Ordering number: EN 4234

SANYO

No.4234

# 2SJ263

P-Channel MOS Silicon FET

## Very High-Speed Switching Applications

### Features

- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.
- Micaless package facilitating mounting.

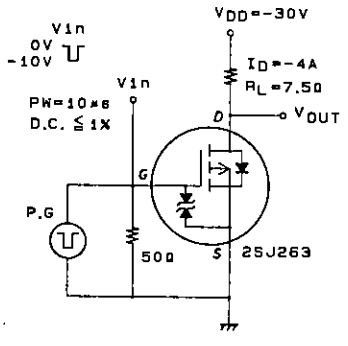
### Absolute Maximum Ratings at Ta = 25°C

| | | | | unit |
|---|---|---|---|---|
| Drain to Source Voltage | $V_{DSS}$ | | −60 | V |
| Gate to Source Voltage | $V_{GSS}$ | | ±15 | V |
| Drain Current(DC) | $I_D$ | | −6 | A |
| Drain Current(Pulse) | $I_{DP}$ | PW≦10μs, duty cycle≦1% | −24 | A |
| Allowable Power Dissipation | $P_D$ | | 2.0 | W |
| | | $T_c$ = 25°C | 25 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °C |

### Electrical Characteristics at Ta = 25°C

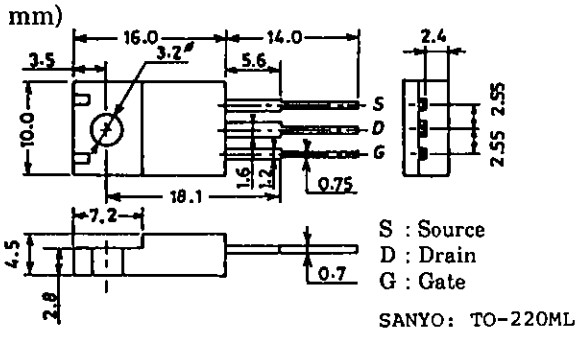
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| D-S Breakdown Voltage | $V_{(BR)DSS}$ | $I_D$ = −1mA, $V_{GS}$ = 0 | −60 | | | V |
| G-S Breakdown Voltage | $V_{(BR)GSS}$ | $I_G$ = ±100μA, $V_{DS}$ = 0 | ±15 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$ = −60V, $V_{GS}$ = 0 | | | −100 | μA |
| Gate to Source Leakage Current | $I_{GSS}$ | $V_{GS}$ = ±12V, $V_{DS}$ = 0 | | | ±10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS}$ = −10V, $I_D$ = −1mA | −1.0 | | −2.0 | V |
| Forward Transfer Admittance | $\|y_{fs}\|$ | $V_{DS}$ = −10V, $I_D$ = −4A | 3.5 | 6 | | S |
| Static Drain to Source on State Resistance | $R_{DS(on)}$ | $I_D$ = −4A, $V_{GS}$ = −10V | | 150 | 200 | mΩ |
| | $R_{DS(on)}$ | $I_D$ = −4A, $V_{GS}$ = −4V | | 200 | 270 | mΩ |
| Input Capacitance | $C_{iss}$ | $V_{DS}$ = −20V, f = 1MHz | | 950 | | pF |
| Output Capacitance | $C_{oss}$ | $V_{DS}$ = −20V, f = 1MHz | | 300 | | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | $V_{DS}$ = −20V, f = 1MHz | | 75 | | pF |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 15 | | ns |
| Rise Time | $t_r$ | 〃 | | 45 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | 〃 | | 90 | | ns |
| Fall Time | $t_f$ | 〃 | | 110 | | ns |
| Diode Forward Voltage | $V_{SD}$ | $I_S$ = −6A, $V_{GS}$ = 0 | | −1.0 | −1.5 | V |

### Switching Time Test Circuit




### Package Dimensions 2063

(unit : mm)

