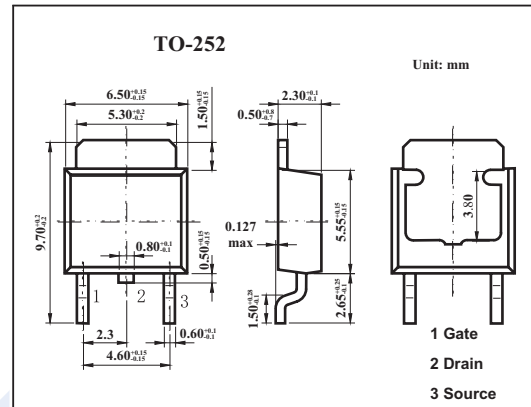


## MOS Field Effect Transistor

### 2SK3113

#### ■ Features

- Low on-state resistance  
 $R_{DS(on)} = 4.4 \Omega$  MAX. ( $V_{GS} = 10 \text{ V}$ ,  $I_D = 1.0 \text{ A}$ )
- Low gate charge  
 $Q_G = 9 \text{ nC}$  TYP. ( $V_{DD} = 450 \text{ V}$ ,  $V_{GS} = 10 \text{ V}$ ,  $I_D = 2.0 \text{ A}$ )
- Gate voltage rating  $\pm 30 \text{ V}$
- Avalanche capability ratings



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

Parameter	Symbol	Rating	Unit	
Drain to source voltage	$V_{DS}$	600	V	
Gate to source voltage	$V_{GS}$	$\pm 30$	V	
Drain current	$I_D$	$\pm 2.0$	A	
	$I_{DP}^*$	$\pm 8.0$	A	
Power dissipation	$P_D$	$T_c=25^\circ\text{C}$	20	W
		$T_A=25^\circ\text{C}$	1.0	
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	Test conditions	Min	Typ	Max	Unit
Drain cut-off current	$I_{DSS}$	$V_{DS}=600\text{V}, V_{GS}=0$			100	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 30\text{V}, V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Gate to source cut off voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	2.5		3.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=1.0\text{A}$	0.5			S
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=1.0\text{A}$		3.3	4.4	$\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		260		pF
Output capacitance	$C_{oss}$			60		pF
Reverse transfer capacitance	$C_{rss}$			5		pF
Turn-on delay time	$t_{on}$	$I_D=1.0\text{A}, V_{GS(on)}=10\text{V}, V_{DD}=150\text{V}, R_G=10 \Omega, R_L=10 \Omega$		7		ns
Rise time	$t_r$			2		ns
Turn-off delay time	$t_{off}$			22		ns
Fall time	$t_f$			9		ns