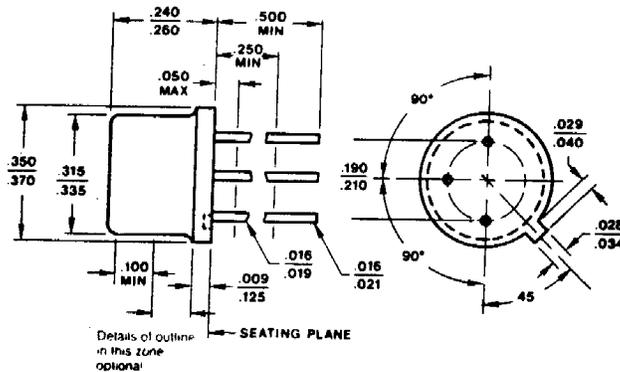


## IRFF220

### Absolute Maximum Ratings

	Parameter		Units
$I_D @ V_{GS} = 10V, T_C = 25^\circ C$	Continuous Drain Current	3.5	A
$I_D @ V_{GS} = 10V, T_C = 100^\circ C$	Continuous Drain Current	2.25	
$I_{DM}$	Pulsed Drain Current ①	14	
$P_D @ T_C = 25^\circ C$	Max. Power Dissipation	20	W
	Linear Derating Factor	0.16	W/°C
$V_{GS}$	Gate-to-Source Voltage	$\pm 20$	V
EAS	Single Pulse Avalanche Energy ②	66	mJ
$I_{AR}$	Avalanche Current ①	—	A
EAR	Repetitive Avalanche Energy ①	—	mJ
dv/dt	Peak Diode Recovery dv/dt ③	5.0	V/ns
$T_J$	Operating Junction	-55 to 150	°C
$T_{STG}$	Storage Temperature Range		
	Lead Temperature	300 (0.063 in. (1.6mm) from case for 10s)	
	Weight	0.98(typical)	

TO-39



dim. in in.



Quality Semi-Conductors

**IRFF220**

**Electrical Characteristics @ T<sub>j</sub> = 25°C (Unless Otherwise Specified)**

	Parameter	Min	Typ	Max	Units	Test Conditions
BV <sub>DSS</sub>	Drain-to-Source Breakdown Voltage	200	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 1.0mA
ΔBV <sub>DSS</sub> /ΔT <sub>J</sub>	Temperature Coefficient of Breakdown Voltage	—	0.25	—	V/°C	Reference to 25°C, I <sub>D</sub> = 1.0mA
R <sub>DSS(on)</sub>	Static Drain-to-Source On-State Resistance	—	—	0.80	Ω	V <sub>GS</sub> = 10V, I <sub>D</sub> = 2.25A ④
		—	—	0.92		V <sub>GS</sub> = 10V, I <sub>D</sub> = 3.5A ④
V <sub>GS(th)</sub>	Gate Threshold Voltage	2.0	—	4.0	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
g <sub>fs</sub>	Forward Transconductance	1.5	—	—	S (Ω)	V <sub>DS</sub> > 15V, I <sub>DS</sub> = 2.25A ④
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	—	—	25	μA	V <sub>DS</sub> = 160V, V <sub>GS</sub> = 0V
		—	—	250		V <sub>DS</sub> = 160V V <sub>GS</sub> = 0V, T <sub>J</sub> = 125°C
I <sub>GSS</sub>	Gate-to-Source Leakage Forward	—	—	100	nA	V <sub>GS</sub> = 20V
I <sub>GSS</sub>	Gate-to-Source Leakage Reverse	—	—	-100		V <sub>GS</sub> = -20V
Q <sub>g</sub>	Total Gate Charge	8.0	—	14.3	nC	V <sub>GS</sub> = 10V, I <sub>D</sub> = 3.5A
Q <sub>gs</sub>	Gate-to-Source Charge	0.9	—	3.0		V <sub>DS</sub> = 100V
Q <sub>gd</sub>	Gate-to-Drain ('Miller') Charge	2.3	—	9.0		
t <sub>d(on)</sub>	Turn-On Delay Time	—	—	40	ns	V <sub>DD</sub> = 100V, I <sub>D</sub> = 3.5A, R <sub>G</sub> = 7.5Ω
t <sub>r</sub>	Rise Time	—	—	50		
t <sub>d(off)</sub>	Turn-Off Delay Time	—	—	50		
t <sub>f</sub>	Fall Time	—	—	50		
L <sub>S</sub> + L <sub>D</sub>	Total Inductance	—	7.0	—	nH	Measured from drain lead (6mm/0.25in. from package) to source lead (6mm/0.25in. from package)
C <sub>iss</sub>	Input Capacitance	—	260	—	pF	V <sub>GS</sub> = 0V, V <sub>DS</sub> = 25V f = 1.0MHz
C <sub>oss</sub>	Output Capacitance	—	100	—		
C <sub>rss</sub>	Reverse Transfer Capacitance	—	30	—		

