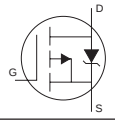


Electrical Characteristics @ $T_J = 25^\circ\text{C}$ (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	-14	—	—	V	$V_{GS} = 0V, I_D = -5mA$
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	—	-0.006	—	V/ $^\circ\text{C}$	Reference to 25°C , $I_D = -1mA$
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	.0082	0.012	Ω	$V_{GS} = -4.5V, I_D = -11A$ ②
		—	.0125	0.020		$V_{GS} = -2.5V, I_D = -8.8A$ ②
$V_{GS(th)}$	Gate Threshold Voltage	-0.60	—	—	V	$V_{DS} = V_{GS}, I_D = -250\mu A$
g_{fs}	Forward Transconductance	8.4	—	—	S	$V_{DS} = -10V, I_D = -11A$
I_{DSS}	Drain-to-Source Leakage Current	—	—	-5.0	μA	$V_{DS} = -11.2V, V_{GS} = 0V$
		—	—	-100		$V_{DS} = -11.2V, V_{GS} = 0V, T_J = 70^\circ\text{C}$
I_{GSS}	Gate-to-Source Forward Leakage	—	—	-100	nA	$V_{GS} = -12V$
	Gate-to-Source Reverse Leakage	—	—	100		$V_{GS} = 12V$
Q_g	Total Gate Charge	—	84	125	nC	$I_D = -11A$
Q_{gs}	Gate-to-Source Charge	—	13	20		$V_{DS} = -10V$
Q_{gd}	Gate-to-Drain ("Miller") Charge	—	37	55		$V_{GS} = -5.0V$ ②
$t_{d(on)}$	Turn-On Delay Time	—	19	—	ns	$V_{DD} = -10V$
t_r	Rise Time	—	420	—		$I_D = -11A$
$t_{d(off)}$	Turn-Off Delay Time	—	140	—		$R_G = 6.2\Omega$
t_f	Fall Time	—	1040	—		$R_D = 0.91\Omega$ ②
C_{iss}	Input Capacitance	—	8075	—	pF	$V_{GS} = 0V$
C_{oss}	Output Capacitance	—	4400	—		$V_{DS} = -10V$
C_{rss}	Reverse Transfer Capacitance	—	4150	—		$f = 1.0MHz$

Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)	—	—	-2.5	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I_{SM}	Pulsed Source Current (Body Diode) ①	—	—	-88		
V_{SD}	Diode Forward Voltage	—	—	-1.2	V	$T_J = 25^\circ\text{C}, I_S = -2.5A, V_{GS} = 0V$ ②
t_{rr}	Reverse Recovery Time	—	160	240	ns	$T_J = 25^\circ\text{C}, I_F = -2.5A$
Q_{rr}	Reverse Recovery Charge	—	147	220	nC	$di/dt = 100A/\mu s$ ②