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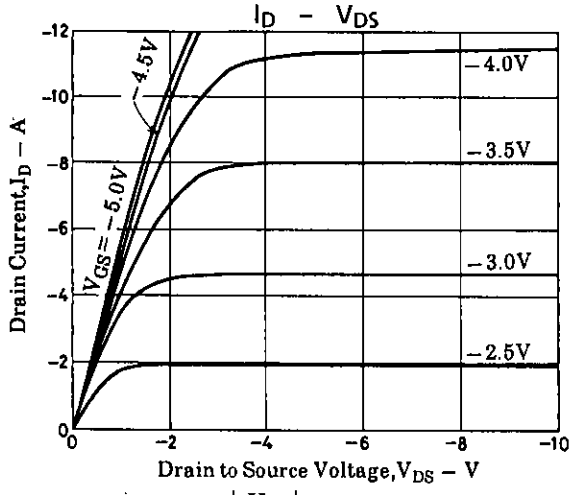
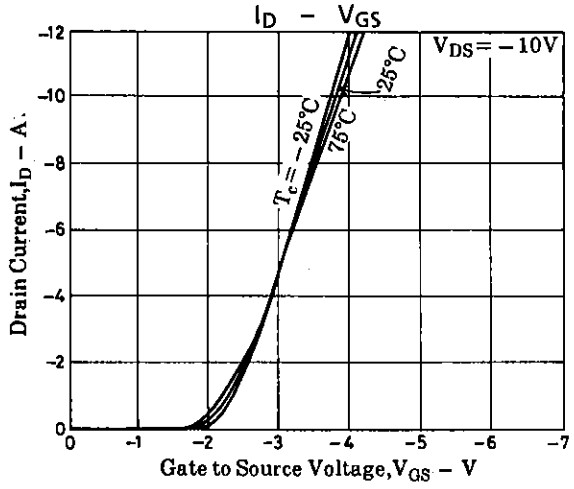
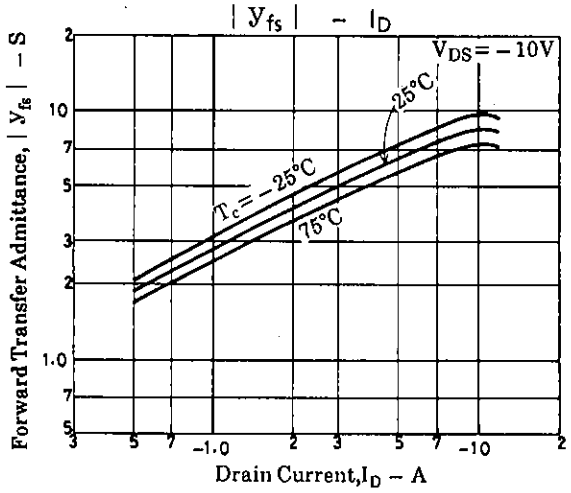
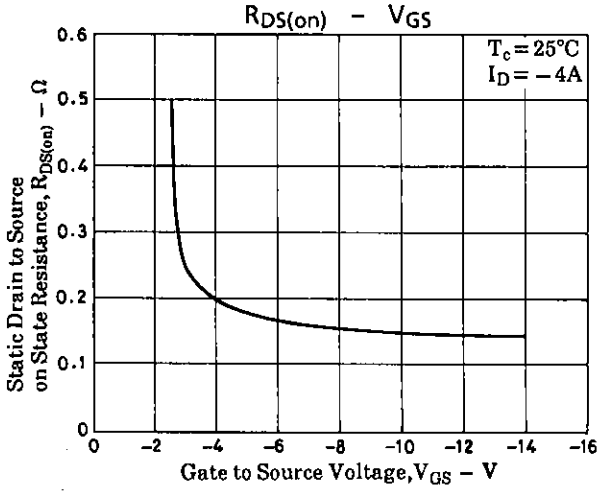
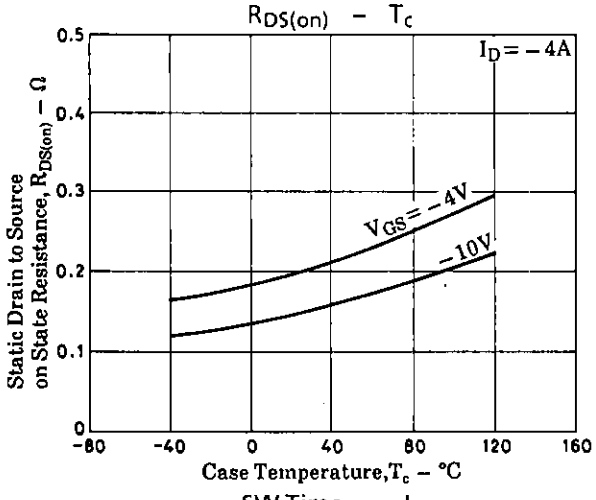
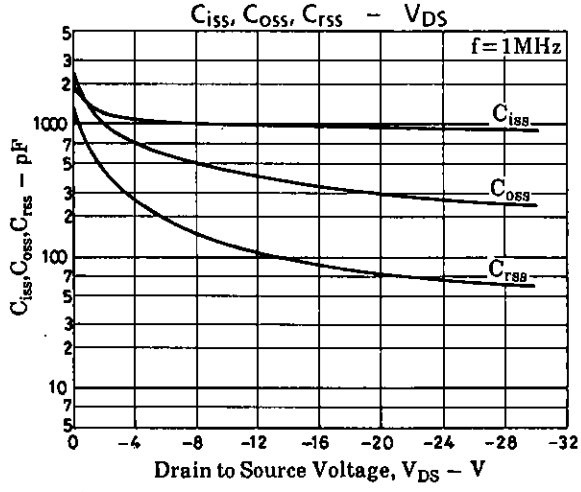

