

2SK2276

Silicon N-Channel MOS

For switching

■ Features

- Low ON-resistance $R_{DS(on)}$
- High-speed switching

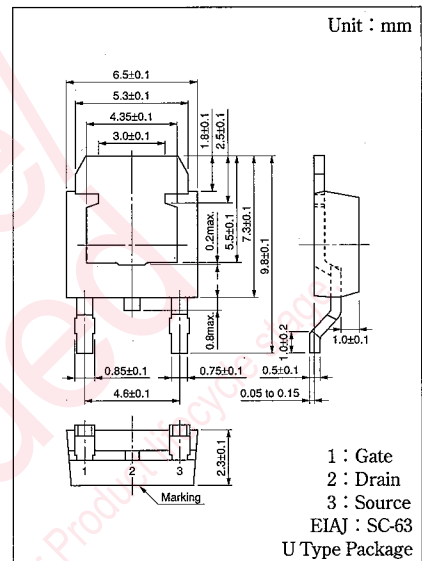
■ Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	V_{DSS}	60	V
Gate-Source voltage	V_{GSS}	± 20	V
Drain current	I_D	± 3	A
Max drain current	I_{DP}^{*1}	± 5	A
Allowable power dissipation	P_D^{*2}	10	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

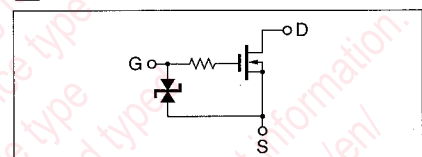
*1 $t \leq 300 \mu\text{s}$, Duty Cycle < 10% *2 $T_c = 25^\circ\text{C}$

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

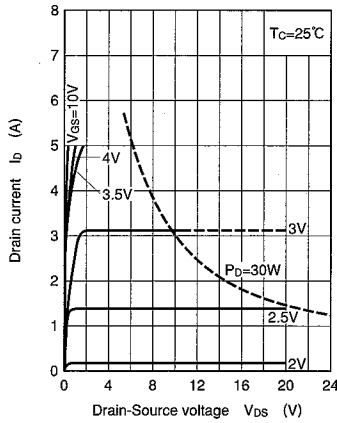
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I_{DSS}	$V_{DS}=40\text{V}$, $V_{GS}=0$			10	μA
Gate-Source leakage current	I_{GSS}	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0$			± 1	μA
Drain-Source breakdown voltage	V_{DSS}	$I_D=1\text{mA}$, $V_{GS}=0$	60			V
Gate threshold voltage	V_{th}	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	1		2.5	V
Drain-Source ON-resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=3\text{A}$		0.135	0.2	Ω
Forward transadmittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=3\text{A}$	2.4	4		S
Input capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$		400		pF
Output capacitance	C_{oss}			210		pF
Feedback capacitance	C_{rss}			80		pF
Turn-on time	t_{on}	$V_{GS}=10\text{V}$, $I_D=3\text{A}$, $R_L=10\Omega$		29		ns
Fall time	t_f			53		ns
Turn-off time (delay time)	$t_d(off)$			97		ns



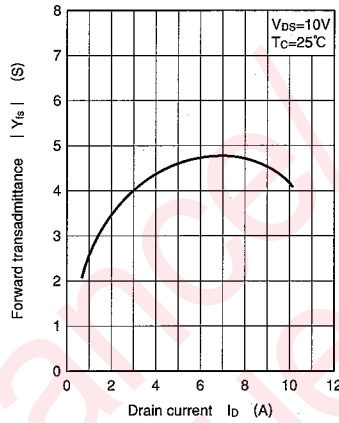
■ Internal Connection



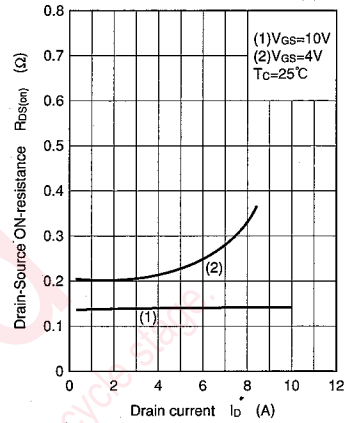
$I_D - V_{DS}$



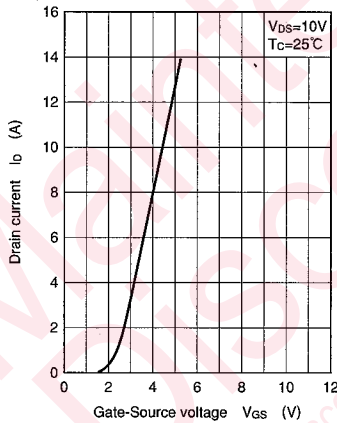
$|Y_{fs}| - I_D$



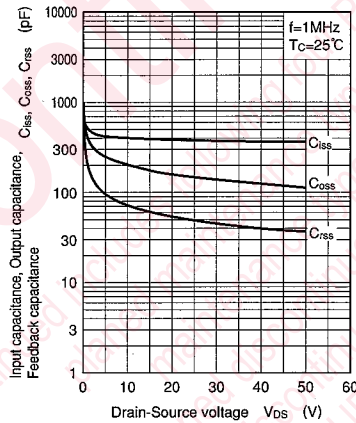
$R_{DS(on)} - I_D$



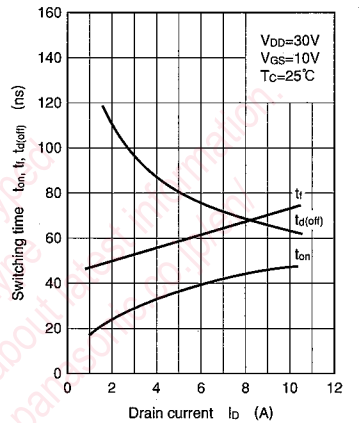
$I_D - V_{GS}$



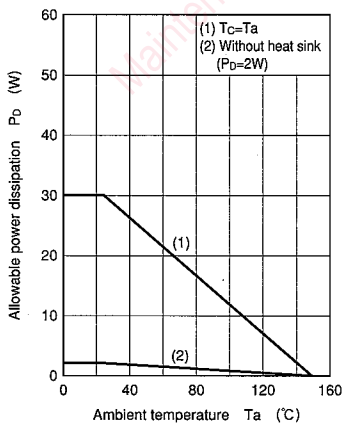
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



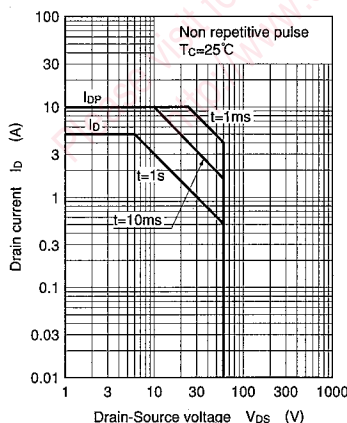
$t_{on}, t_f, t_d(off) - I_D$



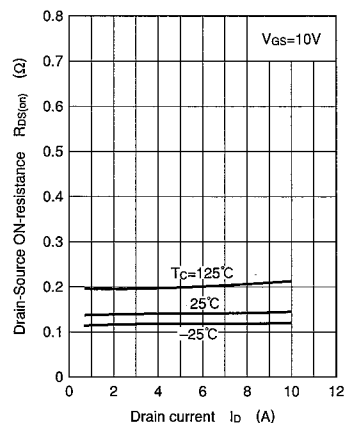
$P_D - T_a$



Area of safe operation (ASO)



$R_{DS(on)} - I_D$



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