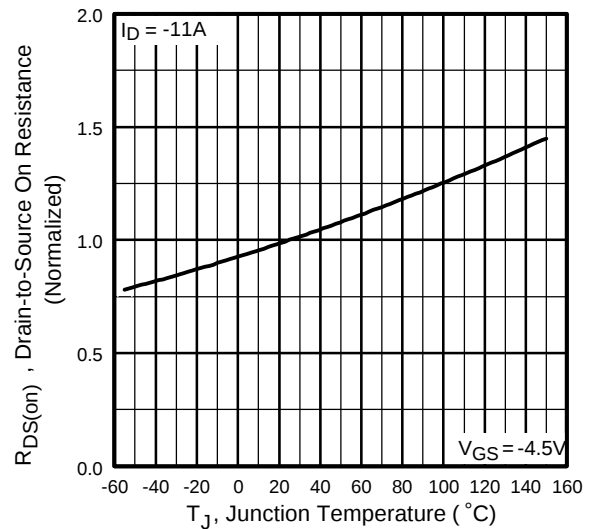
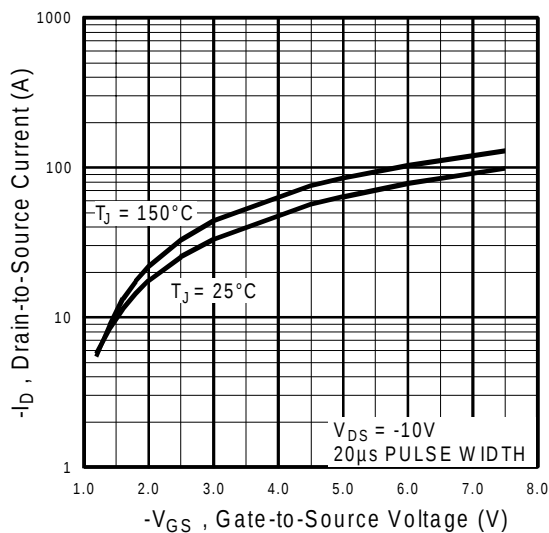
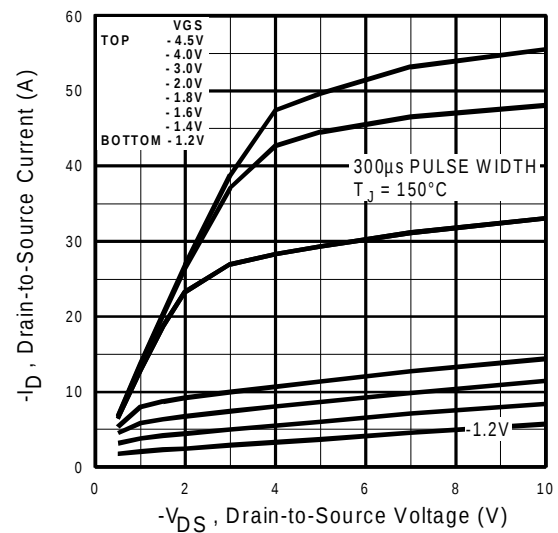
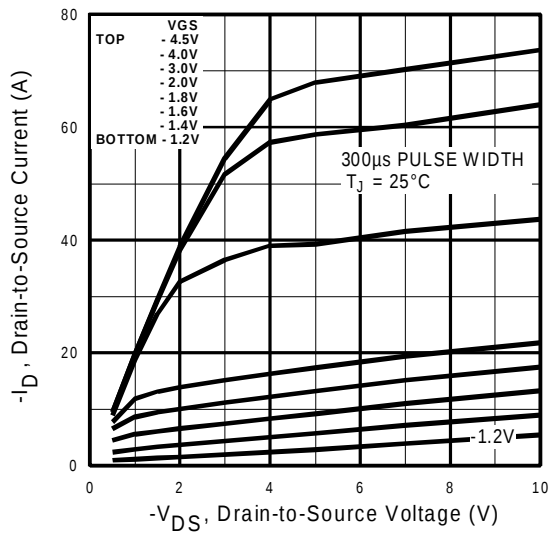
Notes:

① Repetitive rating; pulse width limited by max. junction temperature.

② Pulse width $\leq 300\mu s$; duty cycle $\leq 2\%$.

③ When mounted on 1 inch square copper board, $t < 10$ sec

④ Starting $T_J = 25^\circ\text{C}$, $L = 1.8mH$
 $R_G = 25\Omega$, $I_{AS} = 11A$. (See Figure 10)



