HITACHI

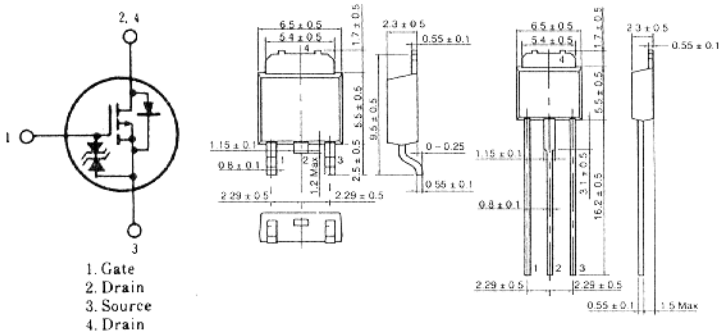
2SJ181 (L),2SJ181(S)

SILICON P-CHANNEL MOS FET

HIGH SPEED POWER SWITCHING

■ FEATURES

- Low On-Resistance
- High Speed Switching
- Low Drive Current
- No Secondary Breakdown
- Suitable for Switching Regulator and DC-DC Converter



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

(Dimensions in mm)

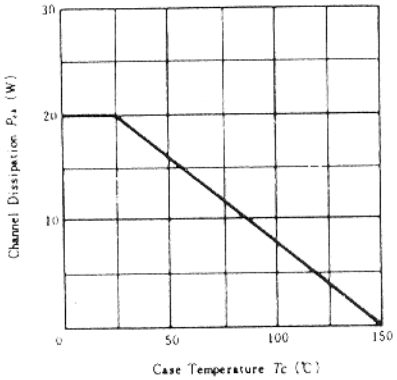
(DPAK-1)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	−600	V
Gate-Source Voltage	V_{GSS}	±15	V
Drain Current	I_D	−0.5	A
Drain Peak Current	$I_{D(pulse)}$*	−1.0	A
Body-Drain Diode Reverse Drain Current	I_{DR}	−0.5	A
Channel Dissipation	P_{ch}**	20	W
Channel Temperature	T_{ch}	150	℃
Storage Temperature	T_{stg}	−55 ~ +150	℃

* PW≦10μs, 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	−600	—	—	V
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G=±100μA, V_{DS}=0	±15	—	—	V
Gate-Source Leak Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0	—	—	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=−500V, V_{GS}=0	—	—	−100	μA
Gate-Source Cutoff Voltage	$V_{GS(off)}$	I_D=−1mA, V_{DS}=−10V	−2.0	—	−4.0	V
Static Drain-Source on State Resistance	$R_{DS(on)}$	I_D=−0.3A, V_{GS}=−10V*	—	15	25	Ω
Forward Transfer Admittance	$\|y_{fs}\|$	I_D=−0.3A, V_{DS}=−20V*	0.3	0.45	—	S
Input Capacitance	C_{iss}	V_{DS}=−10V, V_{GS}=0 f=1MHz	—	220	—	pF
Output Capacitance	C_{oss}		—	55	—	pF
Reverse Transfer Capacitance	C_{rss}		—	13	—	pF
Turn-On Delay Time	$t_{d(on)}$	I_D=−0.3A, V_{GS}=−10V R_L=100Ω	—	7	—	ns
Rise Time	t_r		—	20	—	ns
Turn-off Delay Time	$t_{d(off)}$		—	35	—	ns
Fall Time	t_f		—	35	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	I_F=−0.5A, V_{GS}=0	—	−0.85	—	V
Body-Drain Diode Reverse Recovery Time	t_{rr}	I_F=−0.5A, V_{GS}=0 di_F/dt=−100A/μs	—	230	—	ns

* Pulse Test