 | 45 | TO-220(NIS) | 0.015 | 0.020 | 10 | 20 | 0.022 | 0.035 | 4 | 20 | 0.8~ 2.0 |
| | (Note2)2SK1792 | 45 | 60 | 100 | TO-220FL/SM | 0.015 | 0.020 | 10 | 20 | 0.022 | 0.035 | 4 | 20 | 0.8~ 2.0 |
| | (Note1)2SK1879 | 45 | 60 | 125 | TO-3P(N) | 0.022 | 0.030 | 10 | 20 | — | — | — | — | 1.5~ 3.5 |
| 2SK1998 | 45 | 60 | 125 | TO-3P(N) | 0.022 | 0.030 | 10 | 20 | 0.034 | 0.055 | 4 | 15 | 0.8~ 2.0 | |
| DC/DC converter | (Note1)2SK2030 | 5 | 60 | 20 | POWER-MOLD | 0.10 | 0.14 | 10 | 2.5 | — | — | — | — | 2.0~ 4.0 |
| | 2SJ315 | -5 | -60 | 20 | POWER-MOLD | 0.21 | 0.25 | -10 | -2.5 | 0.31 | 0.40 | -4 | -2.5 | -0.8~-2.0 |

(Note 1) 10V-drive type

(Note 2) No diode is located between gate-source