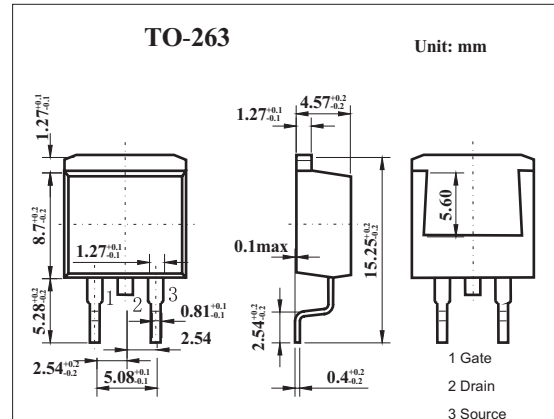


## MOS Field Effect Transistor

### 2SK3668

#### ■ Features

- Low gate charge  
 $Q_G = 26 \text{ nC TYP. (} V_{DD} = 320 \text{ V, } V_{GS} = 10 \text{ V, } I_D = 10 \text{ A)}$
- Gate voltage rating:  $\pm 30 \text{ V}$
- Low on-state resistance  
 $R_{DS(on)} = 0.55 \ \Omega \text{ MAX. (} V_{GS} = 10 \text{ V, } I_D = 5.0 \text{ A)}$
- Surface mount package available



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DSS}$	400	V
Gate to source voltage	$V_{GSS}$	$\pm 30$	V
Drain current	$I_D$	$\pm 10$	A
	$I_{dp}^*$	$\pm 34$	A
Power dissipation	$P_D$	$T_A=25^\circ\text{C}$	1.5
		$T_c=25^\circ\text{C}$	100
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	$I_{DSS}$	$V_{DS}=400\text{V, } V_{GS}=0$			10	$\mu\text{A}$	
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 30\text{V, } V_{DS}=0$			$\pm 100$	nA	
Gate 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} $	$V_{DS}=10\text{V, } I_D=5.0\text{A}$	3.0	5.6		S	
Drain to source on-state resistance	$R_{DS(on)1}$	$V_{GS}=10\text{V, } I_D=5.0\text{A}$		0.4	0.55	$\Omega$	
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V, } V_{GS}=0, f=1\text{MHZ}$		1320		pF	
Output capacitance	$C_{oss}$				230		pF
Reverse transfer capacitance	$C_{rss}$				13		pF
Turn-on delay time	$t_{on}$	$I_D=5.0\text{A, } V_{GS(on)}=10\text{V, } R_G=10 \ \Omega, V_{DD}=150\text{V}$		18		ns	
Rise time	$t_r$			8		ns	
Turn-off delay time	$t_{off}$			44		ns	
Fall time	$t_f$			4		ns	
Total Gate Charge	$Q_G$	$V_{DD} = 320\text{V}$		26		nC	
Gate to Source Charge	$Q_{GS}$	$V_{GS} = 10 \text{ V}$		7		nC	
Gate to Drain Charge	$Q_{GD}$	$I_D = 10\text{A}$		11		nC	
Body Diode Forward Voltage	$V_{F(S-D)}$	$I_F = 10 \text{ A, } V_{GS} = 0 \text{ V}$		0.9		V	
Reverse Recovery Time	$t_{rr}$	$I_F = 10 \text{ A, } V_{GS} = 0 \text{ V}$		350		ns	
Reverse Recovery Charge	$Q_{rr}$	$di/dt = 100 \text{ A}/\mu\text{s}$		2.7		$\mu\text{C}$	