

2SK963

Silicon N-channel Power F-MOS FET

■ Features

- Low ON resistance $R_{DS(on)}$: $R_{DS(on)} = 0.45\Omega$ (typ.)
- High switching rate : $t_r = 45\text{ns}$ (typ.)
- No secondary breakdown

■ Application

- DC-DC converter
- No contact relay
- Solenoid drive
- Motor drive

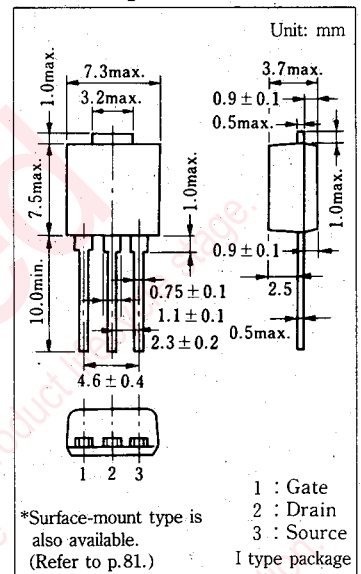
■ Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

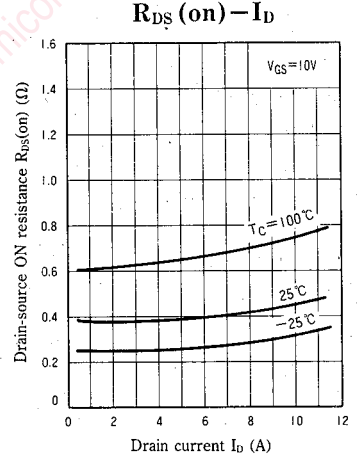
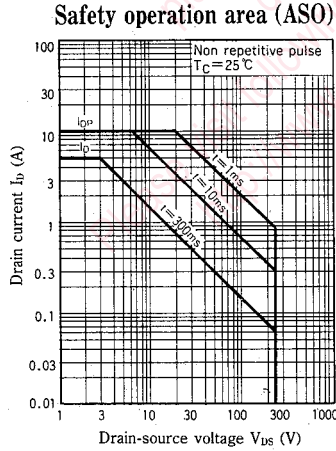
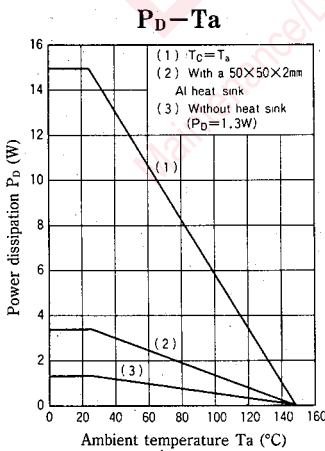
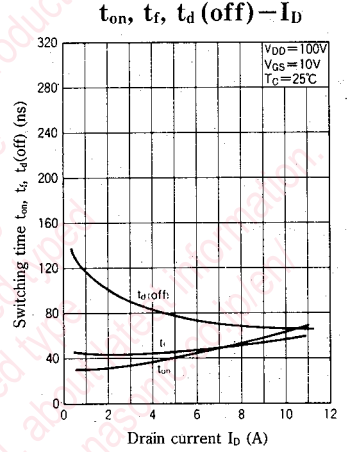
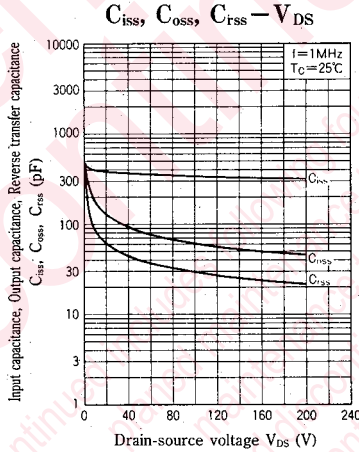
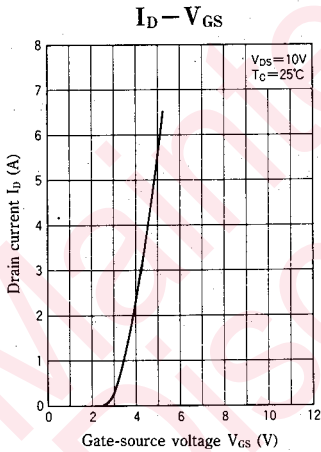
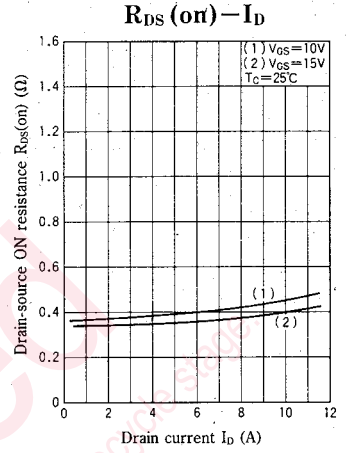
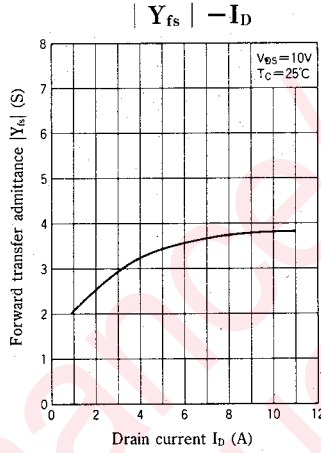
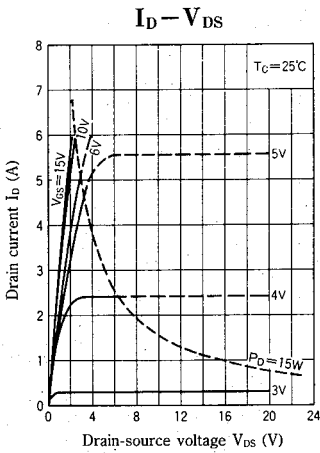
Item	Symbol	Value	Unit
Drain-source voltage	V_{DSS}	250	V
Gate-source voltage	V_{GSS}	± 20	V
Drain current	DC	I_D	5
	Peak-to-peak value	I_{DP}	10
Power dissipation	$T_c = 25^\circ\text{C}$	P_D	15
	$T_a = 25^\circ\text{C}$		1.3
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain current	I_{DSS}	$V_{DS} = 200\text{V}, V_{GS} = 0$			0.1	mA
Gate-source current	I_{GSS}	$V_{GS} = \pm 20\text{V}, V_{DS} = 0$			± 1	μA
Drain-source voltage	V_{DSS}	$I_D = 1\text{mA}, V_{GS} = 0$	250			V
Gate threshold voltage	V_{th}	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	1		5	V
Drain-source ON resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 3\text{A}$		0.45	0.7	Ω
Forward transfer admittance	$ Y_{fs} $	$V_{GS} = 10\text{V}, I_D = 3\text{A}$	1.8	3.0		S
Input capacitance	C_{iss}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		390		pF
Output capacitance	C_{oss}				160	pF
Reverse transfer capacitance	C_{rss}				80	pF
Turn-on time	t_{on}		$V_{GS} = 10\text{V}, I_D = 3\text{A}$		30	ns
Fall time	t_f	$V_{DD} = 100\text{V}, R_L = 33\Omega$		45	ns	
Delay time	$t_d(\text{off})$			90	ns	

■ Package Dimensions





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