IRF7220

International
IR Rectifier

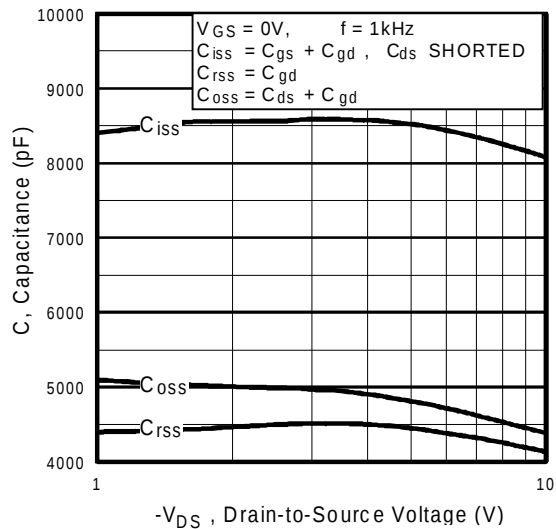


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

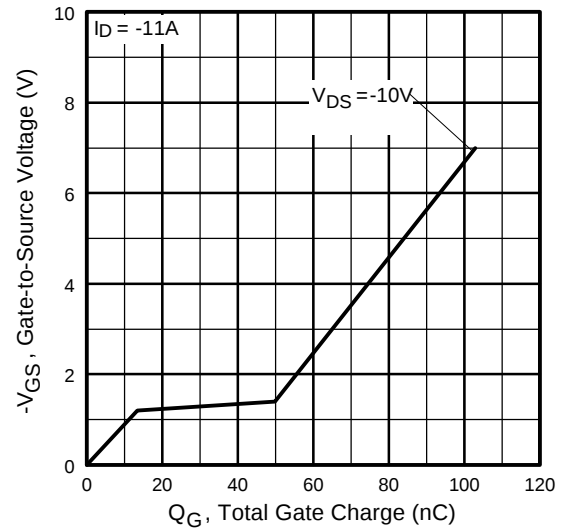


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

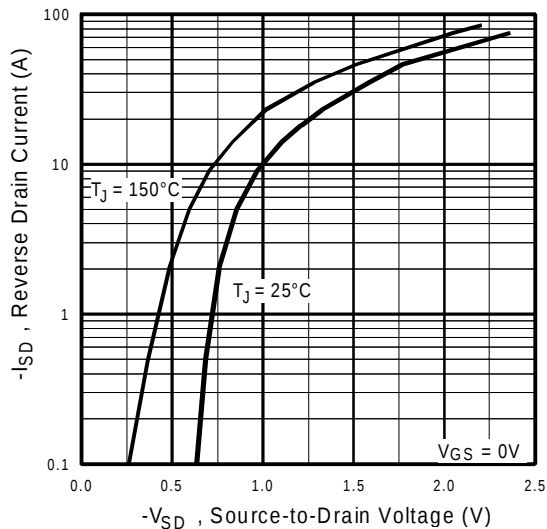


Fig 7. Typical Source-Drain Diode Forward Voltage

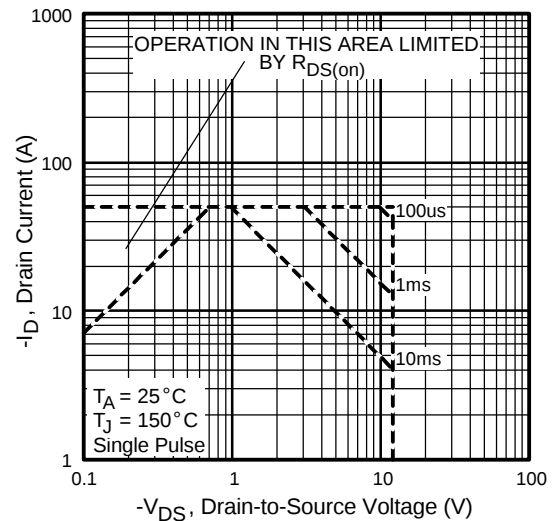


Fig 8. Maximum Safe Operating Area

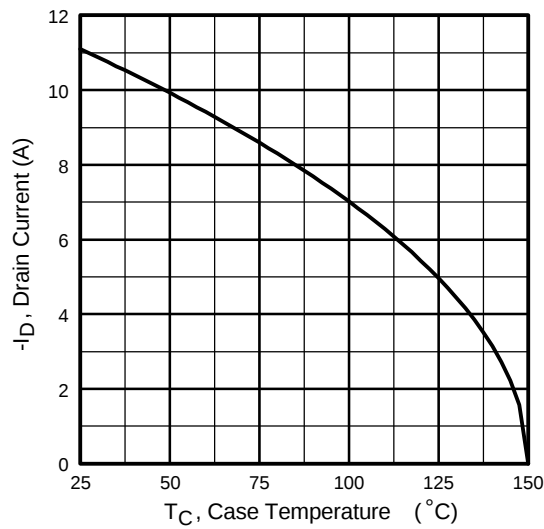


Fig 9. Maximum Drain Current Vs. Case Temperature

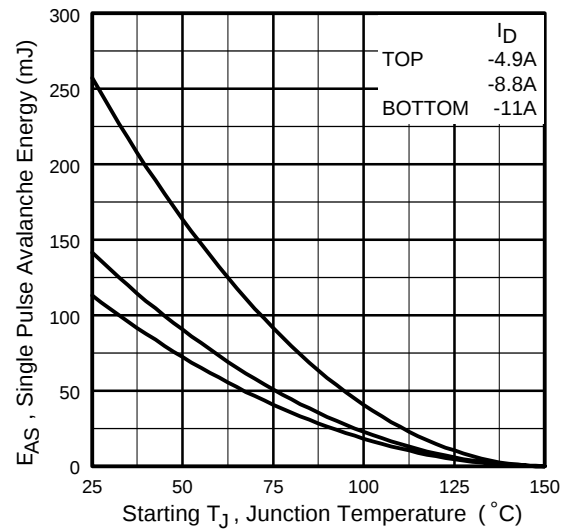


Fig 10. Maximum Avalanche Energy Vs. Drain Current

