MOS Field Effect Transistor
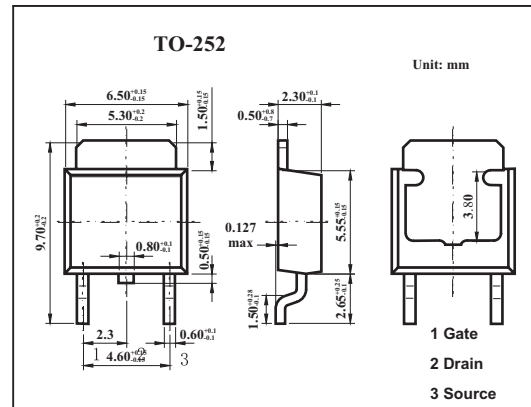# 2SK3507

■ Features

● 4.5 V drive available

● Low on-state resistance

$R_{DS(on)1}$ = 45 mΩ MAX. (V_{GS} = 10 V, I_D = 11 A)

● Low gate charge

Q_G = 8.5 nC TYP. (V_{DD} = 24 V, V_{GS} = 10 V, I_D = 22 A)

● Built-in G-S protection diode

● Surface mount package available

TO-252

Unit: mm

1 Gate
2 Drain
3 Source

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	30	V
Gate to source voltage	V_{GSS}	$\pm$16	V
Drain current	I_D	$\pm$22	A
	I_{dp} *	$\pm$45	A
Power dissipation Tc=25℃	P_D	20	W
TA=25℃		1.5	
Channel temperature	T_{ch}	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

* PW≤10μs,Duty Cycle≤1%

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	V_{DS}=30V,V_{GS}=0			10	μA
Gate leakage current	I_{GSS}	V_{GS}=$\pm$16V,V_{DS}=0			$\pm$1	μA
Gate cutoff voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	1.5		2.5	V
Forward transfer admittance	$|Y_{fs}|$	V_{DS}=4.0V,I_D=11A	6			S
Drain to source on-state resistance	$R_{DS(on)1}$	V_{GS}=10V,I_D=11A		28	45	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V,I_D=11A		46	76	mΩ
Input capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0,f=1MHZ		360		pF
Output capacitance	C_{oss}			125		pF
Reverse transfer capacitance	C_{rss}			65		pF
Turn-on delay time	t_{on}	I_D=11A,$V_{GS(on)}$=10V,R_L=10Ω,V_{DD}=15V		6.6		ns
Rise time	t_r			3.6		ns
Turn-off delay time	t_{off}			16		ns
Fall time	t_f			5.3		ns
Total Gate Charge	Q_G	I_D =22A, V_{DD} =24V, V_{GS} = 10 V		8.5		nC
Gate to Source Charge	Q_{GS}			2		nC
Gate to Drain Charge	Q_{GD}			2.1		nC