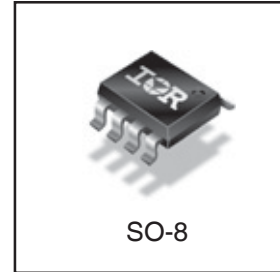
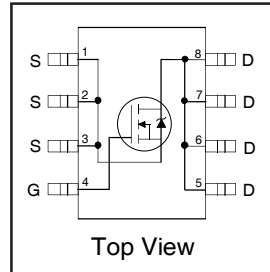


V_{DS}	40	V
$R_{DS(on) \max}$ (@ $V_{GS} = 10V$)	17	m Ω
$R_{DS(on) \max}$ (@ $V_{GS} = 4.5V$)	21	
Q_g (typical)	15	nC
I_D (@ $T_A = 25^\circ C$)	9.0	A

HEXFET® Power MOSFET



Features

Industry-standard pinout SO-8 Package
Compatible with Existing Surface Mount Techniques
RoHS Compliant, Halogen-Free
MSL1, Industrial qualification



Benefits

Multi-Vendor Compatibility
Easier Manufacturing
Environmentally Friendlier
Increased Reliability

Base Part Number	Package Type	Standard Pack		Orderable Part Number
		Form	Quantity	
IRF7469PbF-1	SO-8	Tube/Bulk	95	IRF7469PbF-1
		Tape and Reel	4000	IRF7469TRPbF-1

Absolute Maximum Ratings

Symbol	Parameter	Max.	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-to-Source Voltage	± 20	V
$I_D @ T_A = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	9.0	A
$I_D @ T_A = 70^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	7.3	
I_{DM}	Pulsed Drain Current ^①	73	
$P_D @ T_A = 25^\circ C$	Maximum Power Dissipation ^③	2.5	W
$P_D @ T_A = 70^\circ C$	Maximum Power Dissipation ^③	1.6	W
	Linear Derating Factor	0.02	mW/ $^\circ C$
T_J, T_{STG}	Junction and Storage Temperature Range	-55 to +150	$^\circ C$

Thermal Resistance

Symbol	Parameter	Typ.	Max.	Units
$R_{\theta JL}$	Junction-to-Drain Lead	—	20	$^\circ C/W$
$R_{\theta JA}$	Junction-to-Ambient ^④	—	50	

Notes ① through ④ are on page 8

Static @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{(BR)DSS}	Drain-to-Source Breakdown Voltage	40	—	—	V	V _{GS} = 0V, I _D = 250μA
ΔV _{(BR)DSS} /ΔT _J	Breakdown Voltage Temp. Coefficient	—	0.04	—	V/°C	Reference to 25°C, I _D = 1mA
R _{DS(on)}	Static Drain-to-Source On-Resistance	—	12	17	mΩ	V _{GS} = 10V, I _D = 9.0A ③
		—	15.5	21		V _{GS} = 4.5V, I _D = 7.2A ③
V _{GS(th)}	Gate Threshold Voltage	1.0	—	3.0	V	V _{DS} = V _{GS} , I _D = 250μA
I _{DSS}	Drain-to-Source Leakage Current	—	—	20	μA	V _{DS} = 32V, V _{GS} = 0V
		—	—	100		V _{DS} = 32V, V _{GS} = 0V, T _J = 125°C
I _{GSS}	Gate-to-Source Forward Leakage	—	—	200	nA	V _{GS} = 16V
	Gate-to-Source Reverse Leakage	—	—	-200		V _{GS} = -16V

