SANYO

No.4748

2SJ273

P-Channel MOS Silicon FET

Very High-Speed Switching Applications

Features

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

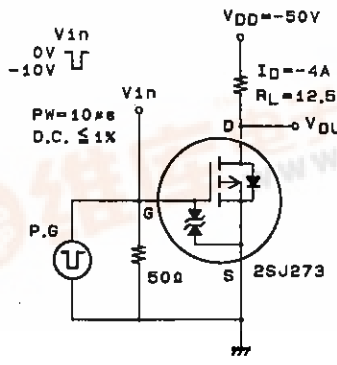
Absolute Maximum Ratings at Ta = 25°C

				unit
Drain-to-Source Voltage	V_{DSS}		−100	V
Gate-to-Source Voltage	V_{GSS}		±20	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
		Tc = 25°C	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

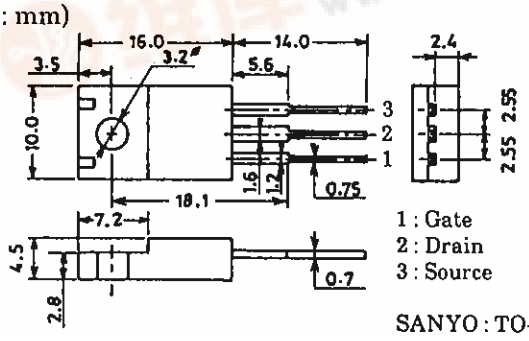
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D = −1mA, V_{GS} = 0	−100			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	I_G = ±100μA, V_{DS} = 0	±20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS} = −100V, V_{GS} = 0			−100	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS} = ±16V, V_{DS} = 0			±10	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	6.5		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	I_D = −4A, V_{GS} = −10V		0.22	0.3	Ω
	$R_{DS(on)}$	I_D = −4A, V_{GS} = −4V		0.3	0.4	Ω
Input Capacitance	Ciss	V_{DS} = −20V, f = 1MHz		1230		pF
Output Capacitance	Coss	V_{DS} = −20V, f = 1MHz		260		pF
Reverse Transfer Capacitance	Crss	V_{DS} = −20V, f = 1MHz		50		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		16		ns
Rise Time	t_r	〃		27		ns
Turn-OFF Delay Time	$t_{d(off)}$	〃		200		ns
Fall Time	t_f	〃		100		ns
Diode Forward Voltage	V_{SD}	I_S = −6A, V_{GS} = 0		−1.0	−1.5	V

Switching Time Test Circuit

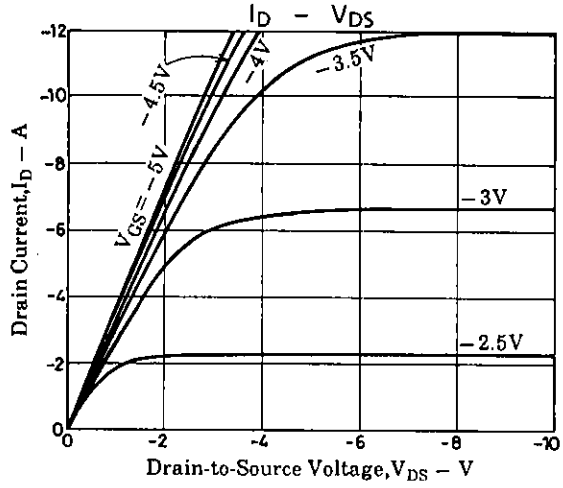


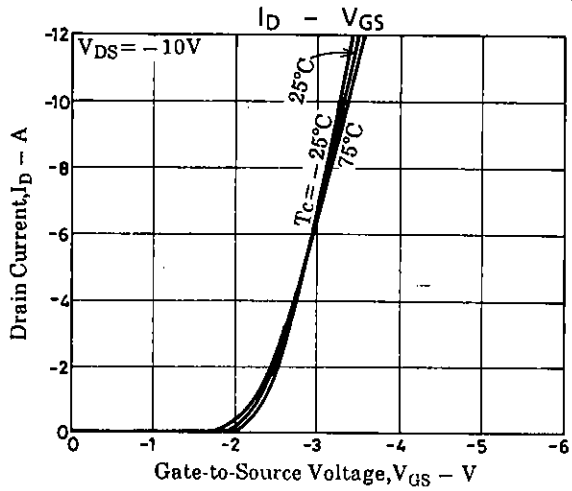
Package Dimensions 2063A

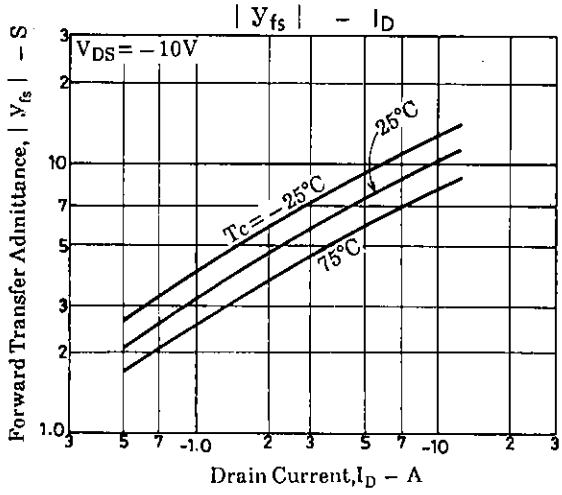
(unit : mm)