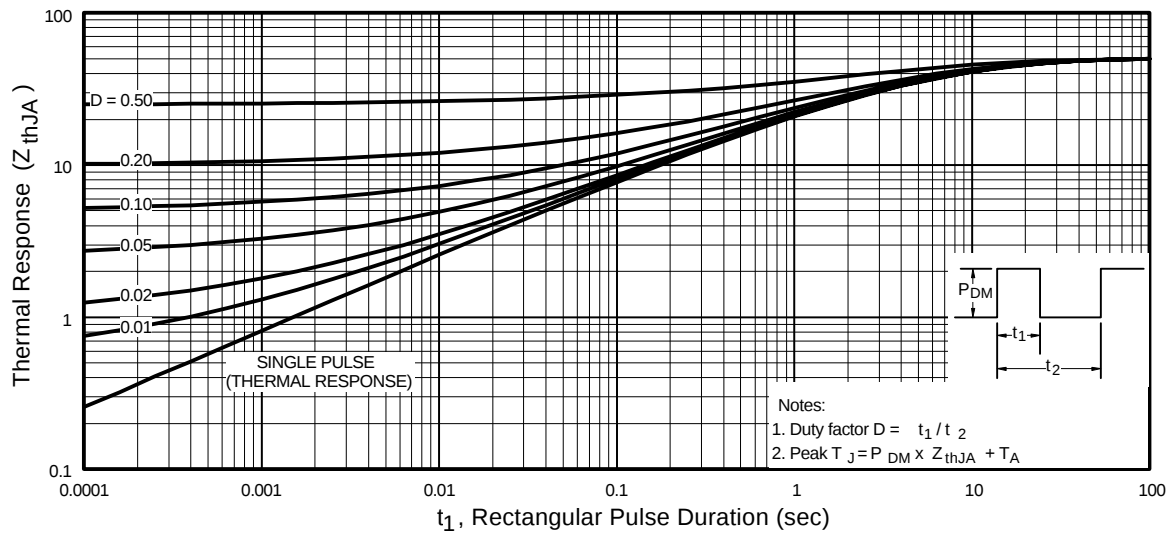
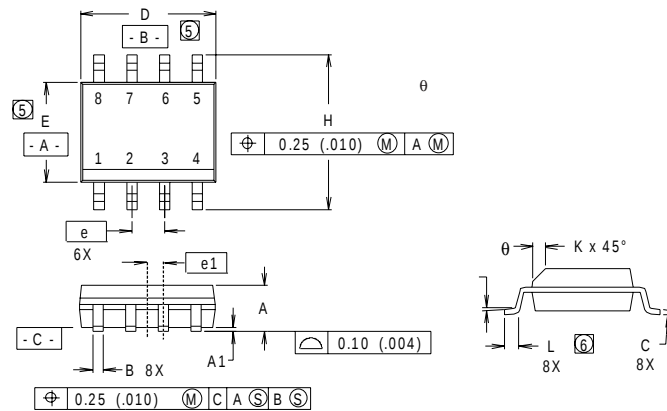


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

IRF7220

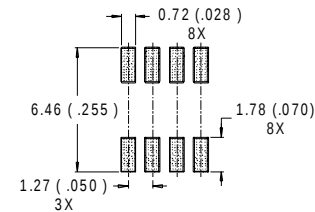
International
IOR Rectifier

SO-8 Package Details



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.0532	.0688	1.35	1.75
A1	.0040	.0098	0.10	0.25
B	.014	.018	0.36	0.46
C	.0075	.0098	0.19	0.25
D	.189	.196	4.80	4.98
E	.150	.157	3.81	3.99
e	.050 BASIC		1.27 BASIC	
e1	.025 BASIC		0.635 BASIC	
H	.2284	.2440	5.80	6.20
K	.011	.019	0.28	0.48
L	0.16	.050	0.41	1.27
θ	0°	8°	0°	8°

