Panasonic

2SK1611

Silicon N-Channel Power F-MOS FET

■ Features
● High avalanche energy capacity
● V_{GSS}: 30V guaranteed
● Low $R_{DS(on)}$, high-speed switching characteristic

■ Applications
● High-speed switching (switching power supply, AC adaptor)
● For high-frequency power amplification

■ Absolute Maximum Ratings ($T_C = 25°C$)

Parameter		Symbol	Ratings	Unit
Drain to Source breakdown voltage		V_{DSS}	800	V
Gate to Source voltage		V_{GSS}	±30	V
Drain current	DC	I_D	±3	A
	Pulse	I_{DP}	±6	A
Avalanche energy capacity		EAS*	20	mJ
Allowable power dissipation	$T_C = 25°C$	P_D	50	W
	$Ta = 25°C$		2	
Channel temperature		T_{ch}	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

* Single pulse

unit: mm

10.0±0.2
5.5±0.2
4.2±0.2
2.7±0.2
0.7±0.1
4.2±0.2
7.5±0.2
16.7±0.3
φ3.1±0.1
4.0
14.0±0.5
Solder Dip
1.4±0.1
1.3±0.2
0.5 +0.2 −0.1
0.8±0.1
2.54±0.25
5.08±0.5

1 2 3

1: Gate
2: Drain
3: Source
EIAJ: SC-67
TO-220 Full Pack Package (a)

■ Electrical Characteristics ($T_C = 25°C$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	$V_{DS} = 640V$, $V_{GS} = 0$			0.1	mA
Gate to Source leakage current	I_{GSS}	$V_{GS} = ±30V$, $V_{DS} = 0$			±1	μA
Drain to Source breakdown voltage	V_{DSS}	$I_D = 1mA$, $V_{GS} = 0$	800			V
Avalanche energy capacity	EAS*	$L = 4.5mH$, $I_D = 3A$, $V_{DD} = 50V$	20			mJ
Gate threshold voltage	V_{th}	$V_{DS} = 25V$, $I_D = 1mA$	1		5	V
Drain to Source ON-resistance	$R_{DS(on)}$	$V_{GS} = 10V$, $I_D = 2A$		3.2	4	Ω
Forward transfer admittance	$|Y_{fs}|$	$V_{DS} = 25V$, $I_D = 2A$	1.5	2.4		S
Input capacitance (Common Source)	C_{iss}	$V_{DS} = 20V$, $V_{GS} = 0$, f = 1MHz		730		pF
Output capacitance (Common Source)	C_{oss}			90		pF
Reverse transfer capacitance (Common Source)	C_{rss}			40		pF
Turn-on time	t_{on}	$V_{GS} = 10V$, $I_D = 2A$ $V_{DD} = 200V$, $R_L = 100Ω$		40		ns
Fall time	t_f			35		ns
Turn-off time (delay time)	$t_{d(off)}$			105		ns

* Avalanche energy capacity test circuit