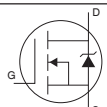
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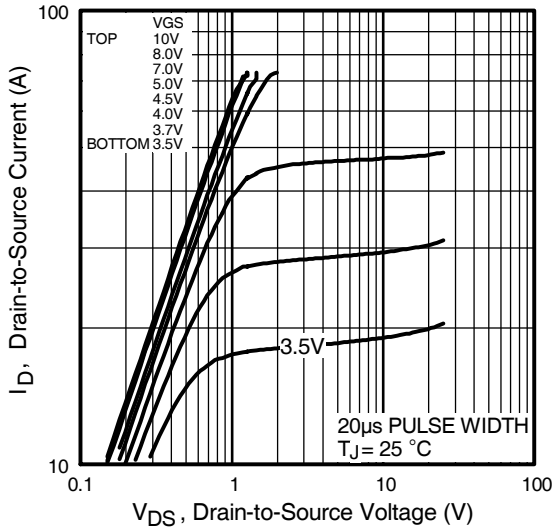
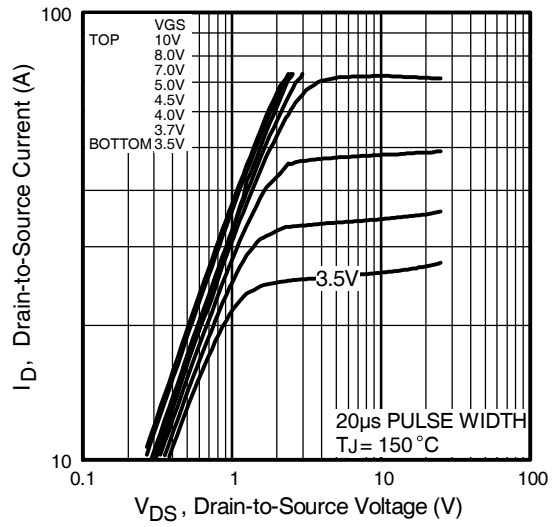
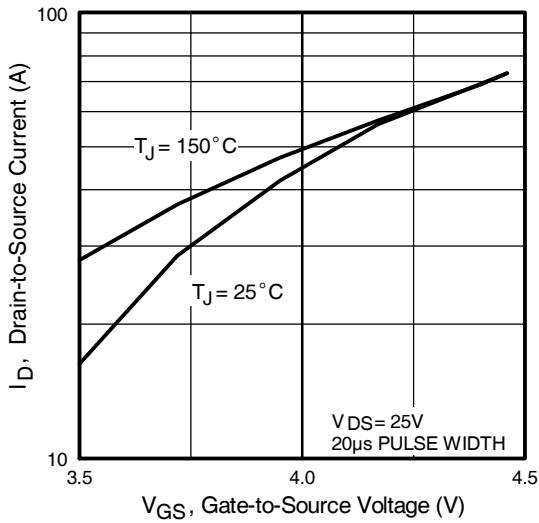
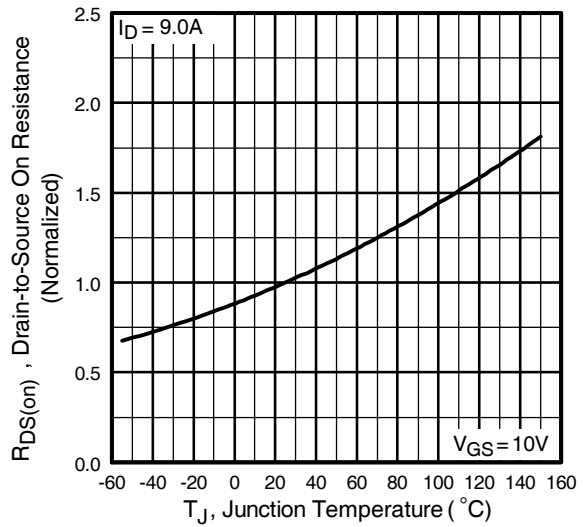
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
g _{fs}	Forward Transconductance	17	—	—	S	V _{DS} = 20V, I _D = 7.2A
Q _g	Total Gate Charge	—	15	23	nC	I _D = 7.2A
Q _{gs}	Gate-to-Source Charge	—	7.0	11		V _{DS} = 20V
Q _{gd}	Gate-to-Drain ("Miller") Charge	—	5.0	8.0		V _{GS} = 4.5V ③
Q _{oss}	Output Gate Charge	—	16	24		V _{GS} = 0V, V _{DS} = 16V
t _{d(on)}	Turn-On Delay Time	—	11	—	ns	V _{DD} = 20V
t _r	Rise Time	—	2.2	—		I _D = 7.2A
t _{d(off)}	Turn-Off Delay Time	—	14	—		R _G = 1.8Ω
t _f	Fall Time	—	3.5	—		V _{GS} = 4.5V ③
C _{iss}	Input Capacitance	—	2000	—	pF	V _{GS} = 0V
C _{oss}	Output Capacitance	—	480	—		V _{DS} = 20V
C _{rss}	Reverse Transfer Capacitance	—	28	—		f = 1.0MHz

