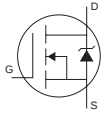


Electrical Characteristics @ $T_J = 25^\circ\text{C}$ (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	30	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	—	0.024	—	V/°C	Reference to 25°C , $I_D = 1mA$
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	—	—	0.030	Ω	$V_{GS} = 10V, I_D = 7.3A$ ④
		—	—	0.050		$V_{GS} = 4.5V, I_D = 3.7A$ ④
$V_{GS(th)}$	Gate Threshold Voltage	1.0	—	—	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
g_{fs}	Forward Transconductance	5.8	—	—	S	$V_{DS} = 15V, I_D = 2.3A$
I_{DSS}	Drain-to-Source Leakage Current	—	—	1.0	μA	$V_{DS} = 24V, V_{GS} = 0V$
		—	—	25		$V_{DS} = 24V, V_{GS} = 0V, T_J = 125^\circ\text{C}$
I_{GSS}	Gate-to-Source Forward Leakage	—	—	-100	nA	$V_{GS} = -20V$
	Gate-to-Source Reverse Leakage	—	—	100		$V_{GS} = 20V$
Q_g	Total Gate Charge	—	19	28	nC	$I_D = 4.6A$
Q_{gs}	Gate-to-Source Charge	—	2.3	3.5		$V_{DS} = 24V$
Q_{gd}	Gate-to-Drain ("Miller") Charge	—	6.3	9.5		$V_{GS} = 10V$, See Fig. 10 ④
$t_{d(on)}$	Turn-On Delay Time	—	7.0	—	ns	$V_{DD} = 15V$
t_r	Rise Time	—	35	—		$I_D = 4.6A$
$t_{d(off)}$	Turn-Off Delay Time	—	21	—		$R_G = 6.2\Omega$
t_f	Fall Time	—	19	—		$R_D = 3.2\Omega$, ④
C_{iss}	Input Capacitance	—	550	—	pF	$V_{GS} = 0V$
C_{oss}	Output Capacitance	—	260	—		$V_{DS} = 25V$
C_{rss}	Reverse Transfer Capacitance	—	100	—		$f = 1.0MHz$, See Fig. 9

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	—	—	58		
V_{SD}	Diode Forward Voltage	—	—	1.2	V	$T_J = 25^\circ\text{C}$, $I_S = 4.6A$, $V_{GS} = 0V$ ③
t_{rr}	Reverse Recovery Time	—	48	73	ns	$T_J = 25^\circ\text{C}$, $I_F = 4.6A$
Q_{rr}	Reverse Recovery Charge	—	73	110	nC	$di/dt = 100A/\mu s$ ⑤

Notes:

① Repetitive rating; pulse width limited by max. junction temperature. (See fig. 11)

② $V_{DD} = 15V$, starting $T_J = 25^\circ\text{C}$, $L = 6.6mH$
 $R_G = 25\Omega$, $I_{AS} = 4.6A$. (See Figure 8)

③ $I_{SD} \leq 4.6A$, $di/dt \leq 120A/\mu s$, $V_{DD} \leq V_{(BR)DSS}$,
 $T_J \leq 150^\circ\text{C}$

④ Pulse width $\leq 300\mu s$; duty cycle $\leq 2\%$.

