N-Channel Power MOSFET

XP161

Features

Low on-state resistance : Rds (on) = 0.055Ω (Vgs = 4.5V)

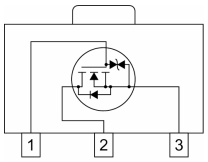
Rds (on) = 0.095Ω (Vgs = 2.5V)

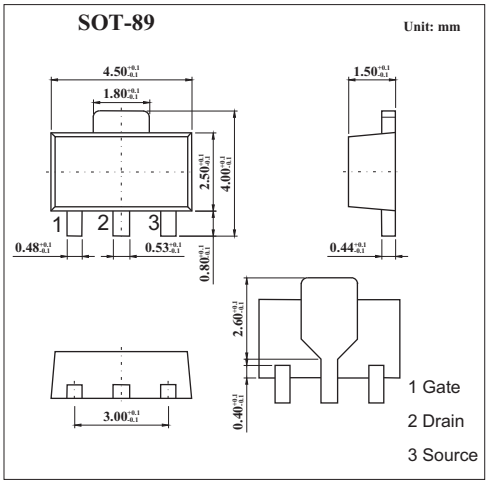
Rds (on) = 0.20Ω (Vgs = 1.5V)

Ultra high-speed switching

Gate protect diode built-in

Driving Voltage : 1.5V





Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to source voltage	V_{DSS}	20	V
Gate to source voltage	V_{GSS}	±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	℃
Storage temperature	T_{stg}	-55 to +150	℃

* When implemented on a ceramic PCB

Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	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}=±8V,V_{DS}=0			±10	μA
Gate to source cutoff voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	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=1MHZ		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