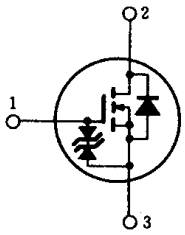
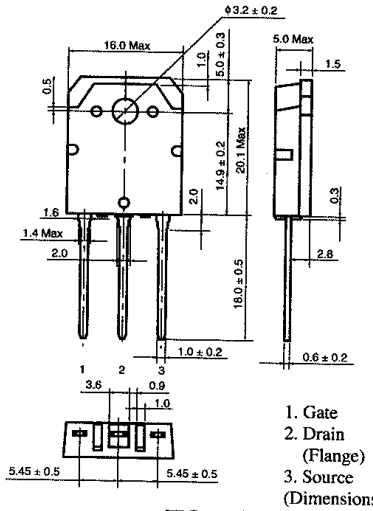
2SK684

SILICON N-CHANNEL MOS FET

高速度電力スイッチング





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

(Dimensions in mm)

(TO-3P)

■ 特　長

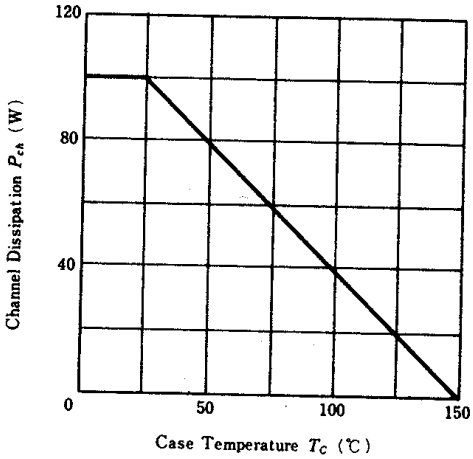
- オン抵抗が低い。
- スイッチングスピードが速い。
- 駆動電力が小さい。
- 2次降伏がない。
- スイッチングレギュレータ，DC−DCコンバータ，などに最適。

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	800	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	7	A
Drain Peak Current	$I_{D(pulse)}$*	20	A
Body-Drain Diode Reverse Drain Current	I_{DR}	7	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	800	—	—	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}=640V, 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=4A, V_{GS}=10V*	—	1.0	1.5	Ω
Forward Transfer Admittance	$\|y_{fs}\|$	I_D=4A, V_{DS}=20V*	2.5	4.0	—	S
Input Capacitance	C_{iss}	V_{DS}=10V, V_{GS}=0, f=1MHz	—	1830	—	pF
Output Capacitance	C_{oss}		—	1150	—	pF
Reverse Transfer Capacitance	C_{rss}		—	730	—	pF
Turn-on Delay Time	$t_{d(on)}$	I_D=4A, V_{GS}=10V, R_L=7.5Ω	—	20	—	ns
Rise Time	t_r		—	230	—	ns
Turn-off Delay Time	$t_{d(off)}$		—	220	—	ns
Fall Time	t_f		—	220	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	I_F=7A, V_{GS}=0	—	1.0	—	V
Body-Drain Diode Reverse Recovery Time	t_{rr}	I_F=7A, V_{GS}=0, di_F/dt=100A/μs	—	1000	—	ns

*Pulse Test