

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

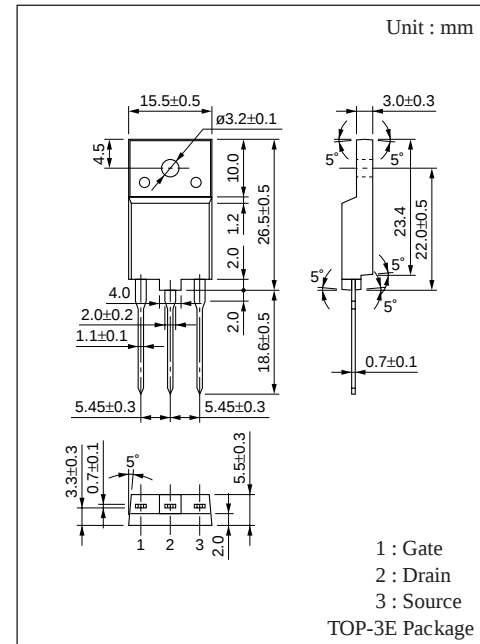
■ Absolute Maximum Ratings (T_c = 25°C)

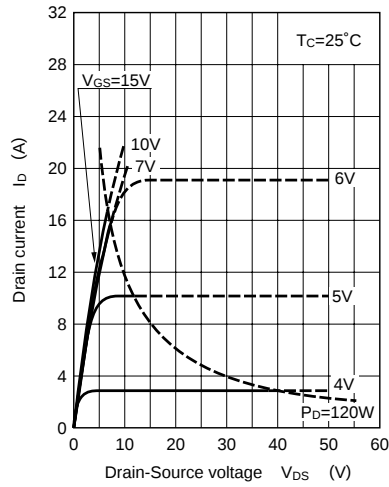
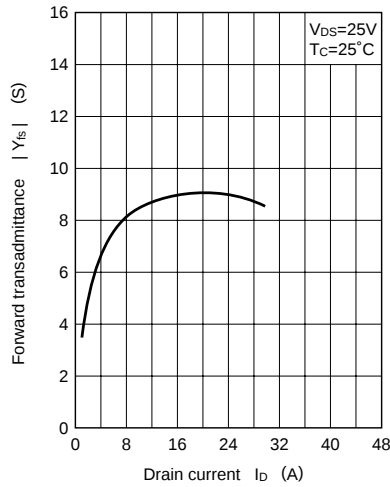
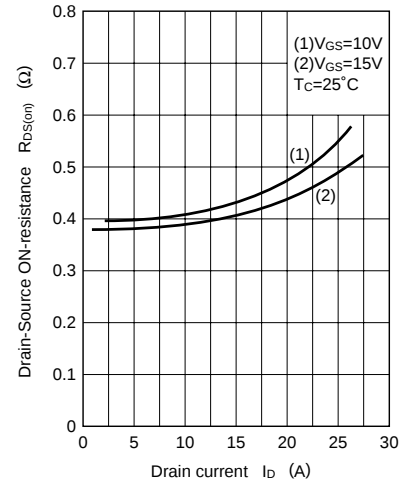
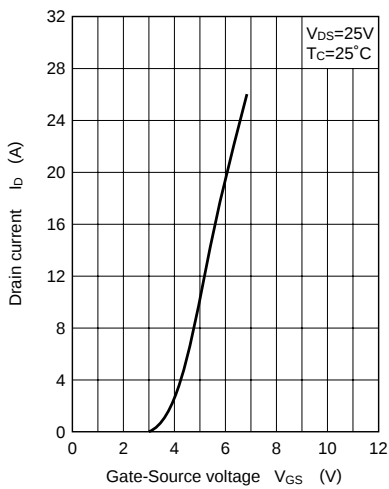
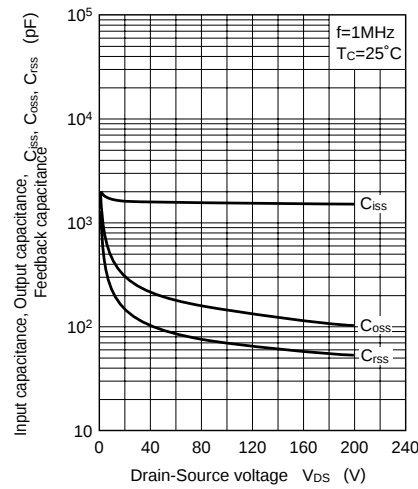
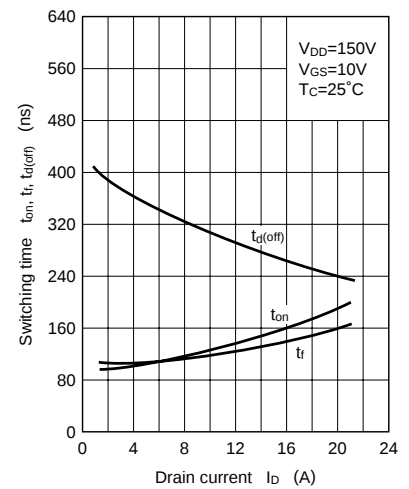
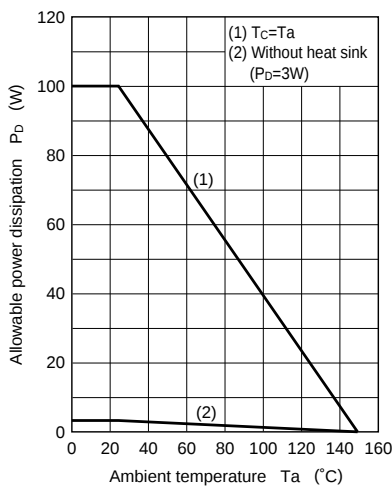
Parameter		Symbol	Rating	Unit
Drain-Source breakdown voltage		V _{DSS}	500	V
Gate-Source voltage		V _{GSS}	±20	V
Drain current	DC	I _D	±15	A
	Pulse	I _{DP}	±30	A
Avalanche energy capability		EAS *	11.25	mJ
Allowable power dissipation	T _C = 25°C	P _D	100	W
	T _a = 25°C		3	
Channel temperature		T _{ch}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

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

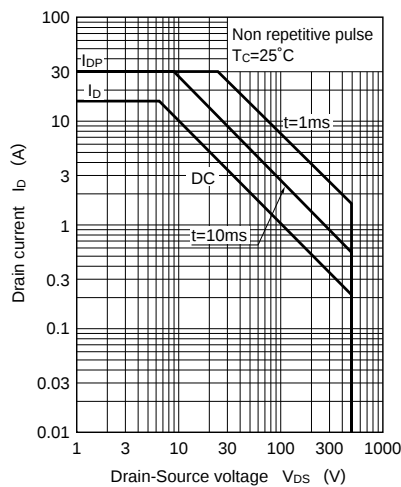
■ Electrical Characteristics (T_c = 25°C)

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)

 $R_{DS(on)} - I_D$ 