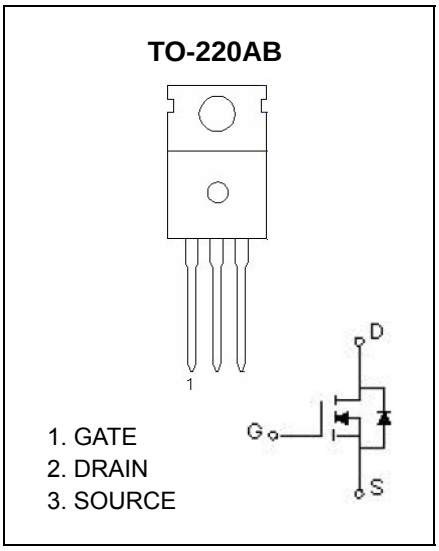
南京集正电子有限公司
NanJing JiZheng Electronics Co.,Ltd

TO-220AB Plastic-Encapsulate MOSFETS

IRF730 MOSFET(N-Channel)



FEATURES

- Dynamic dv/dt Rating
- Repetitive Avalanche Rated
- Fast Switching
- Ease of Paralleling
- Simple Drive Requirement

Description

Third Generation HEXFETs from internation Rectifier provide the designer with the best combination of fast switching ,ruggedized device design,low on-resistance and cost effectiveness.

The TO-220 package is universally preferred for all commercial-industrial applications. The low thermal resistance and low package cost of the TO-220 contribute to its wide acceptance throughout the industry.

MAXIMUM RATINGS(T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
I_D	Continuous Drain Current, V_{GS} @ 10 V T_C=25℃	5.5	A
	T_C=100℃	3.5	A
I_{DM}	Pulsed Drain Current (note 1)	22	A
P_D	Power Dissipation	2	W
V_{GS}	Gate-Souse Voltage	±20	V
E_{AS}	Single Pulse Avalanche Energy (note 2)	290	mJ
I_{AR}	Avalanche Current (note 1)	5.5	A
E_{AR}	Repetitive Avalanche Energy (note 1)	7.4	mJ
dv/dt	Peak Diode Recovery dv/dt (note 3)	4.0	V/ns
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	℃/W
T_J	Junction Temperature	150	℃
T_{STG}	Storage Temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	400			V
Gate-threshold voltage	$V_{(GS)th}$	V_{DS}=V_{GS}, I_D=250μA	2		4	
Gate-body leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS}=400V, V_{GS}=0V			25	μA
		V_{DS}=320V,V_{GS}=0V,T_j=125℃			250	
Drain-source on-resistance (note 4)	$R_{DS(on)}$	V_{GS}=10V, I_D=3.3A			1.0	Ω
Forward transconductance (note 4)	g_{fs}	V_{DS}=50V, I_D=3.3A	2.9			S
Diode forward voltage	V_{SD}	I_S=5.5A, V_{GS}=0V			1.6	V
Total gate charge	Q_g	V_{DS}=320V, V_{GS}=10V,I_D=3.5A			38	nC
Gate-source charge	Q_{gs}				5.7	
Gate-drain charge	Q_{gd}				22	
Input capacitance (note 5)	C_{iss}	V_{DS}=25V, V_{GS}=0V,f=1MHz		700		pF
Output capacitance (note 5)	C_{oss}			170		
Reverse transfer capacitance (note 5)	C_{rss}			64		
Turn-on time(note 4 ,5)	$t_{d(on)}$	V_{DD}=200V,R_D=57Ω, I_D=3.5A, R_G=12Ω		10		ns
Rise tme(note 4,5)	t_r			15		
Turn-off tme(note 4,5)	$t_{d(off)}$			38		
Fall time(note 4 ,5)	t_f			14		

Notes:

1. Repetitive Rating ;Pulse width limited by maximum junction temperature.
2. L=16mH, I_{AS} =5.5A, V_{DD}=50V, R_G=25Ω, starting T_J = 25℃.
3. I_{SD}≤5.5A, di/dt≤90A/μs, V_{DD}≤$V_{(BR)DSS}$, T_J≤150℃.
4. Pulse width≤300μs, Duty cycle≤2%.
5. These parameters have no way to verify.