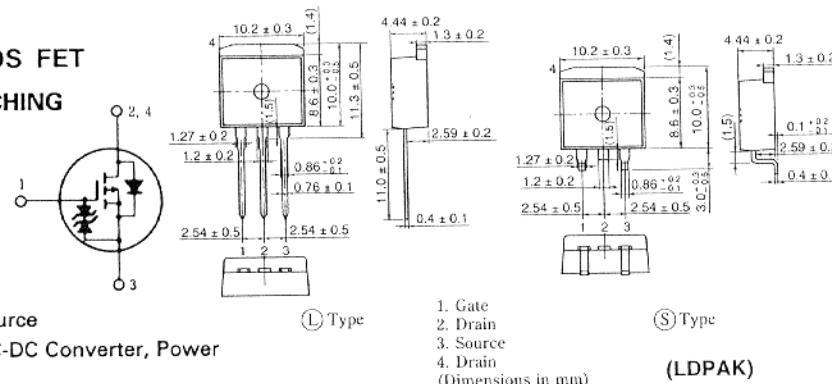


2SJ220(L), 2SJ220(S)

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



■ ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-60	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	-20	A
Drain Peak Current	$I_{D(\text{pulse})}^*$	-80	A
Body-Drain Diode	I_{DR}	-20	A
Reverse Drain Current			
Channel Dissipation	P_{ch}^{**}	75	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{st}	-55 ~ +150	°C

* PW ≤ 10 μs, duty cycle ≤ 1%

** Value at $T_c = 25^\circ\text{C}$

■ ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -10\text{mA}, V_{GS} = 0$	-60	—	—	V
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu\text{A}, V_{DS} = 0$	±20	—	—	V
Gate-Source漏漏电流	I_{GSS}	$V_{GS} = \pm 16\text{V}, V_{DS} = 0$	—	—	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -50\text{V}, V_{GS} = 0$	—	—	-250	μA
Gate-Source Cutoff Voltage	$V_{GSS(\text{off})}$	$I_D = -1\text{mA}, V_{DS} = -10\text{V}$	-1.0	—	-2.0	V
Static Drain-Source- on State Resistance	$R_{DS(on)}$	$I_D = -10\text{A}, V_{GS} = -10\text{V}$	—	0.065	0.085	Ω
		$I_D = -10\text{A}, V_{GS} = -4\text{V}$	—	0.09	0.13	Ω
Forward Transfer Admittance	$ y_{fJ} $	$I_D = -10\text{A}, V_{DS} = -10\text{V}$	8	13	—	S
Input Capacitance	C_{iss}		—	1850	—	pF
Output Capacitance	C_{oss}	$V_{DS} = -10\text{V}, V_{GS} = 0$ f=1MHz	—	990	—	pF
Reverse Transfer Capacitance	C_{ro}		—	265	—	pF
Turn-on Delay Time	$t_{d(on)}$		—	15	—	ns
Rise Time	t_r	$I_D = -10\text{A}, V_{GS} = -10\text{V}, R_L = 3\Omega$	—	125	—	ns
Turn-off Delay Time	$t_{d(off)}$		—	345	—	ns
Fall Time	t_f		—	235	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	$I_F = -20\text{A}, V_{GS} = 0$	—	-1.2	—	V
Body-Drain Diode	t_{rd}	$I_F = -20\text{A}, V_{GS} = 0$	—	230	—	ns
Reverse Recovery Time		$di_F/dt = 50\text{A}/\mu\text{s}$				

* Pulse Test

■ See characteristic curves of 2SJ174

**POWER VS.
TEMPERATURE DERATING**

