Panasonic

2SK3036

Silicon N-Channel Power F-MOS FET

■ Features
- ● Avalanche energy capacity guaranteed
- ● High-speed switching
- ● Low ON-resistance
- ● No secondary breakdown
- ● Low-voltage drive
- ● High electrostatic breakdown voltage

■ Applications
- ● Contactless relay
- ● Diving circuit for a solenoid
- ● Driving circuit for a motor
- ● Control equipment
- ● Switching power supply

unit: mm

1: Gate
2: Drain
3: Source
U Type Package

Internal Connection

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

Parameter		Symbol	Ratings	Unit
Drain to Source breakdown voltage		V_{DSS}	150	V
Gate to Source voltage		V_{GSS}	±20	V
Drain current	DC	I_D	±6	A
	Pulse	I_{DP}	±12	A
Avalanche energy capacity		EAS*	3.6	mJ
Allowable power dissipation	$T_C = 25°C$	P_D	20	W
	$Ta = 25°C$		1	
Channel temperature		T_{ch}	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

* $L = 0.1mH$, $I_L = 6A$, 1 pulse
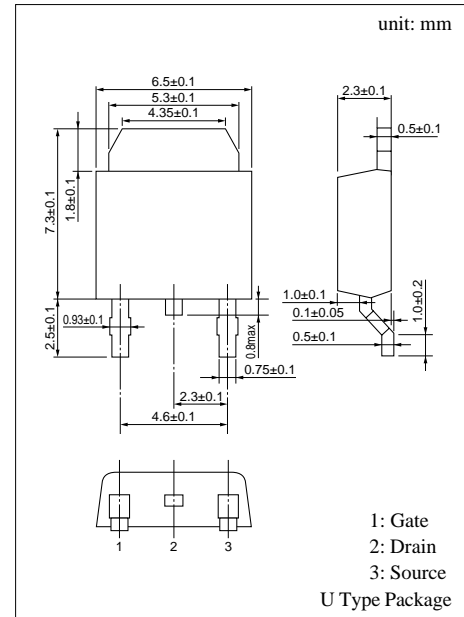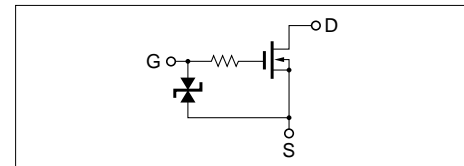
■ Electrical Characteristics ($T_C = 25°C$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	$V_{DS} = 120V$, $V_{GS} = 0$			10	μA
Gate to Source leakage current	I_{GSS}	$V_{GS} = ±20V$, $V_{DS} = 0$			±10	μA
Drain to Source breakdown voltage	V_{DSS}	$I_D = 1mA$, $V_{GS} = 0$	150			V
Gate threshold voltage	V_{th}	$V_{DS} = 10V$, $I_D = 1mA$	1		2.5	V
Drain to Source ON-resistance	$R_{DS(on)1}$	$V_{GS} = 10V$, $I_D = 3A$		300	450	mΩ
	$R_{DS(on)2}$	$V_{GS} = 4V$, $I_D = 3A$		340	510	mΩ
Forward transfer admittance	$|Y_{fs}|$	$V_{DS} = 10V$, $I_D = 3A$		4.2		S
Diode forward voltage	V_{DSF}	$I_{DR} = 6A$, $V_{GS} = 0$			−1.6	V
Input capacitance (Common Source)	C_{iss}	$V_{DS} = 10V$, $V_{GS} = 0$, f = 1MHz		300		pF
Output capacitance (Common Source)	C_{oss}			76		pF
Reverse transfer capacitance (Common Source)	C_{rss}			40		pF
Turn-on time	t_{on}	$V_{DD} = 100V$, $I_D = 3A$ $V_{GS} = 10V$, $R_L = 33Ω$			80	ns
Turn-off time (delay time)	$t_{d(off)}$				920	ns
Fall time	t_f				250	ns

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