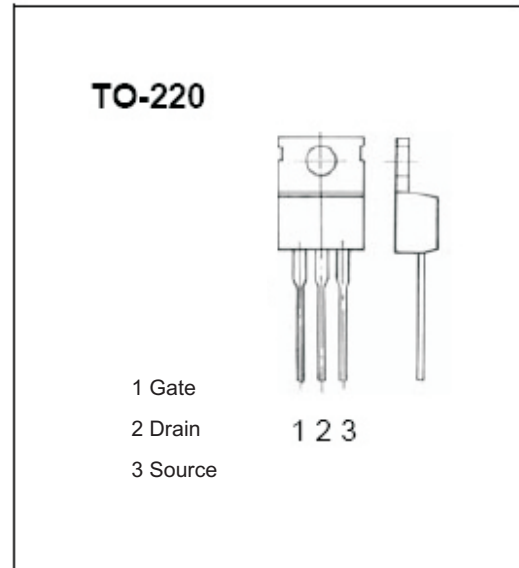
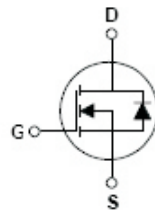


## N-Channel MOSFET KXP20N15

### ■ Features

- $V_{DS} (V) = 150V$
- $R_{DS(ON)} \leq 0.13\Omega (V_{GS} = 10V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	150	V
Gate source voltage	$V_{GS}$	$\pm 20$	V
Drain Current — Continuous	$I_D$	20	A
Drain Current - Pulsed (Note 2)	$I_{DM}$	60	A
Power dissipation @ $T_c=25^\circ\text{C}$ (Note 1) - Derate above $25^\circ\text{C}$	$P_D$	112	W
		0.9	W/ $^\circ\text{C}$
Thermal resistance, junction - ambient	$R_{thJA}$	62.5	$^\circ\text{C}/\text{W}$
Operating and storage temperature	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

Note:1.Power rating when mounted on FR-4 glass epoxy printed circuit board using recommended footprint.

2.Pulse Test : Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$

## N-Channel MOSFET KXP20N15

### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> = 0 V, I <sub>D</sub> = 250 μA	150			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	2.0		4.0	V
Gate-Body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20 V, V <sub>DS</sub> = 0 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 150 V, V <sub>GS</sub> = 0 V			10	μA
Drain-Source On-State Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 10A			0.13	Ω
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = 13 V, I <sub>D</sub> = 10 A	8	11		S
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 120V, V <sub>GS</sub> = 10 V, I <sub>D</sub> = 20A		39.1	55.9	nC
Gate-Source Charge	Q <sub>gs</sub>			7.5		
Gate-Drain Charge	Q <sub>gd</sub>			22		
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 25V, V <sub>GS</sub> = 0, f = 1.0MHz		1133	1627	pF
Output Capacitance	C <sub>oss</sub>			332	474	
Reverse Transfer Capacitance	C <sub>rss</sub>			105	174	
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>DD</sub> = 75V, V <sub>GS</sub> = 10V, R <sub>G</sub> = 9.1 Ω, I <sub>D</sub> = 20A		11	25	ns
Turn-On Rise Time	t <sub>r</sub>			77	153	
Turn-Off Delay Time	t <sub>d(off)</sub>			33	67	
Turn-Off Fall Time	t <sub>f</sub>			49	97	
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> = 0 V, I <sub>S</sub> = 20A			1.5	V
Reverse Recovery Time	t <sub>rr</sub>	V <sub>GS</sub> = 0 V, I <sub>S</sub> = 20A, dI <sub>S</sub> / dt = 100 A/μs		160		ns
Maximum Body-Diode Continuous Current	I <sub>S</sub>				20	A

### ■ Marking

Marking	20N15
---------	-------