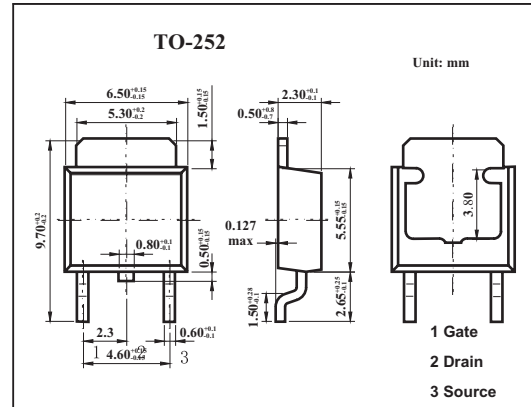


MOS Field Effect Transistor 2SK3712

■ Features

- High voltage: $V_{DS} = 250\text{ V}$
- Gate voltage rating: $\pm 30\text{ V}$
- Low on-state resistance
 $R_{DS(on)} = 0.58\ \Omega\ \text{MAX.}$ ($V_{GS} = 10\text{ V}$, $I_D = 4.5\text{ A}$)
- Low C_{iss} : $C_{iss} = 450\text{ pF TYP.}$ ($V_{DS} = 10\text{ V}$, $I_D = 0\text{ A}$)
- Built-in gate protection diode



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DS}	250	V
Gate to source voltage	V_{GS}	± 30	V
Drain current	I_D	± 9.0	A
	I_{DP}^*	± 27	A
Power dissipation	P_D	$T_A=25^\circ\text{C}$	1.0
		$T_C=25^\circ\text{C}$	40
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10\ \mu\text{s}$, Duty Cycle $\leq 1\%$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS}=250\text{V}, V_{GS}=0$			10	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 30\text{V}, V_{DS}=0$			± 10	μA
Gate cut off voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	2.5	3.5	4.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=4.5\text{A}$	3	6		S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=4.5\text{A}$		0.4	0.58	Ω
Input capacitance	C_{iss}	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHZ}$		450		pF
Output capacitance	C_{oss}			100		pF
Reverse transfer capacitance	C_{rss}			40		pF
Turn-on delay time	t_{on}	$I_D=4.5\text{A}, V_{GS(on)}=10\text{V}, R_G=0\ \Omega, V_{DD}=125\text{V}$		8		ns
Rise time	t_r			8		ns
Turn-off delay time	t_{off}			21		ns
Fall time	t_f			6		ns
Total Gate Charge	Q_G		$V_{DD} = 200\text{V}$		14	
Gate to Source Charge	Q_{GS}	$V_{GS} = 10\text{ V}$		3		nC
Gate to Drain Charge	Q_{GD}	$I_D = 9.0\text{A}$		7		nC