

2SK656

Silicon N-Channel MOS

For switching

■ Features

- High-speed switching
- Small drive current owing to high input impedance
- Extremely high electrostatic destruction voltage

■ Absolute Maximum Ratings (Ta = 25°C)

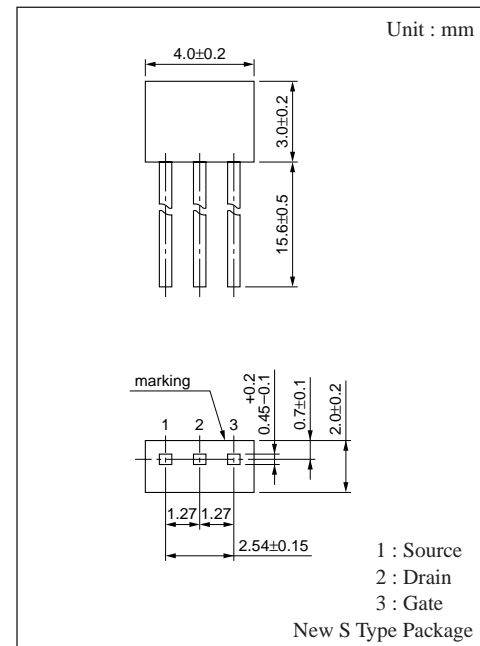
Parameter	Symbol	Rating	Unit
Drain-Source voltage	V _{DS}	50	V
Gate-Source voltage	V _{GSO}	8	V
Drain current	I _D	±100	mA
Max drain current	I _{DP}	±200	mA
Allowable power dissipation	P _D	200	mW
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	- 55 to +150	°C

■ Electrical Characteristics (Ta = 25°C)

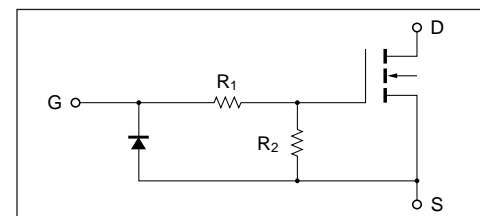
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I _{DSS}	V _{DS} =10V, V _{GS} = 0			10	μA
Gate-Source leakage current	I _{GSS}	V _{GS} = 8V, V _{DS} = 0	40		80	nA
Drain-Source breakdown voltage	V _{DSS}	I _D =100μA, V _{GS} = 0	50			V
Gate threshold voltage	V _{th}	I _D =100μA, V _{DS} = V _{GS}	1.5		3.5	V
Drain-Source ON-resistance	R _{DS(on)}	I _D = 20mA, V _{GS} = 5V			50	Ω
Forward transadmittance	Y _{fs}	I _D = 20mA, V _{DS} = 5V, f=1kHz	20	35		mS
High level output voltage	V _{OH}	V _{DD} = 5V, V _{GS} = 1V, R _L = 200Ω	4.5			V
Low level output voltage	V _{OL}	V _{DD} = 5V, V _{GS} = 5V, R _L = 200Ω			1	V
Input resistance	R ₁ + R ₂ * 1		100		200	kΩ
Input capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0, f=1MHz		9		pF
Output capacitance	C _{oss}		4.5		pF	
Feedback capacitance	C _{rss}		1.1		pF	
Turn-on time	t _{on} * 2	V _{DD} = 5V, V _{GS} = 0 to 5V, R _L = 200Ω			1	μs
Turn-off time	t _{off} * 2	V _{DD} = 5V, V _{GS} = 5 to 0V, R _L = 200Ω			1	μs

