

2SK2015

Silicon N-Channel Power F-MOS

■ Features

- Low ON-resistance $R_{DS(on)}$: $R_{DS(on)1}=0.7\Omega$ (typ)
- High-speed switching : $t_f=36ns$ (typ)
- No secondary breakdown
- For low-voltage drive ($V_{GS}=4V$)
- Taping supply possible

■ Applications

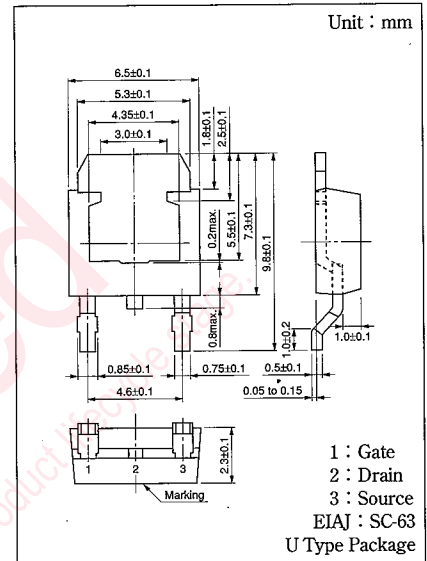
- DC-DC converter
- Non-contact relay
- Solenoid drive
- Motor drive

■ Absolute Maximum Ratings ($T_C=25^\circ C$)

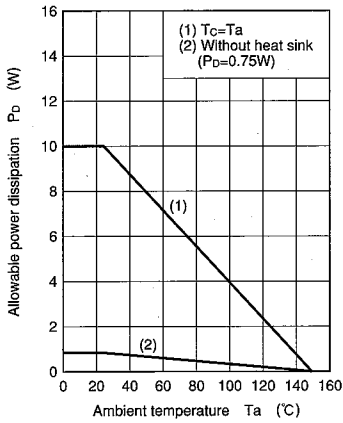
Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	V_{DSS}	150	V
Gate-Source voltage	V_{GSS}	± 20	V
Drain current	at 4V drive	I_D	± 3 A
	Pulse	I_{DP}	± 6 A
Allowable power dissipation	$T_C=25^\circ C$	P_D	10 W
	$T_a=25^\circ C$		0.75 W
Channel temperature	T_{ch}	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

■ Electrical Characteristics ($T_C=25^\circ C$)

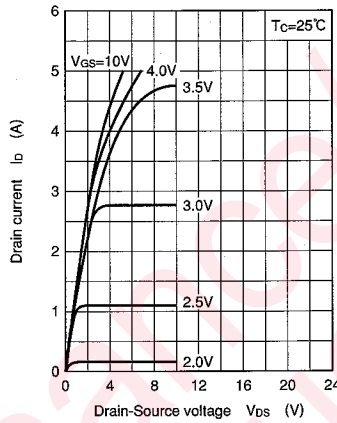
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I_{DSS}	$V_{DS}=130V, V_{GS}=0$			10	μA
Gate-Source leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$			± 1	μA
Drain-Source breakdown voltage	V_{DSS}	$I_D=1mA, V_{GS}=0$	150			V
Gate threshold voltage	V_{th}	$V_{DS}=10V, I_D=1mA$	1		2.5	V
Drain-Source ON-resistance	$R_{DS(on)1}$	$V_{GS}=10V, I_D=2A$		0.7	1.1	Ω
	$R_{DS(on)2}$	$V_{GS}=4V, I_D=2A$		0.8	1.3	Ω
Forward transadmittance	$ Y_{fs} $	$V_{DS}=10V, I_D=2A, f=1MHz$	2	3.4		S
Input capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$		428		pF
Output capacitance	C_{oss}			97		pF
Feedback capacitance	C_{rss}			22		pF
Turn-on time	t_{on}	$V_{GS}=10V, I_D=2A$ $V_{DD}=100V, R_L=50\Omega$		24		ns
Fall time	t_f			36		ns
Turn-off time (delay time)	$t_{d(off)}$			96		ns



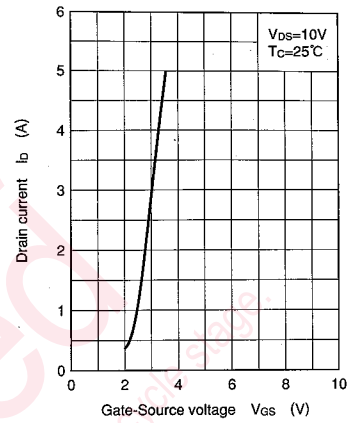
$P_D - T_a$



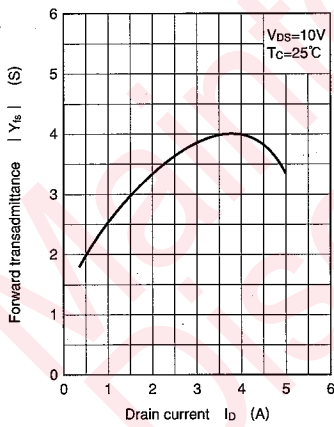
$I_D - V_{DS}$



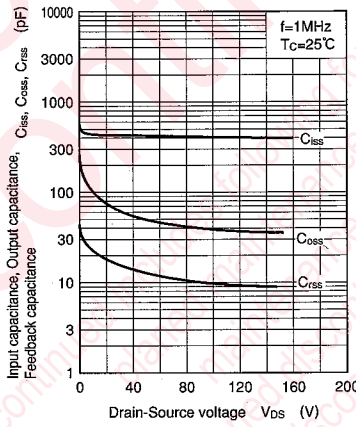
$I_D - V_{GS}$



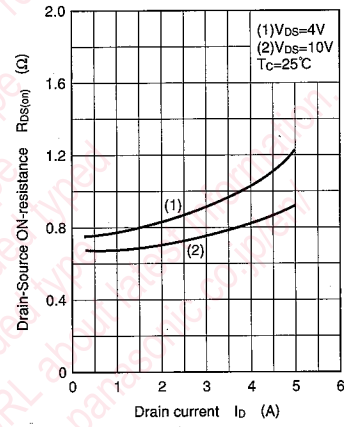
$|Y_{fs}| - I_D$



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

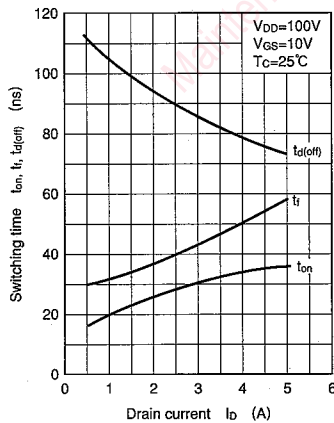


$R_{DS(on)} - I_D$



Pov
F-M
FE

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



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