MOS Field Effect Transistor
2SK3918

TO-252

Unit: mm

1 Gate
2 Drain
3 Source

■ Features

● Low on-state resistance

$R_{DS(on)1}$ = 7.5 m Ω MAX. (V_{GS} = 10 V, I_D = 24 A)

● Low Ciss: Ciss = 1300 pF TYP.

● 5 V drive available
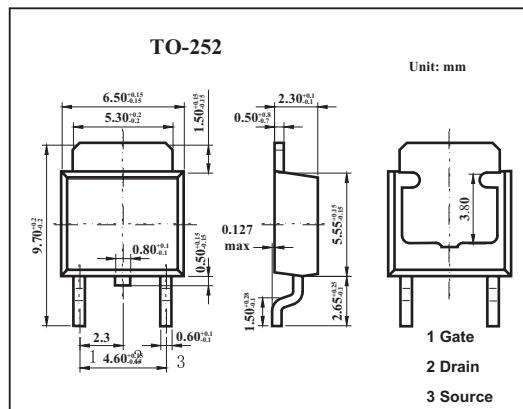
■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	25	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	±48	A
	I_{dp} *	±192	A
Power dissipation TA=25℃	P_D	1.0	W
Tc=25℃		29	
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}=25V,V_{GS}=0			10	μA
Gate leakage current	I_{GSS}	V_{GS}=±20V,V_{DS}=0			±100	nA
Gate cut off voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	2.5	2.5	3.0	V
Forward transfer admittance	│Y_{fs}│	V_{DS}=10V,I_D=12A	6	12		S
Drain to source on-state resistance	$R_{DS(on)1}$	V_{GS}=10V,I_D=24A		5.9	7.5	mΩ
	$R_{DS(on)2}$	V_{GS}=5.0V,I_D=12A		11	22.2	mΩ
Input capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0,f=1MHZ		1300		pF
Output capacitance	C_{oss}			310		pF
Reverse transfer capacitance	C_{rss}			220		pF
Turn-on delay time	t_{on}	I_D=24A,$V_{GS(on)}$=10V,R_G=10 Ω,V_{DD}=12.5V		13		ns
Rise time	t_r			14		ns
Turn-off delay time	t_{off}			38		ns
Fall time	tf			14		ns
Total Gate Charge	Q_G	V_{DD} = 20V V_{GS} = 10 V I_D =48A		28		nC
Gate to Source Charge	Q_{GS}			5		nC
Gate to Drain Charge	Q_{GD}			10		nC
Body Diode Forward Voltage	$V_{F(S-D)}$	I_F = 48A, V_{GS} = 0 V		0.98		V
Reverse Recovery Time	t_{rr}	I_F = 48 A, V_{GS} = 0 V		27		ns
Reverse Recovery Charge	Q_{rr}	di/dt = 100 A/ μs		15		nC