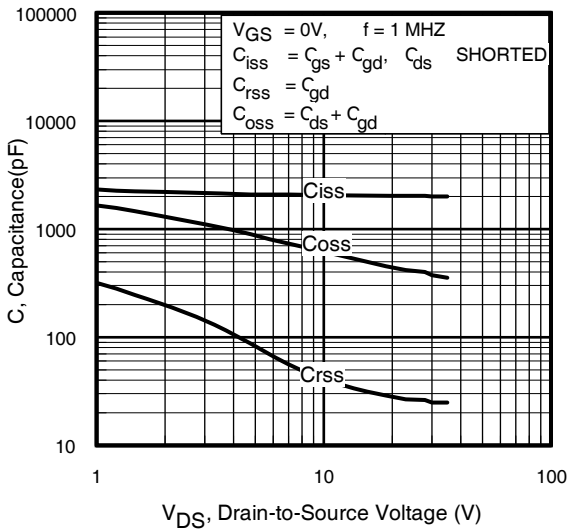
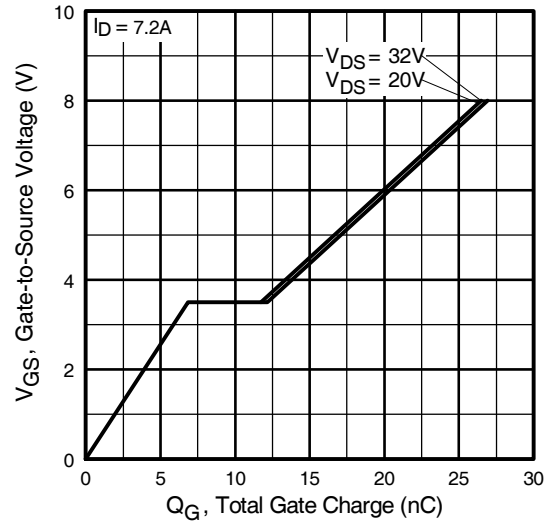
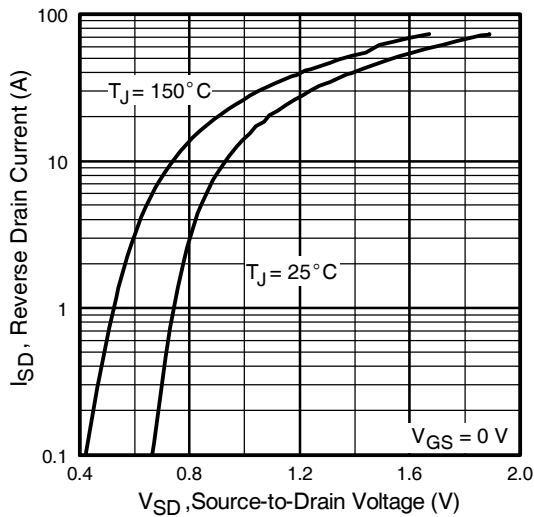
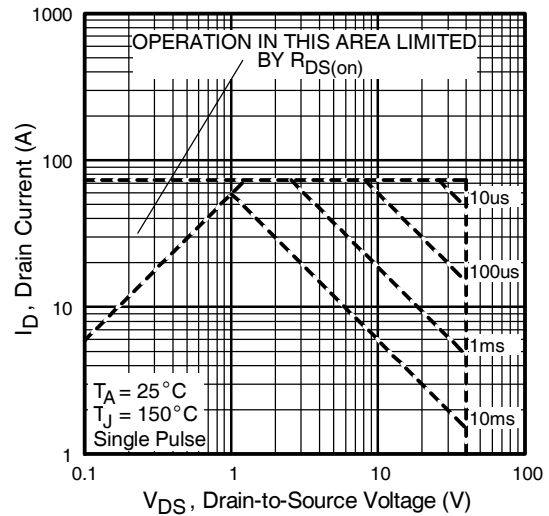
Avalanche Characteristics

