

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 : $t_r = 40\text{ns}$ (typ.)
- No secondary breakdown
- High breakdown voltage

■ Application

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

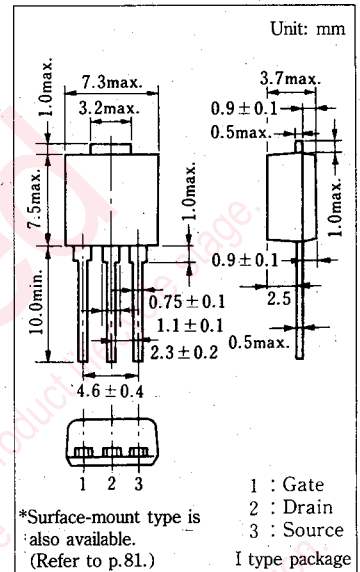
■ Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

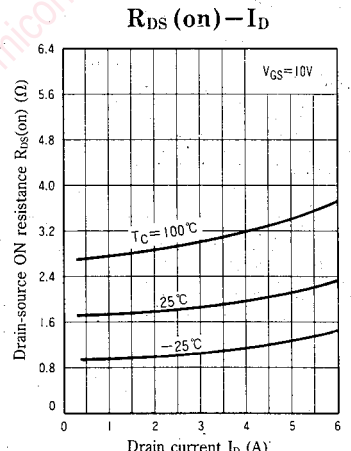
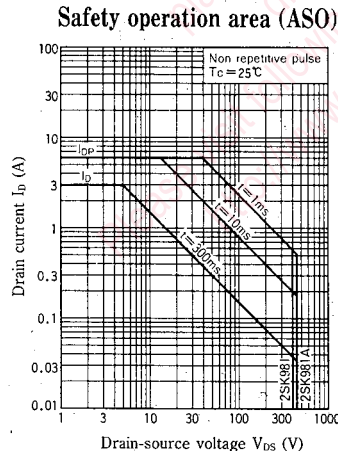
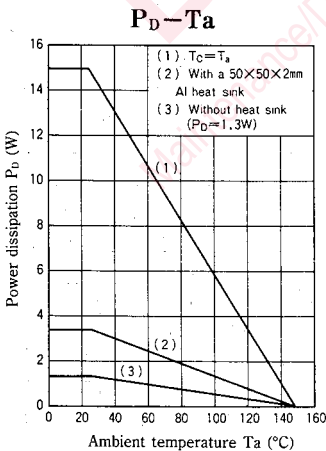
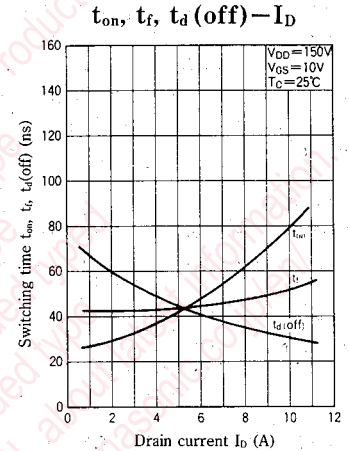
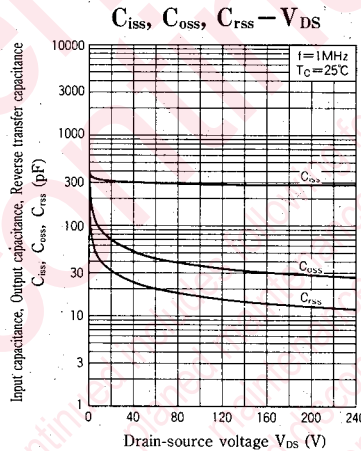
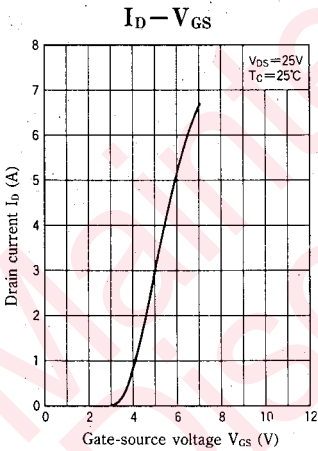
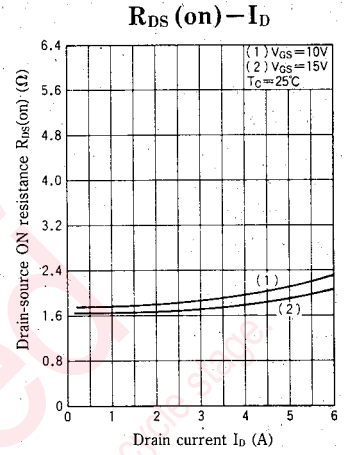
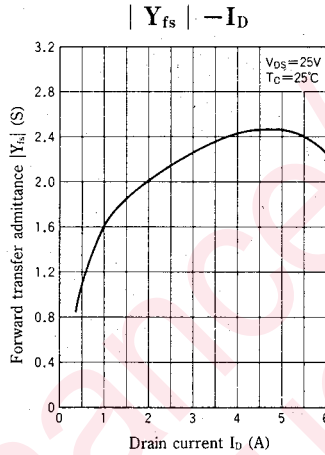
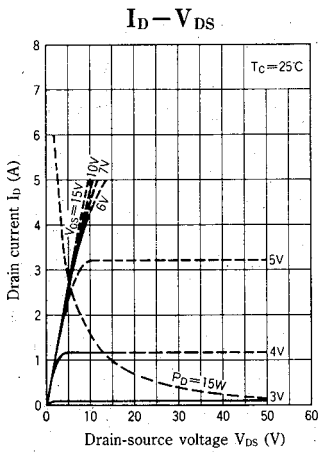
Item	Symbol	Value	Unit
Drain-source voltage	2SK981	400	V
	2SK981A	450	
Gate-source voltage	V_{GSS}	± 20	V
Drain current	DC	3	A
	Peak-to-peak value	6	
Power dissipation	$T_c = 25^\circ\text{C}$	15	W
	$T_a = 25^\circ\text{C}$	1.3	
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}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

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

Item	Symbol	Condition	min.	typ.	max.	Unit	
Drain current	I_{DSS}	$V_{DS} = 320\text{V}$, $V_{GS} = 0$			0.1	mA	
Gate-source current	I_{GSS}	$V_{GS} = \pm 20\text{V}$, $V_{DS} = 0$			± 1	μA	
Drain-source voltage	V_{DSS}	$I_D = 1\text{mA}$, $V_{GS} = 0$	400			V	
			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}		$V_{GS} = 10\text{V}$, $I_D = 2\text{A}$		30		ns
Fall time	t_f		$V_{DD} = 150\text{V}$, $R_L = 75\Omega$		40		ns
Delay time	$t_d(\text{off})$			60		ns	

■ Package Dimensions





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