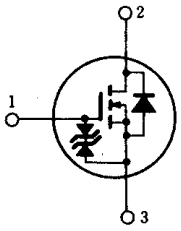
2SK685

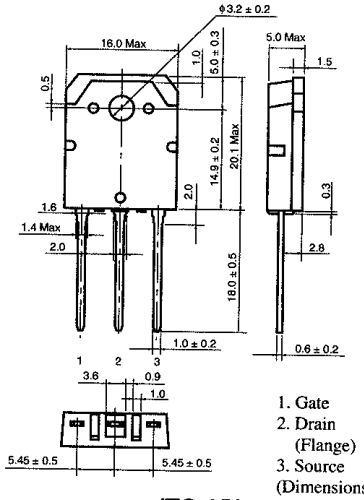
SILICON N-CHANNEL MOS FET

高速度電力スイッチング



■ 特　長

- ●オン抵抗が低い。
- ●スイッチングスピードが速い。
- ●駆動電力が小さい。
- ●2次降伏がない。
- ●スイッチングレギュレータ，DC—DCコンバータ，モータドライバなどに最適。



1. Gate
2. Drain (Flange)
3. Source

(Dimensions in mm)

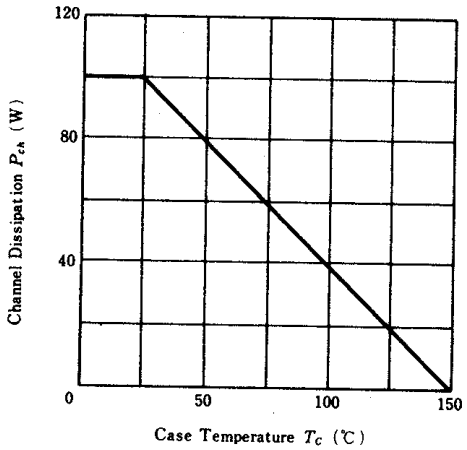
(TO-3P)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	1000	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	5	A
Drain Peak Current	$I_{D(pulse)}$*	15	A
Body-Drain Diode Reverse Drain Current	I_{DR}	5	A
Channel Dissipation	P_{ch}**	100	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	1000	—	—	V
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G=±100μA, 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}=800V, V_{GS}=0	—	—	250	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=3A, V_{GS}=10V*	—	1.5	2.0	Ω
Forward Transfer Admittance	$\|y_{fs}\|$	I_D=3A, V_{DS}=20V*	2.0	3.5	—	S
Input Capacitance	C_{iss}	V_{DS}=10V, V_{GS}=0, f=1MHz	—	1900	—	pF
Output Capacitance	C_{oss}		—	1200	—	pF
Reverse Transfer Capacitance	C_{rss}		—	760	—	pF
Turn-on Delay Time	$t_{d(on)}$	I_D=3A, V_{GS}=10V, R_L=10Ω	—	25	—	ns
Rise Time	t_r		—	240	—	ns
Turn-off Delay Time	$t_{d(off)}$		—	220	—	ns
Fall Time	t_f		—	230	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	I_F=5A, V_{GS}=0	—	1.3	—	V
Body-Drain Diode Reverse Recovery Time	t_{rr}	I_F=5A, V_{GS}=0, di_F/dt=100A/μs	—	150	—	ns

*Pulse Test