⑤ When mounted on 1 inch square copper board, $t < 10$ sec

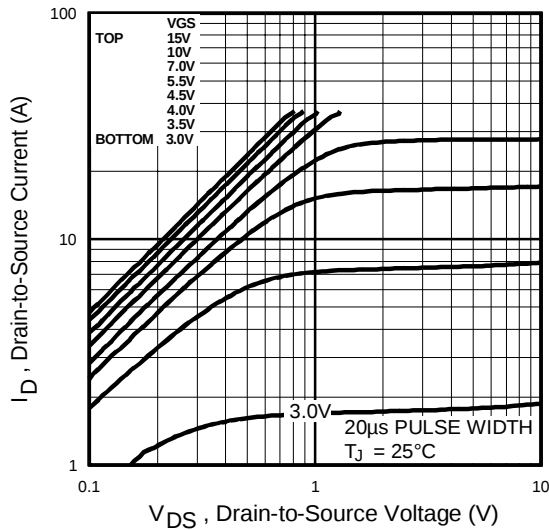


Fig 1. Typical Output Characteristics

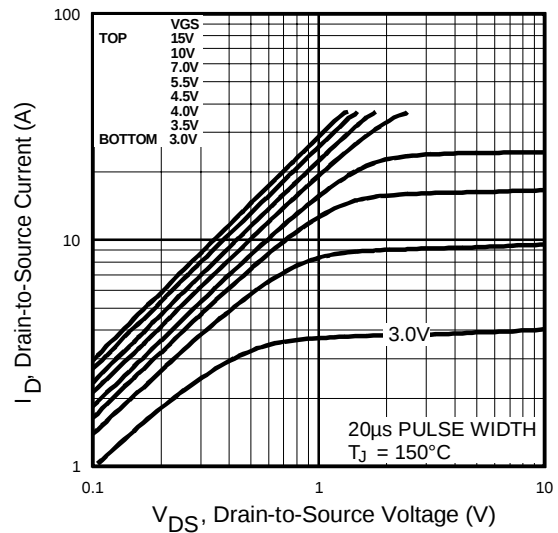


Fig 2. Typical Output Characteristics

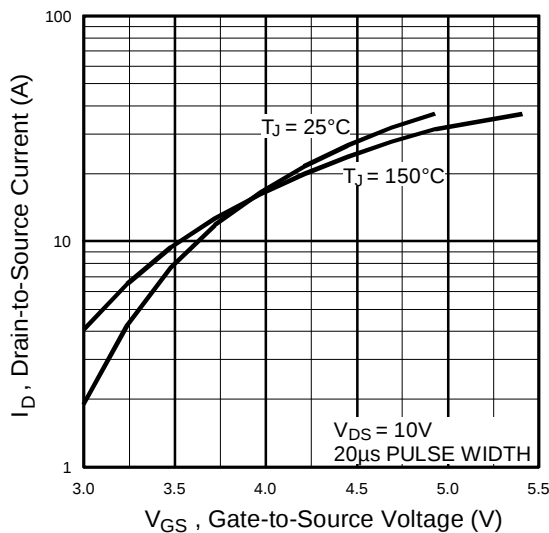


Fig 3. Typical Transfer Characteristics

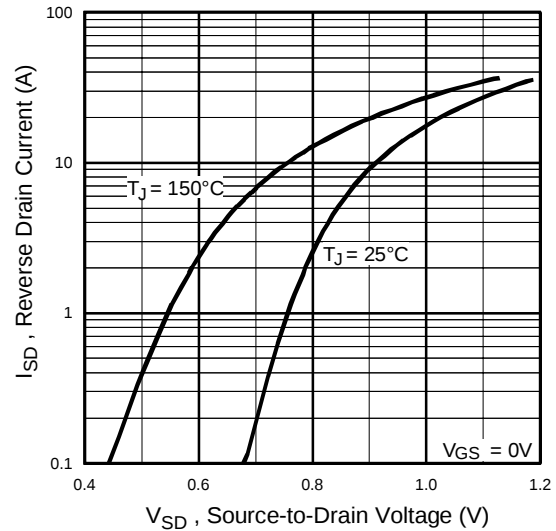


