HITACHI

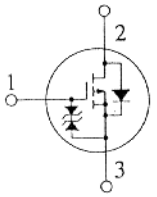
2SJ216

SILICON P-CHANNEL MOS FET

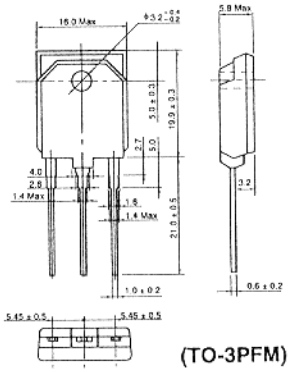
HIGH SPEED POWER SWITCHING

■FEATURES

- Low On-Resistance
- High Speed Switching
- Low Drive Current
- 4 V Gate Drive Device
  – Can be driven from 5V source
- Suitable for Motor Drive, DC-DC Converter, Power Switch and Solenoid Drive



1. Gate
2. Drain
3. Source
(Dimensions in mm)



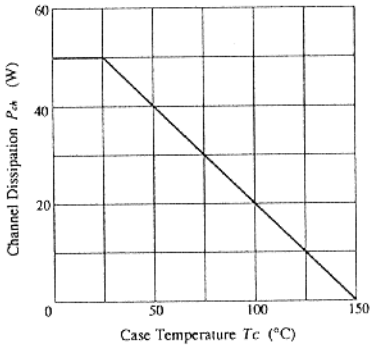
(TO-3PFM)

■ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-60	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	-35	A
Drain Peak Current	$I_D(pulse)$*	-140	A
Body-Drain Diode Reverse Drain Current	I_{DR}	-35	A
Channel Dissipation	Pch**	50	W
Channel Temperature	Tch	150	℃
Storage Temperature	$Tstg$	-55~+150	℃

* PW≦10 μs, duty cycle≦1%
** Value at Tc=25℃

POWER VS. TEMPERATURE DERATING



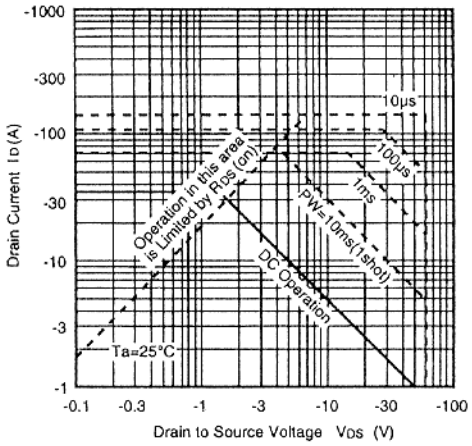
■ELECTRICAL CHARACTERISTICS (Ta = 25℃)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = -10mA, V_{GS} = 0	-60	—	—	V
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G = ±100 μA, V_{DS} = 0	±20	—	—	V
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±16V, V_{DS} = 0	—	—	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -50V, V_{GS} = 0	—	—	-250	μA
Gate-Source Cutoff Voltage	$V_{GS(off)}$	I_D = -1mA, V_{DS} = -10V	-1.0	—	-2.0	V
Static Drain-Source on State Resistance	$R_{DS(on)}$	I_D = -18A, V_{GS} = -10V*	—	0.045	0.06	Ω
		I_D = -18A, V_{GS} = -4V*	—	0.07	0.09	
Forward Transfer Admittance	$\|yfs\|$	I_D = -18A, V_{DS} = -10V*	11	18	—	S
Input Capacitance	Ciss	V_{DS} = -10A, V_{GS} = 0 f = 1MHz	—	2400	—	pF
Output Capacitance	Coss		—	1300	—	pF
Reverse Transfer Capacitance	Crss		—	340	—	pF
Turn-On Delay Time	$t_{d(on)}$	I_D = -15A, V_{GS} = -10V, R_L = 2Ω	—	20	—	ns
Rise Time	t_r		—	175	—	ns
Turn-Off Delay Time	$t_{d(off)}$		—	460	—	ns
Fall Time	t_f		—	320	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	I_F = -35A, V_{GS} = 0	—	-1.3	—	V
Body-Drain Diode Reverse Recovery Time	t_{rr}	I_F = -35A, V_{GS} = 0 di_F/dt = 50A/μs	—	250	—	ns

* Pulse Test

■See characteristic curves of 2SJ215

MAXIMUM SAFE OPERATION AREA



NORMALIZED TRANSIENT THERMAL IMPEDANCE VS. PULSE WIDTH