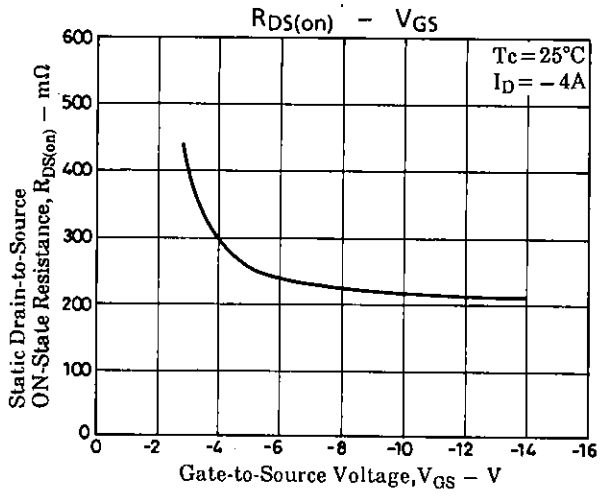


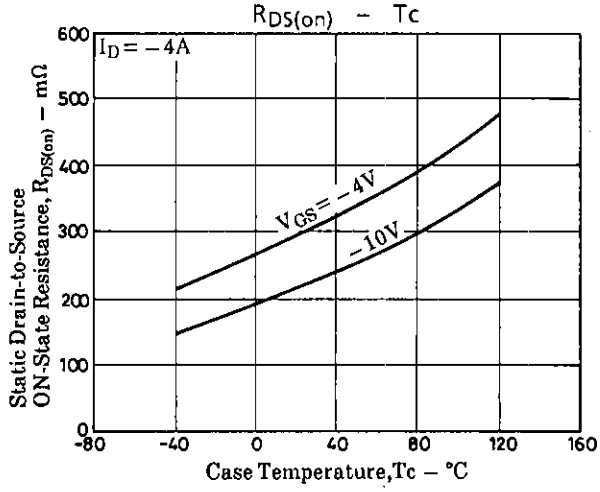
SANYO : TO-220ML

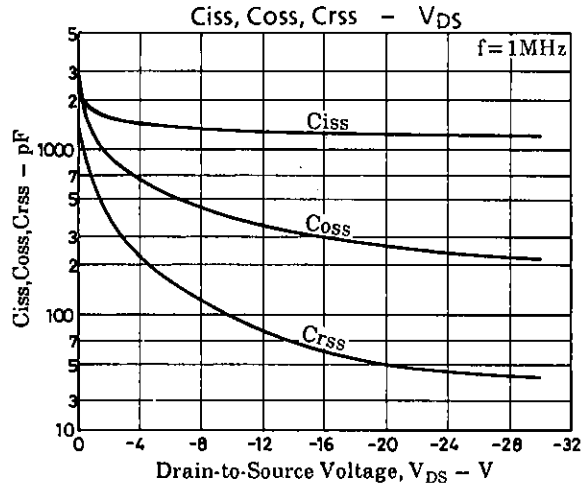

I_D – V_{DS}
Drain Current, I_D – A
Drain-to-Source Voltage, V_{DS} – V
V_{GS} = –5V
–4.5V
–4V
–3.5V
–3V
–2.5V

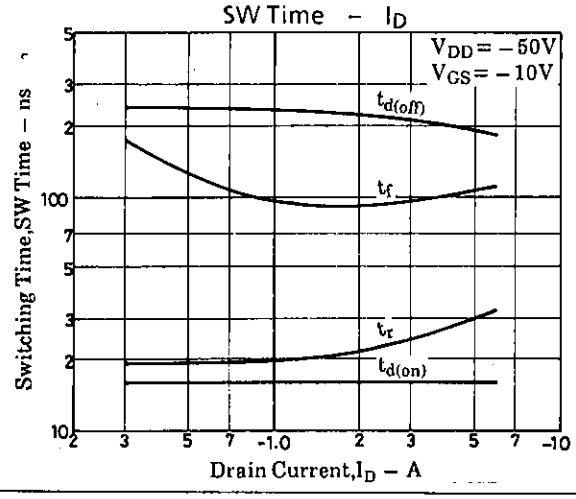

I_D – V_{GS}
V_{DS} = –10V
Drain Current, I_D – A
Gate-to-Source Voltage, V_{GS} – V
25°C
Tc = –25°C
75°C

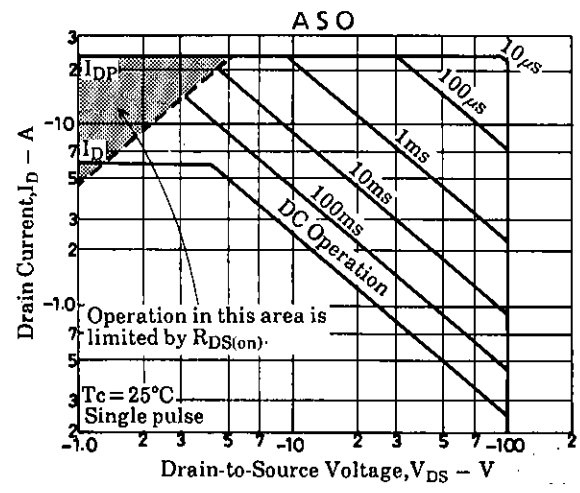

$|y_{fs}|$ – I_D
V_{DS} = –10V
Forward Transfer Admittance, $|y_{fs}|$ – S
Drain Current, I_D – A
25°C
Tc = –25°C
75°C


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


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


Ciss, Coss, Crss – V_{DS}
f = 1MHz
Ciss, Coss, Crss – pF
Drain-to-Source Voltage, V_{DS} – V
Ciss
Coss
Crss


SW Time – I_D
V_{DD} = –50V
V_{GS} = –10V
Switching Time, SW Time – ns
Drain Current, I_D – A
$t_{d(off)}$
t_f
t_r
$t_{d(on)}$


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