MOS Field Effect Transistor
2SK3639

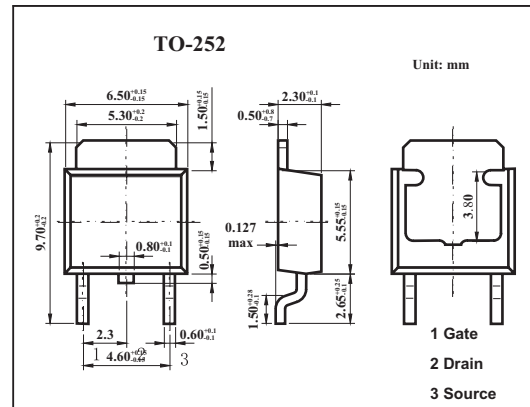■ Features

● Low on-state resistance

$R_{DS(on)1}$ = 5.5 mΩ MAX. (V_{GS} = 10 V, I_D = 32 A)

$R_{DS(on)2}$ = 8.5 mΩ MAX. (V_{GS} = 4.5 V, I_D = 32 A)

● Low C_{iss}: C_{iss} = 2400 pF TYP.

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}	20	V
Gate to source voltage	V_{GSS}	$\pm$20	V
Drain current	I_D	$\pm$64	A
	I_{dp} *	$\pm$256	A
Power dissipation Tc=25℃	P_D	40	W
TA=25℃		1.0	
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}=20V,V_{GS}=0			10	μA
Gate leakage current	I_{GSS}	V_{GS}=$\pm$20V,V_{DS}=0			$\pm$100	μA
Gate cut off voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	1.5		2.5	V
Forward transfer admittance	$|Y_{fs}|$	V_{DS}=10V,I_D=32A	19	39		S
Drain to source on-state resistance	$R_{DS(on)1}$	V_{GS}=10V,I_D=32A		4.4	5.5	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V,I_D=32A		5.8	8.5	mΩ
Input capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0,f=1MHZ		2400		pF
Output capacitance	C_{oss}			970		pF
Reverse transfer capacitance	C_{rss}			350		pF
Turn-on delay time	t_{on}	I_D=32A,$V_{GS(on)}$=10V,R_G=0Ω,V_{DD}=10V		13		ns
Rise time	t_r			14		ns
Turn-off delay time	t_{off}			71		ns
Fall time	t_f			22		ns
Total Gate Charge	Q_G	V_{DD} = 16V		45		nC
Gate to Source Charge	Q_{GS}	V_{GS} = 10 V		7.6		nC
Gate to Drain Charge	Q_{GD}	I_D =64A		11		nC