HITACHI

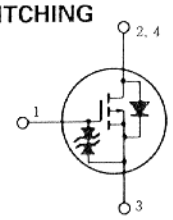
2SJ219(L),2SJ219(S)

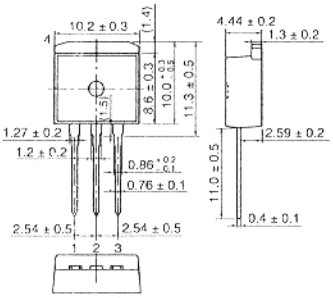
SILICON P-CHANNEL MOS FET

HIGH SPEED POWER SWITCHING

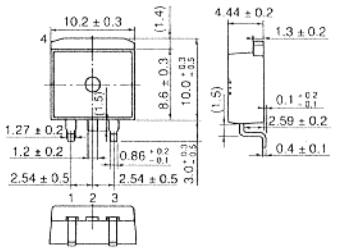
■ FEATURES

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





Ⓛ Type



Ⓢ Type

1. Gate
2. Drain
3. Source
4. Drain

(Dimensions in mm)

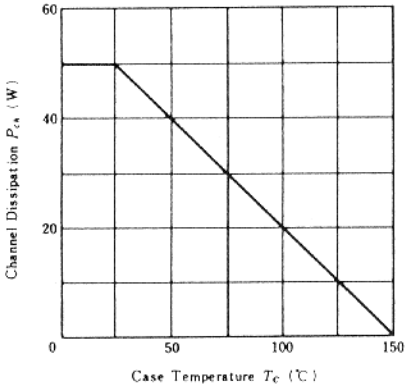
(LDPAK)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	−60	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	−15	A
Drain Peak Current	$I_{D(pulse)}$*	−60	A
Body-Drain Diode Reverse Drain Current	I_{DR}	−15	A
Channel Dissipation	P_{ch}**	50	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	−55 ~ +150	°C

* PW ≤ 10 μs, duty cycle ≤ 1%
** Value at Tc=25°C

POWER VS. TEMPERATURE DERATING



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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=−8A, V_{GS}=−10V*	—	0.09	0.11	Ω
		I_D=−8A, V_{GS}=−4V*	—	0.13	0.17	
Forward Transfer Admittance	$\|y_{fs}\|$	I_D=−8A, V_{DS}=−10V*	6.0	9.5	—	S
Input Capacitance	C_{iss}	V_{DS}=−10V, V_{GS}=0 f=1MHz	—	1400	—	pF
Output Capacitance	C_{oss}		—	720	—	pF
Reverse Transfer Capacitance	C_{rss}		—	220	—	pF
Turn-on Delay Time	$t_{d(on)}$	I_D=−8A, V_{GS}=−10V, R_L=3.75Ω	—	15	—	ns
Rise Time	t_r		—	120	—	ns
Turn-off Delay Time	$t_{d(off)}$		—	220	—	ns
Fall Time	t_f		—	160	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	I_F=−15A, V_{GS}=0	—	−1.2	—	V
Body-Drain Diode Reverse Recovery Time	t_{rr}	I_F=−15A, V_{GS}=0, di_F/dt=50A/μs	—	230	—	ns

* Pulse Test

■ See characteristic curves of 2SJ173