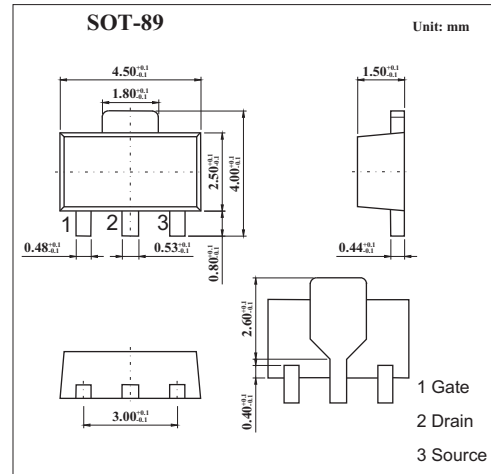
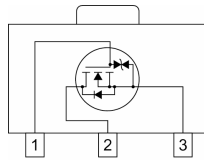


N-Channel Power MOSFET

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}	± 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	μA
Gate leakage current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0$			± 10	μA
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	Ω
		$V_{GS}=2.5V, I_D=2A$		0.070	0.095	Ω
		$V_{GS}=1.5V, I_D=0.5A$		0.12	0.20	Ω
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