

# 2SK1331

## Silicon N-Channel Power F-MOS FET

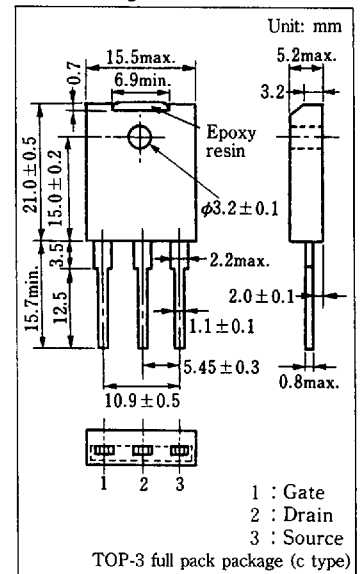
### ■ Features

- Low  $R_{RD(ON)}=0.38\Omega$  (typ.)
- High speed switching  $t_r=100\text{ns}$  (typ.)
- Secondary breakdown free
- High breakdown voltage, high power

### ■ Use

- Non-contact relay.
- Motor control.
- Measuring Equipment.
- Switching regulator.
- Solenoid drive.

### ■ Package Dimensions



### ■ Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Drain-source voltage	$V_{DSS}$	500	V
Gate-source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	DC	$I_D$	15
	Peak-to-peak value	$I_{DP}$	30
Power dissipation	$T_c=25^\circ\text{C}$	$P_D$	100
	$T_a=25^\circ\text{C}$		3
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit	
Drain current	$I_{DSS}$	$V_{DS}=400\text{V}, V_{GS}=0$			0.1	mA	
Gate-source current	$I_{GSS}$	$V_{GS}=\pm 20\text{V}, V_{DS}=0$			$\pm 1$	$\mu\text{A}$	
Drain-source voltage	$V_{DSS}$	$I_D=1\text{mA}, V_{GS}=0$	500			V	
Gate threshold voltage	$V_{th}$	$V_{DS}=25\text{V}, I_D=1\text{mA}$	1		5	V	
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=8\text{A}$		0.38	0.50	$\Omega$	
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=25\text{V}, I_D=8\text{A}$	5.0	8.0		S	
Input capacitance	$C_{iss}$	$V_{DS}=20\text{V}, V_{GS}=0, f=1\text{MHz}$		1500		pF	
Output capacitance	$C_{oss}$				300		pF
Reverse transfer capacitance	$C_{rss}$				145		pF
Turn-on time	$t_{on}$	$V_{GS}=10\text{V}, I_D=8\text{A}$ $V_{DS}=150\text{V}, R_L=19\Omega$		110		ns	
Fall time	$t_f$				100		ns
Delay time	$t_d(\text{off})$				330		ns