Fig 4. Typical Source-Drain Diode Forward Voltage

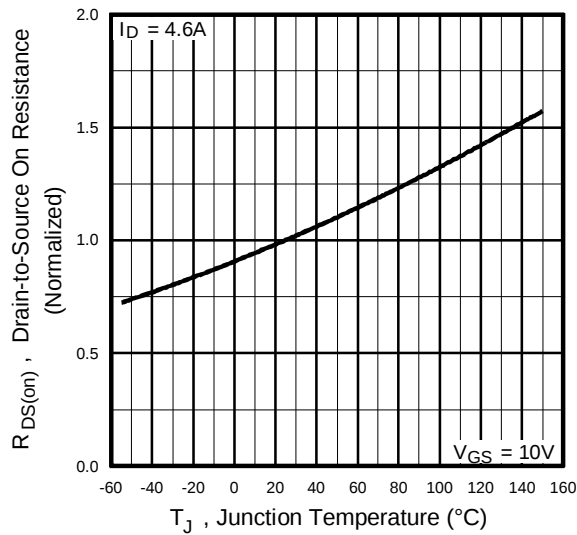


Fig 5. Normalized On-Resistance Vs. Temperature

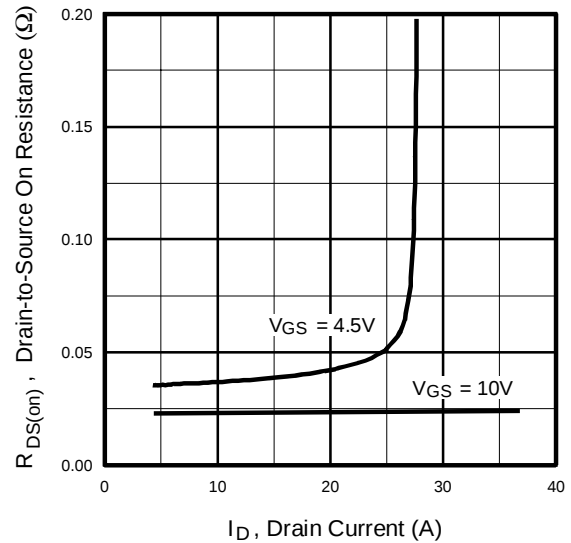


Fig 6. On-Resistance Vs. Drain Current

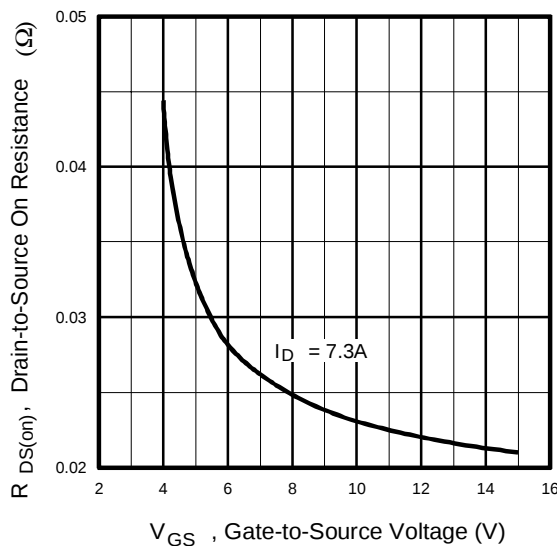


Fig 7. On-Resistance Vs. Gate Voltage

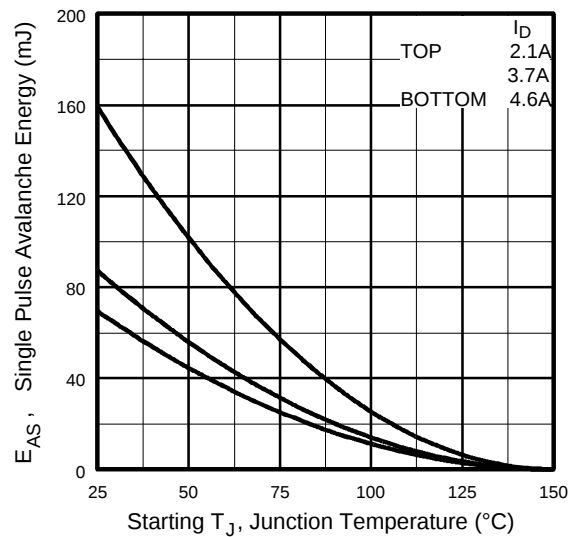


