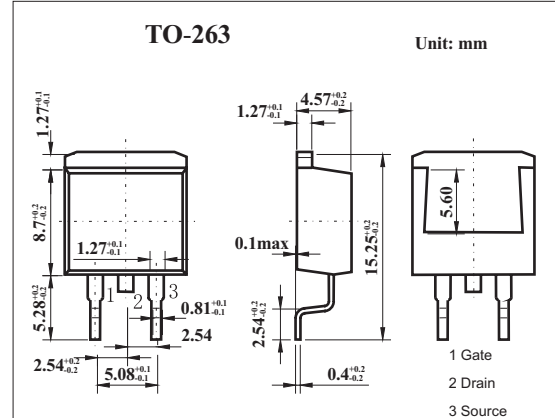
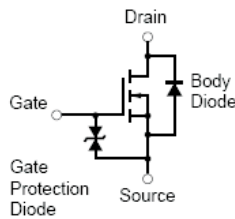


# 2SK3109

### ■ Features

- Gate voltage rating  $\pm 30$  V
- Low on-state resistance  
 $R_{DS(on)} = 0.4 \Omega$  MAX. ( $V_{GS} = 10$  V,  $I_D = 5.0$  A)
- Low input capacitance  
 $C_{iss} = 400$  pF TYP. ( $V_{DS} = 10$  V,  $V_{GS} = 0$  V)
- Avalanche capability rated
- Built-in gate protection diode
- Surface mount device available



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DSS}$	200	V
Gate to source voltage	$V_{GSS}$	$\pm 30$	V
Drain current	$I_D$	$\pm 10$	A
	$I_{dp}^*$	$\pm 30$	A
Power dissipation	$P_D$	$T_C=25^\circ\text{C}$	50
		$T_A=25^\circ\text{C}$	1.5
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	$I_{DSS}$	$V_{DS}=200\text{V}, V_{GS}=0$			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		4.5	V	
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}, I_D=5.0\text{A}$	1.5			S	
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=5.0\text{A}$		0.32	0.4	$\Omega$	
Input capacitance	$C_{iss}$	$V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$		400		pF	
Output capacitance	$C_{oss}$				110		pF
Reverse transfer capacitance	$C_{rss}$				55		pF
Turn-on delay time	$t_{on}$				12		ns
Rise time	$t_r$	$I_D=5.0\text{A}, V_{GS(on)}=10\text{V}, V_{DD}=100\text{V}, R_G=10 \Omega$		34		ns	
Turn-off delay time	$t_{off}$				40		ns
Fall time	$t_f$				20		ns