

2SK2572(Tentative)

Silicon N-Channel Power F-MOS

■ Features

- Avalanche energy capability guaranteed
- High-speed switching
- Low ON-resistance
- No secondary breakdown

■ Applications

- Non-contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching mode regulator

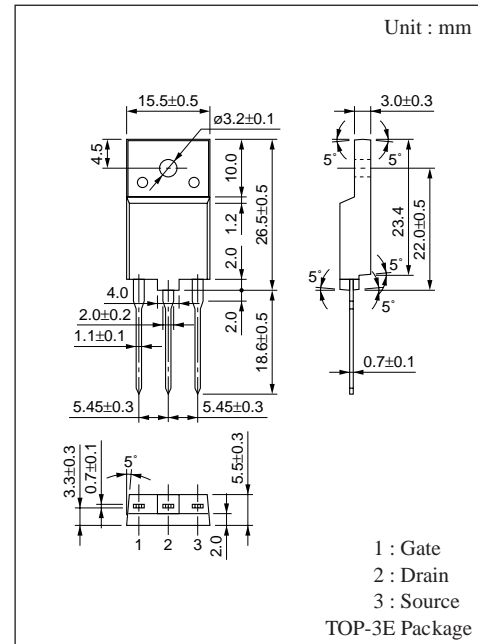
■ Absolute Maximum Ratings (T_c = 25°C)

Parameter	Symbol	Rating	Unit	
Drain-Source breakdown voltage	V _{DSS}	500	V	
Gate-Source voltage	V _{GSS}	±20	V	
Drain current	DC	I _D	±15	A
	Pulse	I _{DP}	±30	A
Avalanche energy capability	EAS*	11.25	mJ	
Allowable power dissipation	T _c = 25°C	P _D	100	W
	T _a = 25°C		3	
Channel temperature	T _{ch}	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	

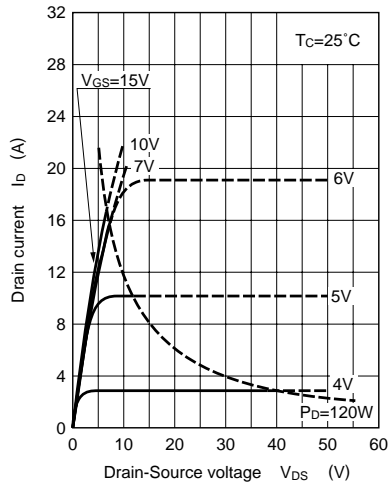
* L= 0.1mH, I_L=15A, 1 pulse

■ Electrical Characteristics (T_c = 25°C)

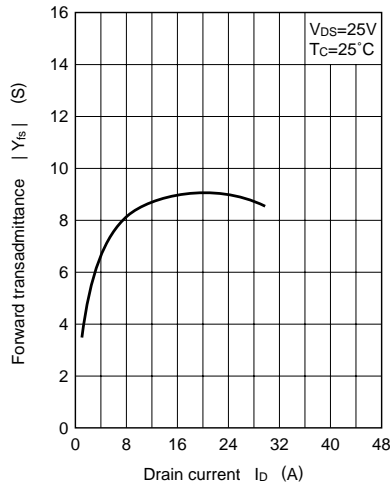
Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Drain-Source cut-off current	I _{DSS}	V _{DS} = 400V, V _{GS} = 0			100	μA	
Gate-Source leakage current	I _{GSS}	V _{GS} =±30V, V _{DS} = 0			±1	μA	
Drain-Source breakdown voltage	V _{DSS}	I _D =1mA, V _{GS} = 0	500			V	
Gate threshold voltage	V _{th}	V _{DS} = 25V, I _D =1mA	1		5	V	
Drain-Source ON-resistance	R _{DS(on)}	V _{GS} =10V, I _D = 8A		0.38	0.5	Ω	
Forward transadmittance	Y _{fs}	V _{DS} = 25V, I _D = 8A	5	8		S	
Diode forward voltage	V _{DSF}	I _{DR} =15A, V _{GS} = 0			-1.8	V	
Input capacitance	C _{iss}	V _{DS} = 20V, V _{GS} = 0, f=1MHz		1500		pF	
Output capacitance	C _{oss}				300		pF
Feedback capacitance	C _{rss}				145		pF
Turn-on time	t _{on}	V _{DD} =150V, I _D = 8A V _{GS} =10V, R _L =19Ω		110		ns	
Fall time	t _f				100		ns
Turn-off time (delay time)	t _{d(off)}				330		ns
Channel-Case heat resistance	R _{th(ch-c)}				1.25	°C/W	
Channel-Atmosphere heat resistance	R _{th(ch-a)}				41.67	°C/W	