* 1 Resistance ratio R₁/R₂=1/50

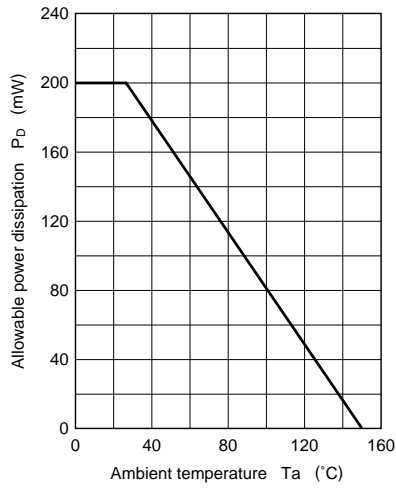
* 2 Pulse measurement



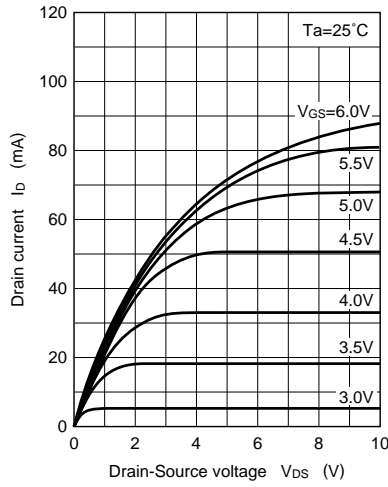
■ Internal Connection



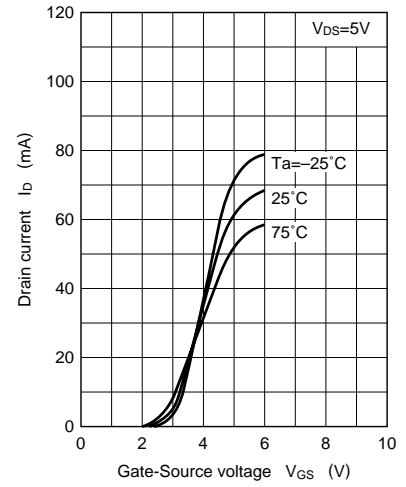
$P_D - T_a$



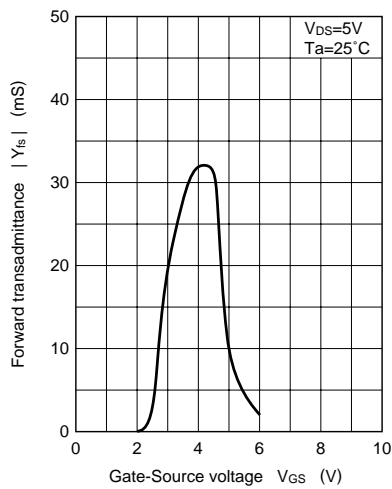
$I_D - V_{DS}$



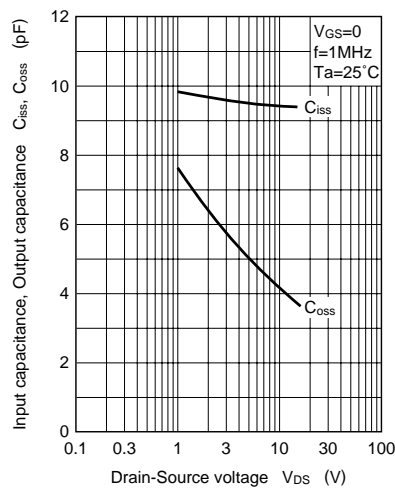
$I_D - V_{GS}$



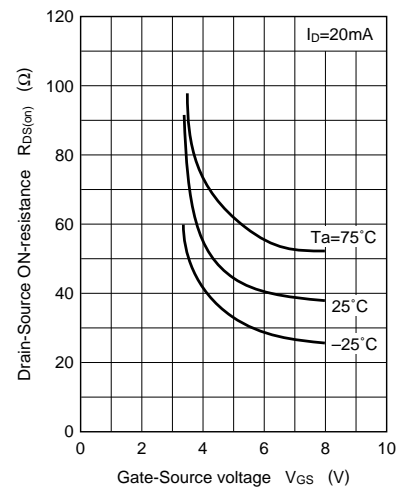
$|Y_{fs}| - V_{GS}$



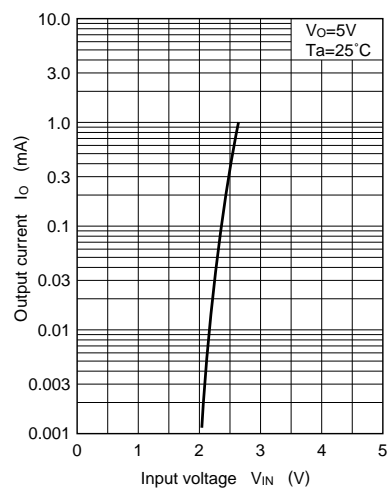
$C_{iss}, C_{oss} - V_{DS}$



$R_{DS(on)} - V_{GS}$



$I_O - V_{IN}$



$V_{IN} - I_O$

