

2SK2210

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

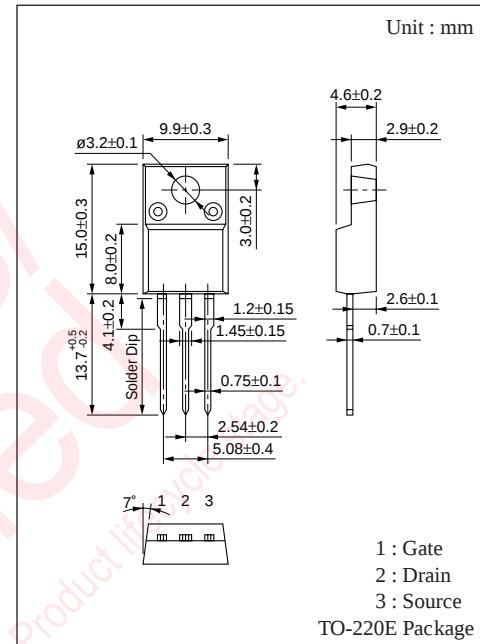
■ Absolute Maximum Ratings (T_c = 25°C)

Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	V _{DSS}	750	V
Gate-Source voltage	V _{GSS}	±30	V
Drain current	DC	I _D	±4
	Pulse	I _{DP}	±8
Avalanche energy capability	EAS *	40	mJ
Allowable power dissipation	T _C = 25°C	P _D	50
	T _a = 25°C		2
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	−55 to +150	°C

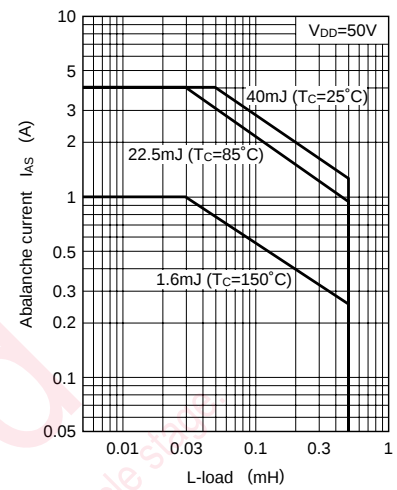
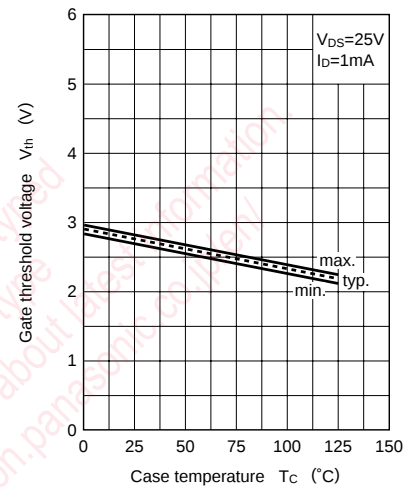
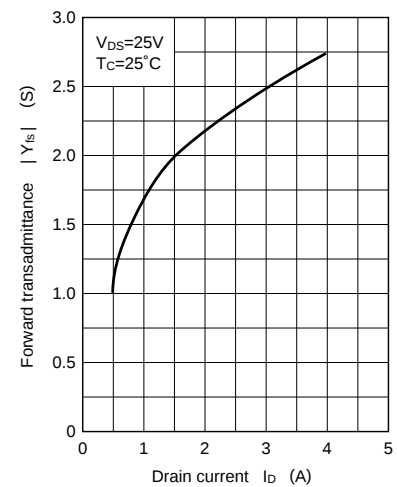
* L = 5mH, I_L = 4A, 1 pulse

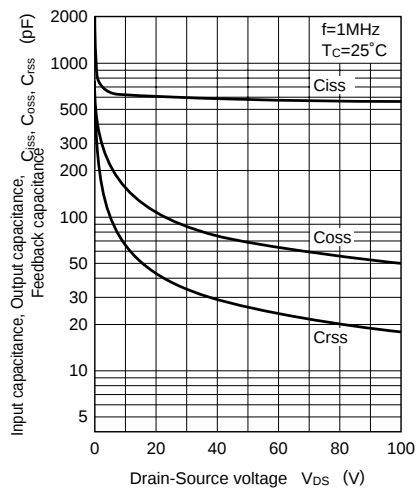
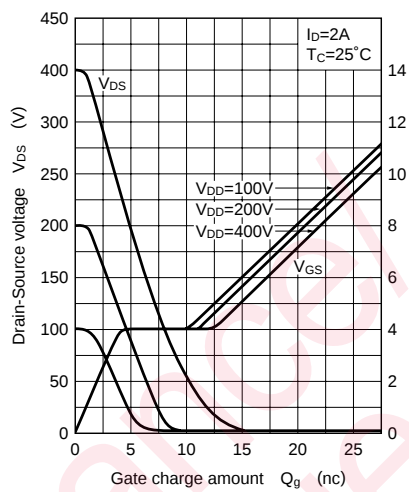
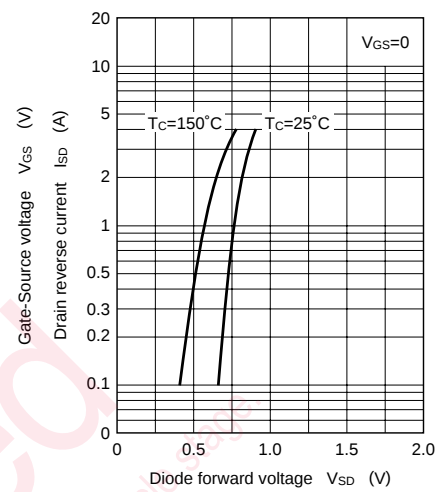
■ Electrical Characteristics (T_c = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I _{DSS}	V _{DS} = 600V, V _{GS} = 0			10	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	750			V
Gate threshold voltage	V _{th}	V _{DS} = 25V, I _D = 1mA	2		4	V
Drain-Source ON-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 2A		1.8	2.4	Ω
Forward transadmittance	Y _{fs}	V _{DS} = 25V, I _D = 2A	1.3	2.2		S
Diode forward voltage	V _{DSF}	I _{DR} = 4A, V _{GS} = 0			−1.6	V
Input capacitance	C _{iss}	V _{DS} = 20V, V _{GS} = 0, f = 1MHz		600		pF
Output capacitance	C _{oss}			105		pF
Feedback capacitance	C _{rss}			45		pF
Turn-on time (delay time)	t _{d(on)}	V _{DD} = 200V, I _D = 2A V _{GS} = 10V, R _L = 100Ω		25		ns
Rise time	t _r			50		ns
Fall time	t _f			65		ns
Turn-off time (delay time)	t _{d(off)}			170		ns
Channel-Case heat resistance	R _{th(ch-c)}				2.5	°C/W
Channel-Atmosphere heat resistance	R _{th(ch-a)}				62.5	°C/W



IAS – L-load


$$V_{th} - T_C$$

$$|Y_{fs}| - I_D$$


$C_{iss}, C_{oss}, C_{rss} - V_{DS}$  $V_{DS}, V_{GS} - Q_g$  $I_{SD} - V_{SD}$ 

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