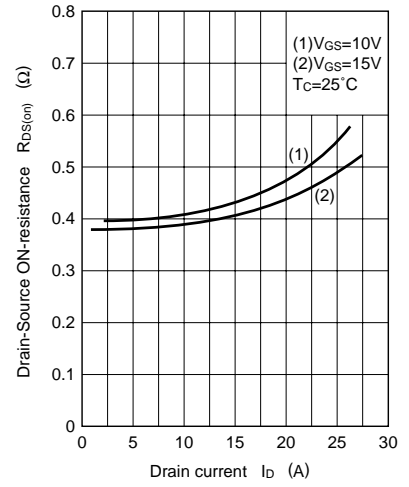
$I_D - V_{DS}$



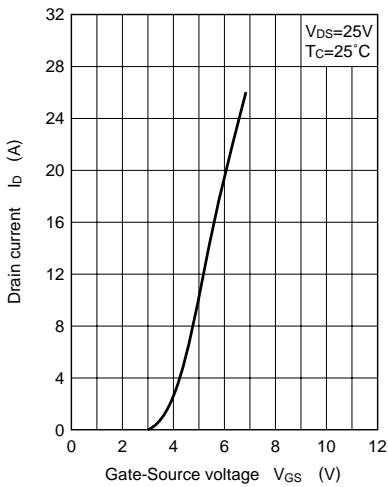
$|Y_{fs}| - I_D$



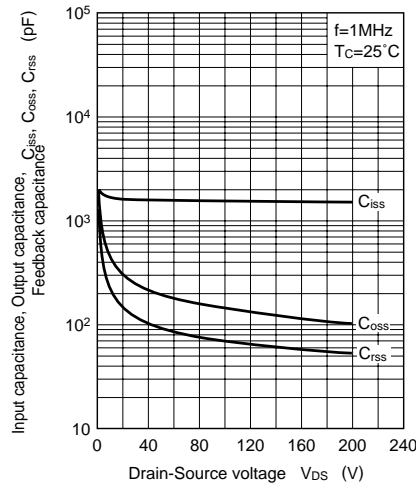
$R_{DS(on)} - I_D$



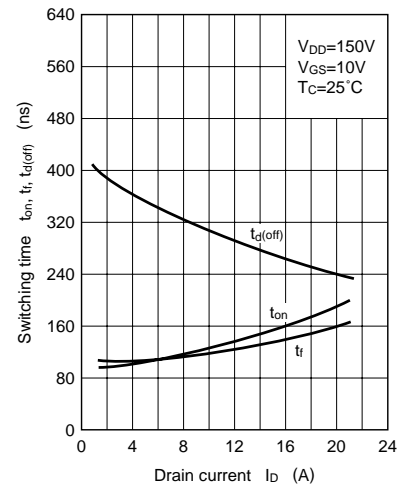
$I_D - V_{GS}$



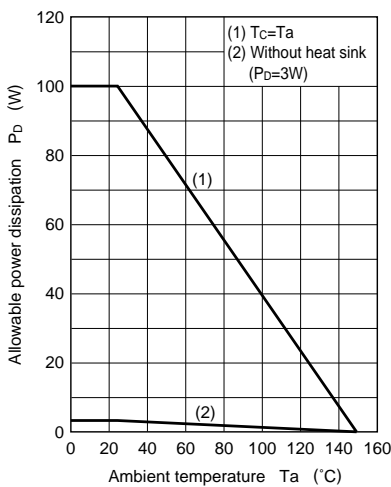
$C_{iss}, C_{oss}, C_{rss} - V_{DS}$



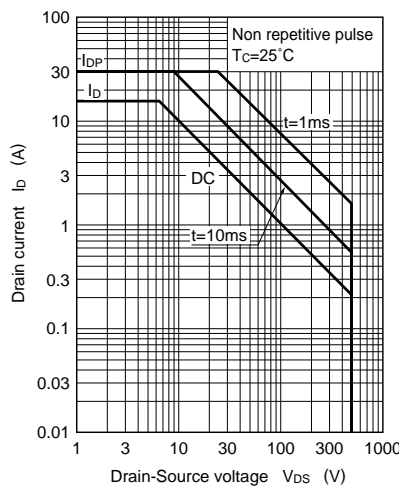
$t_{on}, t_f, t_{d(off)} - I_D$



$P_D - T_a$



Area of safe operation (ASO)



$R_{DS(on)} - I_D$