$I_D$ – $V_{DS}$
Drain Current, $I_D$ – A
Drain to Source Voltage, $V_{DS}$ – V
–4.0V
–3.5V
–3.0V
–2.5V
$V_{GS}$ = –5.0V
–4.5V

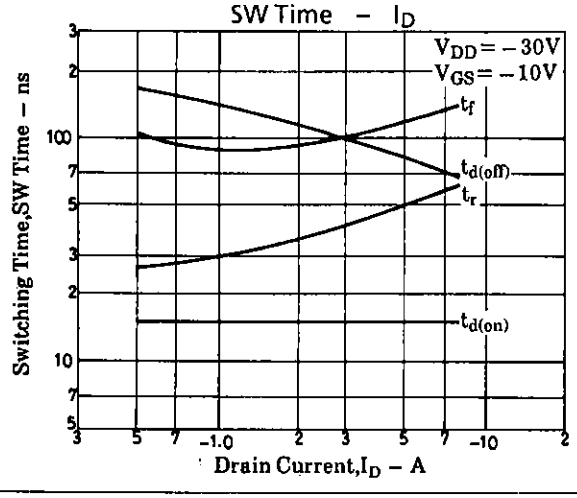

$I_D$ – $V_{GS}$
$V_{DS}$ = –10V
$T_c$ = –25°C
25°C
75°C
Drain Current, $I_D$ – A
Gate to Source Voltage, $V_{GS}$ – V

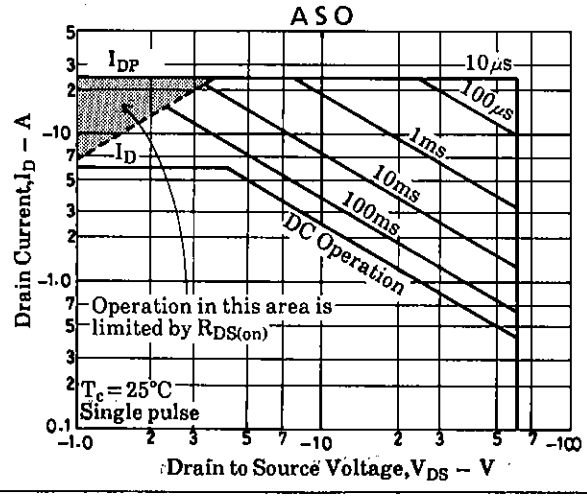

| $y_{fs}$ | – $I_D$
$V_{DS}$ = –10V
$T_c$ = –25°C
25°C
75°C
Forward Transfer Admittance, | $y_{fs}$ | – S
Drain Current, $I_D$ – A


$R_{DS(on)}$ – $V_{GS}$
$T_c$ = 25°C
$I_D$ = –4A
Static Drain to Source on State Resistance, $R_{DS(on)}$ – Ω
Gate to Source Voltage, $V_{GS}$ – V


$R_{DS(on)}$ – $T_c$
$I_D$ = –4A
$V_{GS}$ = –4V
–10V
Static Drain to Source on State Resistance, $R_{DS(on)}$ – Ω
Case Temperature, $T_c$ – °C


$C_{iss}$, $C_{oss}$, $C_{rss}$ – $V_{DS}$
f = 1MHz
$C_{iss}$
$C_{oss}$
$C_{rss}$
$C_{iss}$, $C_{oss}$, $C_{rss}$ – pF
Drain to Source Voltage, $V_{DS}$ – V


SW Time – $I_D$
$V_{DD}$ = –30V
$V_{GS}$ = –10V
$t_f$
$t_{d(off)}$
$t_r$
$t_{d(on)}$
Switching Time, SW Time – ns
Drain Current, $I_D$ – A


ASO
$I_{DP}$
$I_D$
10μs
100μs
1ms
10ms
100ms
DC Operation
Operation in this area is limited by $R_{DS(on)}$
$T_c$ = 25°C
Single pulse
Drain Current, $I_D$ – A
Drain to Source Voltage, $V_{DS}$ – V