

2SK981, 2SK981A

Silicon N-channel Power F-MOS FET

■ Features

- Low ON resistance $R_{DS(on)}$: $R_{DS(on)} = 2.0\Omega$ (typ.)
- High switching rate : $t_f = 40\text{ns}$ (typ.)
- No secondary breakdown
- High breakdown voltage

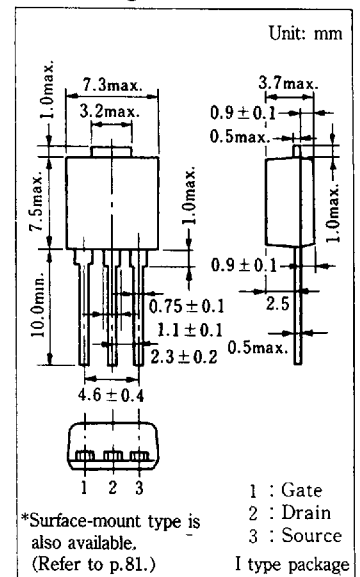
■ Application

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

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

Item	Symbol	Value	Unit	
Drain-source voltage	V_{DSS}	2SK981	400	V
		2SK981A	450	
Gate-source voltage	V_{GSS}	± 20	V	
Drain current	DC	I_D	3	A
	Peak-to-peak value	I_{DP}	6	
Power dissipation	$T_c = 25^\circ\text{C}$	P_D	15	W
	$T_a = 25^\circ\text{C}$		1.3	
Channel temperature	T_{ch}	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$	

■ Package Dimensions



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain current	I_{DS}	$V_{DS} = 320\text{V}$, $V_{GS} = 0$			0.1	mA
Gate-source current	I_{GSS}	$V_{GS} = \pm 20\text{V}$, $V_{DS} = 0$			± 1	μA
Drain-source voltage	V_{DSS}	$I_D = 1\text{mA}$, $V_{GS} = 0$	2SK981	400		V
			2SK981A	450		V
Gate threshold voltage	V_{th}	$V_{DS} = 25\text{V}$, $I_D = 1\text{mA}$	1		5	V
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 2\text{A}$		2.0	3.0	Ω
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 25\text{V}$, $I_D = 2\text{A}$	1.2	2.0		S
Input capacitance	C_{iss}	$V_{DS} = 20\text{V}$, $V_{GS} = 0$, $f = 1\text{MHz}$		310		pF
Output capacitance	C_{oss}			75		pF
Reverse transfer capacitance	C_{rss}			35		pF
Turn-on time	t_{on}				30	
Fall time	t_f	$V_{GS} = 10\text{V}$, $I_D = 2\text{A}$		40		ns
Delay time	$t_d(\text{off})$	$V_{DD} \approx 150\text{V}$, $R_L = 75\Omega$		60		ns

