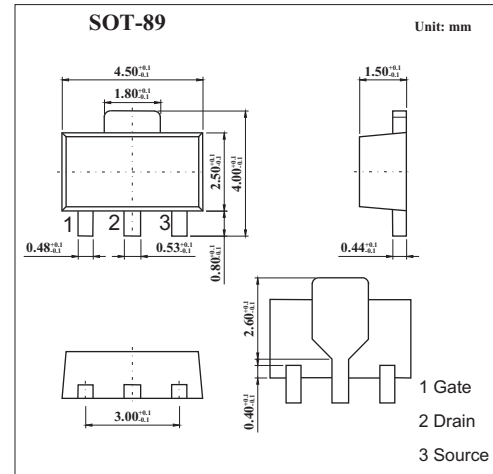
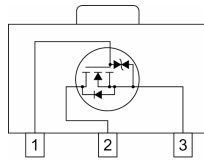


## N-Channel Power MOSFET

### XP161

#### ■ Features

- Low on-state resistance :  $R_{ds(on)} = 0.055 \Omega$  ( $V_{GS} = 4.5V$ )  
 $R_{ds(on)} = 0.095 \Omega$  ( $V_{GS} = 2.5V$ )  
 $R_{ds(on)} = 0.20 \Omega$  ( $V_{GS} = 1.5V$ )
- Ultra high-speed switching
- Gate protect diode built-in
- Driving Voltage : 1.5V



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

Parameter	Symbol	Rating	Unit
Drain to source voltage	$V_{DS}$	20	V
Gate to source voltage	$V_{GS}$	$\pm 8$	V
Drain current (DC)	$I_D$	4	A
Drain current(pulse)	$I_{DP}$	16	A
Power dissipation *	$P_D$	2	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* When implemented on a ceramic PCB

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain cut-off current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			10	$\mu\text{A}$
Gate leakage current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1\text{mA}$	0.5		1.2	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=2A$		10		s
Drain to source on-state resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=2A$		0.042	0.055	$\Omega$
		$V_{GS}=2.5V, I_D=2A$		0.070	0.095	$\Omega$
		$V_{GS}=1.5V, I_D=0.5A$		0.12	0.20	$\Omega$
Input capacitance	$C_{iss}$	$V_{DS}=10V, V_{GS}=0, f=1\text{MHz}$		390		pF
Output capacitance	$C_{oss}$			210		pF
Reverse transfer capacitance	$C_{rss}$			90		pF
Turn-on delay time	$t_{d(on)}$	$I_D=2A, V_{GS(on)}=5V, V_{DD}=10V$		10		ns
Rise time	$t_r$			15		ns
Turn-off delay time	$t_{d(off)}$			85		ns
Fall time	$t_f$			45		ns