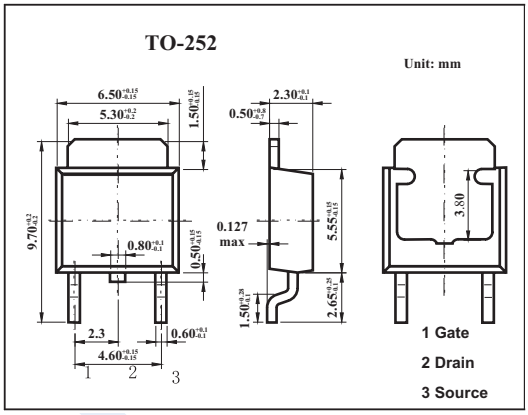
MOS Field Effect Transistor
2SK3641



■ Features

- Low on-state resistance

  $R_{DS(on)1}$ =14 mΩ MAX. (V_{GS} = 10 V, I_D = 18A)

  $R_{DS(on)2}$ =25 mΩ MAX. (V_{GS} = 4.5 V, I_D = 15 A)

- Low C_{iss}: C_{iss} = 930 pF TYP.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	30	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	±36	A
	I_{dp} *	±140	A
Power dissipation T_C=25℃ T_A=25℃	P_D	29 1.0	W
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}=±20V,V_{DS}=0			±10	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=18A	5.5	11		S
Drain to source on-state resistance	$R_{DS(on)1}$	V_{GS}=10V,I_D=18A		11	14	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V,I_D=15A		17	25	mΩ
Input capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0,f=1MHZ		930		pF
Output capacitance	C_{oss}			250		pF
Reverse transfer capacitance	C_{rss}			160		pF
Turn-on delay time	t_{on}	I_D=18A,$V_{GS(on)}$=15V,R_G=10Ω,V_{DD}=10V		9.4		ns
Rise time	t_r			8.6		ns
Turn-off delay time	t_{off}			34		ns
Fall time	tf			11		ns
Total Gate Charge	Q_G	V_{DD} = 24V V_{GS} = 10 V I_D =36A		22		nC
Gate to Source Charge	Q_{GS}			3.6		nC
Gate to Drain Charge	Q_{GD}			7.4		nC
Body Diode Forward Voltage Note	$V_{F(S-D)}$	I_F = 36 A, V_{GS} = 0 V		1.0		V
Reverse Recovery Time	t_{rr}	I_F = 36 A, V_{GS} = 0 V		24		ns
Reverse Recovery Charge	Q_{rr}	di/dt = 100 A/ μs		15		nC