

2SK614

Silicon N-Channel MOS FET

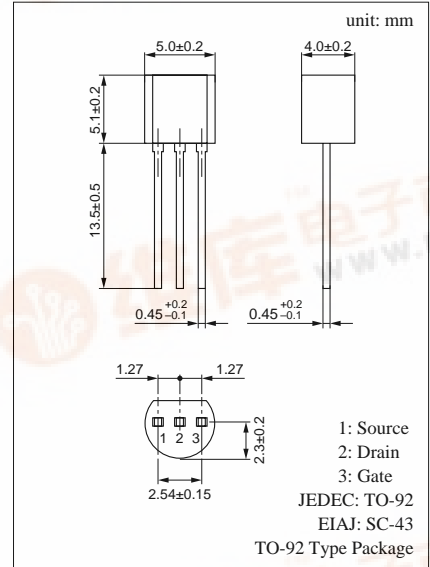
For switching

■ Features

- Low ON-resistance $R_{DS(on)}$
- High-speed switching
- Allowing to be driven directly by CMOS and TTL

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V_{DS}	80	V
Gate to Source voltage	V_{GSO}	20	V
Drain current	I_D	± 0.5	A
Max drain current	I_{DP}	± 1	A
Allowable power dissipation	P_D	750	mW
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

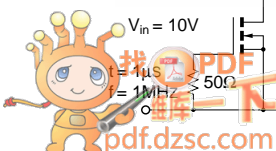
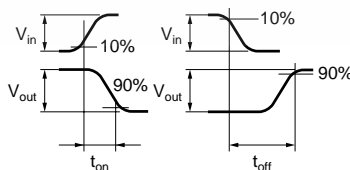
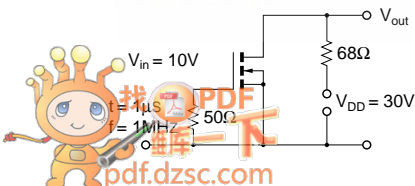


■ Electrical Characteristics ($T_a = 25^\circ\text{C}$)

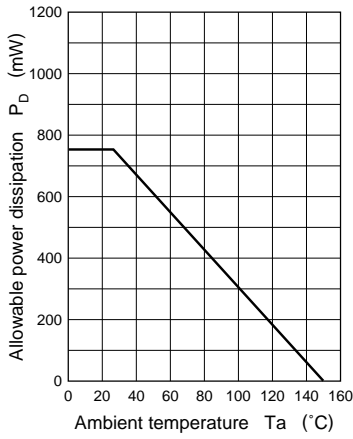
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	$V_{DS} = 60\text{V}, V_{GS} = 0$			10	μA
Gate to Source leakage current	I_{GSS}	$V_{GS} = 20\text{V}, V_{DS} = 0$			0.1	μA
Drain to Source breakdown voltage	V_{DSS}	$I_D = 100\mu\text{A}, V_{GS} = 0$	80			V
Gate threshold voltage	V_{th}	$I_D = 1\text{mA}, V_{DS} = V_{GS}$	1.5		3.5	V
Drain to Source ON-resistance	$R_{DS(on)}^{*1}$	$I_D = 0.5\text{A}, V_{GS} = 10\text{V}$		2	4	Ω
Forward transfer admittance	$ Y_{fs} $	$I_D = 0.2\text{A}, V_{DS} = 15\text{V}, f = 1\text{kHz}$		300		mS
Input capacitance (Common Source)	C_{iss}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		45		pF
Output capacitance (Common Source)	C_{oss}			30		pF
Reverse transfer capacitance (Common Source)	C_{rss}			8		pF
Turn-on time	t_{on}^{*2}			15		ns
Turn-off time	t_{off}^{*2}			20		ns

*1 Pulse measurement

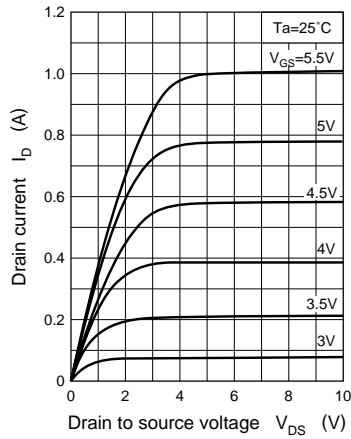
*2 t_{on}, t_{off} measurement circuit



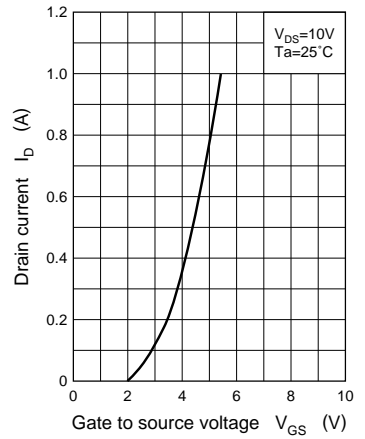
$P_D - T_a$



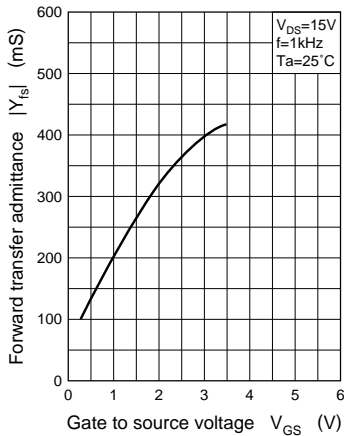
$I_D - V_{DS}$



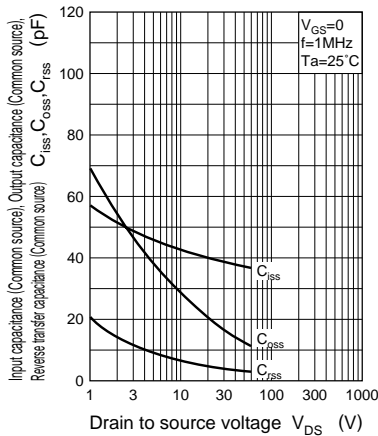
$I_D - V_{GS}$



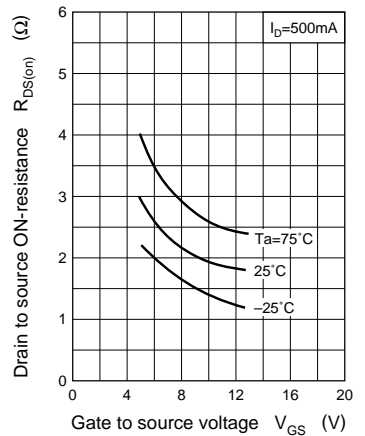
$|Y_{fs}| - V_{GS}$



$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



$R_{DS(on)} - V_{GS}$



$R_{DS(on)} - T_a$