RECOMMENDED FOOTPRINT

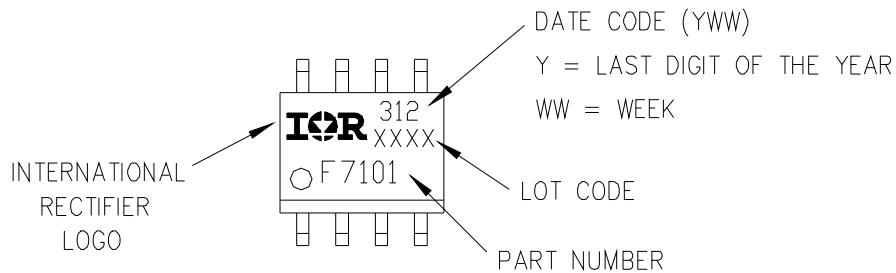


NOTES:

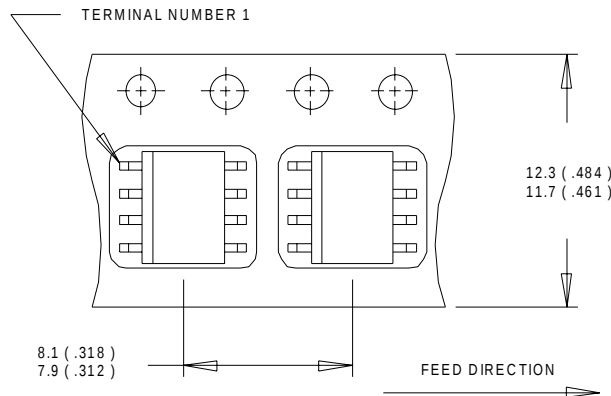
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.
2. CONTROLLING DIMENSION : INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
4. OUTLINE CONFORMS TO JEDEC OUTLINE MS-012AA.
- ⑤ DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS
MOLD PROTRUSIONS NOT TO EXCEED 0.25 (.006).
- ⑥ DIMENSIONS IS THE LENGTH OF LEAD FOR SOLDERING TO A SUBSTRATE..

Part Marking

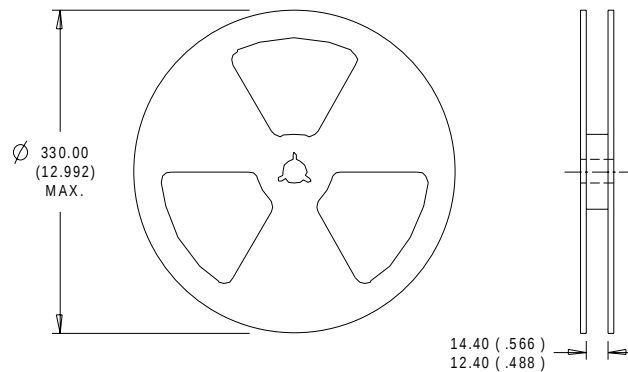
EXAMPLE: THIS IS AN IRF7101



Tape and Reel SO-8



- NOTES:
1. CONTROLLING DIMENSION : MILLIMETER.
 2. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS(INCHES).
 3. OUTLINE CONFORMS TO EIA-481 & EIA-541.



- NOTES :
1. CONTROLLING DIMENSION : MILLIMETER.
 2. OUTLINE CONFORMS TO EIA-481 & EIA-541.

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IR CANADA: 15 Lincoln Court, Brampton, Ontario L6T3Z2, Tel: (905) 453 2200

IR GERMANY: Saalburgstrasse 157, 61350 Bad Homburg Tel: ++ 49 6172 96590

IR ITALY: Via Liguria 49, 10071 Borgaro, Torino Tel: ++ 39 11 451 0111

IR FAR EAST: K&H Bldg., 2F, 30-4 Nishi-Ikebukuro 3-Chome, Toshima-Ku, Tokyo Japan 171 Tel: 81 3 3983 0086

IR SOUTHEAST ASIA: 1 Kim Seng Promenade, Great World City West Tower, 13-11, Singapore 237994 Tel: ++ 65 838 4630

IR TAIWAN: 16 Fl. Suite D. 207, Sec. 2, Tun Haw South Road, Taipei, 10673, Taiwan Tel: 886-2-2377-9936

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