Fig 8. Maximum Avalanche Energy Vs. Drain Current

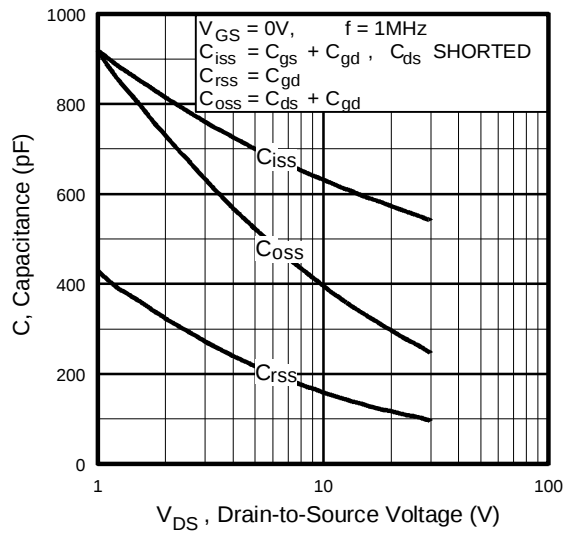


Fig 9. Typical Capacitance Vs. Drain-to-Source Voltage

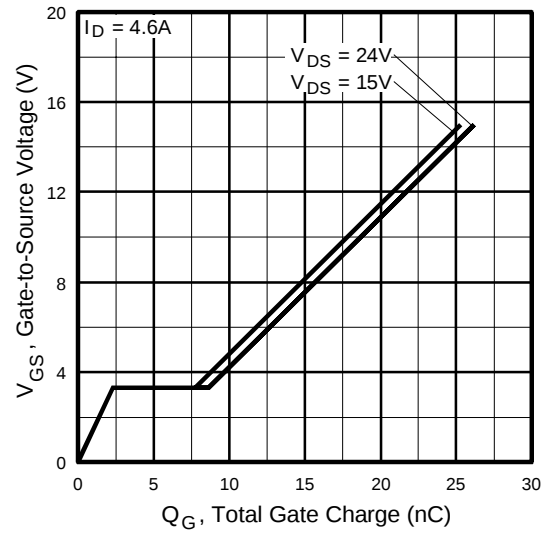


Fig 10. Typical Gate Charge Vs. Gate-to-Source Voltage

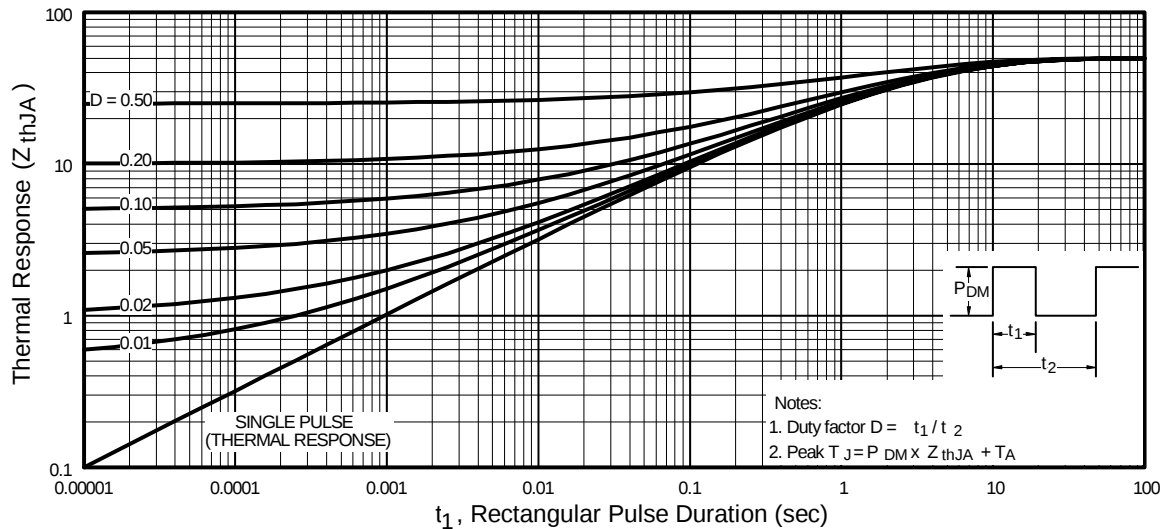
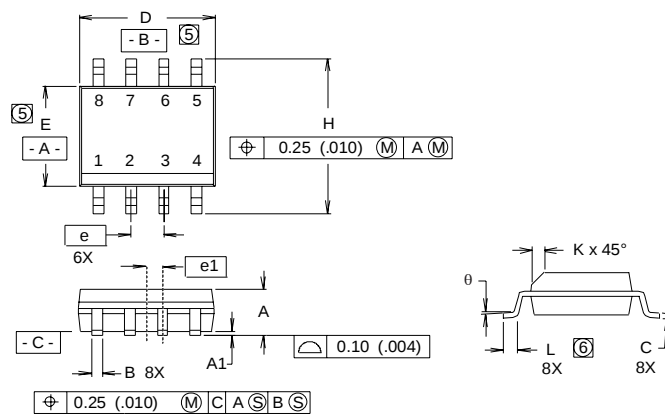


