

# 2SK809, 2SK809A

## Silicon N-channel Power F-MOS FET

### ■ Features

- Low ON resistance  $R_{DS(on)}$  :  $R_{DS(on)} = 1.5\Omega$  (typ.)
- High switching rate :  $t_f = 85\text{ns}$  (typ.)
- No secondary breakdown
- High breakdown voltage, large power

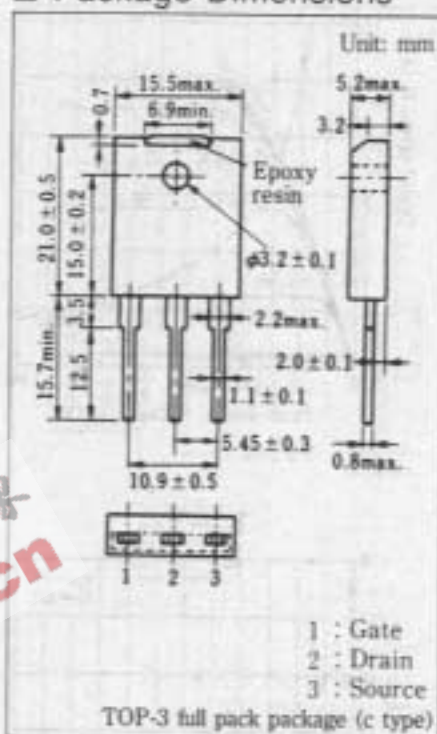
### ■ Application

- No contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching power source

### ■ Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Value	Unit
Drain-source voltage	$V_{DS}$	2SK809	800
		2SK809A	900
Gate-source voltage	$V_{GS}$	$\pm 20$	V
Drain current	$I_D$	DC	5
		Pulse	10
Power dissipation	$P_D$	Tc = 25°C	100
		Ta = 25°C	3.0
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C

### ■ Package Dimensions



### ■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain current	$I_{DSS}$	$V_{DS} = 640\text{V}$ , $V_{GS} = 0$			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	$V_{DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0$	2SK809	800		V
			2SK809A	900		V
Gate threshold voltage	$V_{th}$	$V_{DS} = 25\text{V}$ , $I_D = 1\text{mA}$	1		5	V
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$ , $I_D = 3\text{A}$		1.5	3.0	$\Omega$
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 25\text{V}$ , $I_D = 3\text{A}$	1.5	2.8		S
Input capacitance	$C_{iss}$	$V_{DS} = 20\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$		1270		pF
Output capacitance	$C_{oss}$			220		pF
Reverse transfer capacitance	$C_{rss}$			80		pF
Turn-on time	$t_{on}$		$V_{GS} = 10\text{V}$ , $I_D = 3\text{A}$		60	
Fall time	$t_f$	$V_{DD} = 200\text{V}$ , $R_L = 66\Omega$		85		ns
Delay time	$t_d(\text{off})$			280		ns