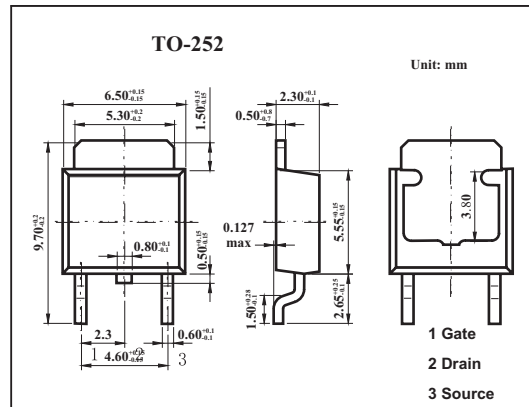


# 2SK3712

## ■ Features

- High voltage:  $V_{DSS} = 250\text{ V}$
- 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	$V_{DSS}$	250	V
Gate to source voltage	$V_{GSS}$	$\pm 30$	V
Drain current	$I_D$	$\pm 9.0$	A
	$I_{dp}^*$	$\pm 27$	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	$\mu\text{A}$	
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 30\text{V}, V_{DS}=0$			$\pm 10$	$\mu\text{A}$	
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	$\Omega$	
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	$t_{on}$				8		ns
Rise time	$t_r$	$I_D=4.5\text{A}, V_{GS(on)}=10\text{V}, R_G=0\ \Omega, V_{DD}=125\text{V}$		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		nC
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	