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

IRF7201

International
IOR Rectifier

SO-8 Package Details

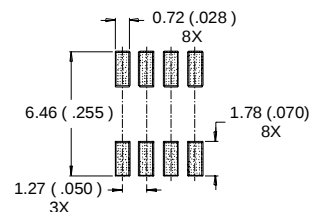


NOTES:

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..

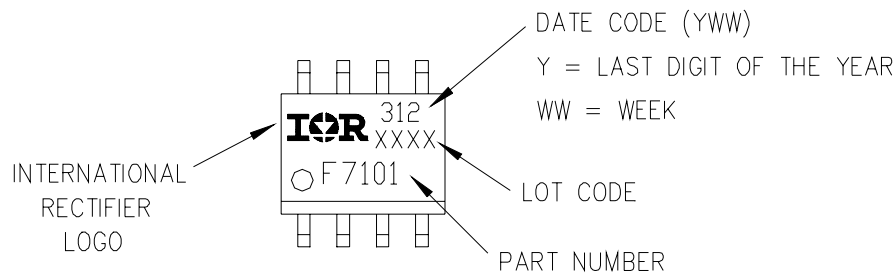
DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.0532	.0688	1.35	1.75
A1	.0040	.0098	0.10	0.25
B	.014	.018	0.36	0.46
C	.0075	.0098	0.19	0.25
D	.189	.196	4.80	4.98
E	.150	.157	3.81	3.99
e	.050 BASIC		1.27 BASIC	
e1	.025 BASIC		0.635 BASIC	
H	.2284	.2440	5.80	6.20
K	.011	.019	0.28	0.48
L	0.16	.050	0.41	1.27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

RECOMMENDED FOOTPRINT

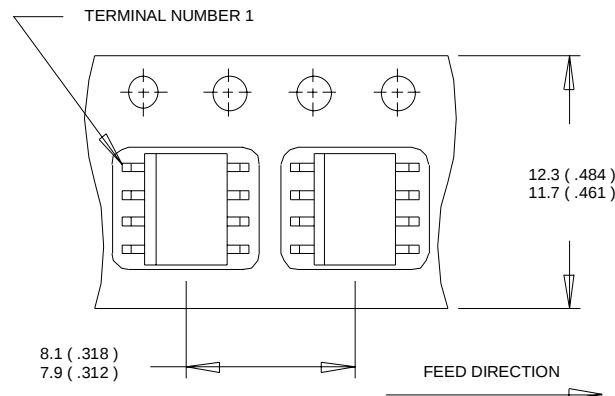


SO-8 Part Marking

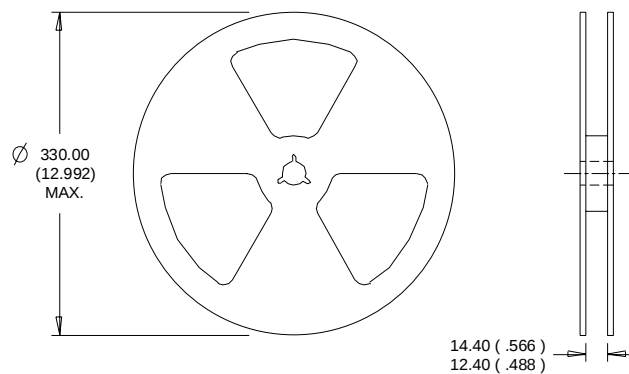
EXAMPLE: THIS IS AN IRF7101



SO-8 Tape and Reel



- 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.

Data and specifications subject to change without notice.

International
IOR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105

TAC Fax: (310) 252-7903

Visit us at www.irf.com for sales contact information.08/03

www.irf.com