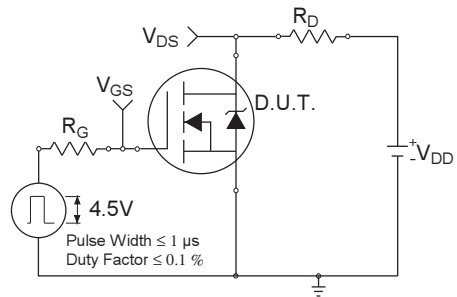
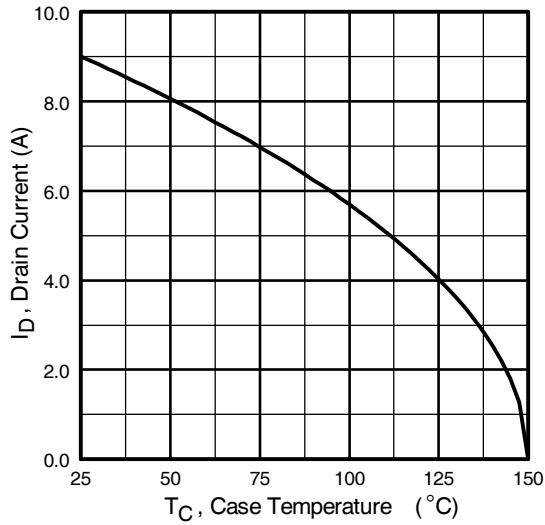
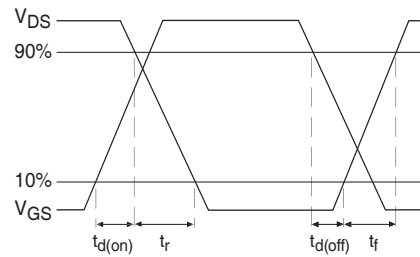
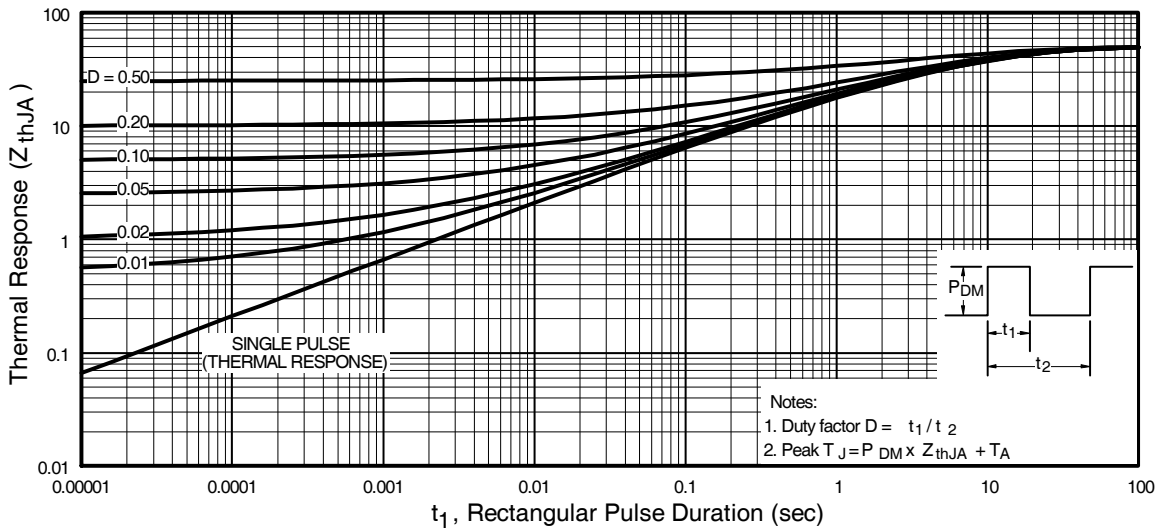
Symbol	Parameter	Typ.	Max.	Units
E _{AS}	Single Pulse Avalanche Energy②	—	210	mJ
I _{AR}	Avalanche Current①	—	7.2	A

Diode Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I _S	Continuous Source Current (Body Diode)	—	—	2.3	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I _{SM}	Pulsed Source Current (Body Diode) ①	—	—	73		
V _{SD}	Diode Forward Voltage	—	0.80	1.3	V	T _J = 25°C, I _S = 7.2A, V _{GS} = 0V ③
		—	0.65	—		T _J = 125°C, I _S = 7.2A, V _{GS} = 0V ③
t _{rr}	Reverse Recovery Time	—	47	71	ns	T _J = 25°C, I _F = 7.2A, V _R = 15V
Q _{rr}	Reverse Recovery Charge	—	91	140	nC	di/dt = 100A/μs ③
t _{rr}	Reverse Recovery Time	—	77	120	ns	T _J = 125°C, I _F = 7.2A, V _R = 20V
Q _{rr}	Reverse Recovery Charge	—	150	230	nC	di/dt = 100A/μs ③


Fig 1. Typical Output Characteristics

Fig 2. Typical Output Characteristics

Fig 3. Typical Transfer Characteristics

Fig 4. Normalized On-Resistance Vs. Temperature


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 10a. Switching Time Test Circuit

Fig 10b. Switching Time Waveforms

Fig 10. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

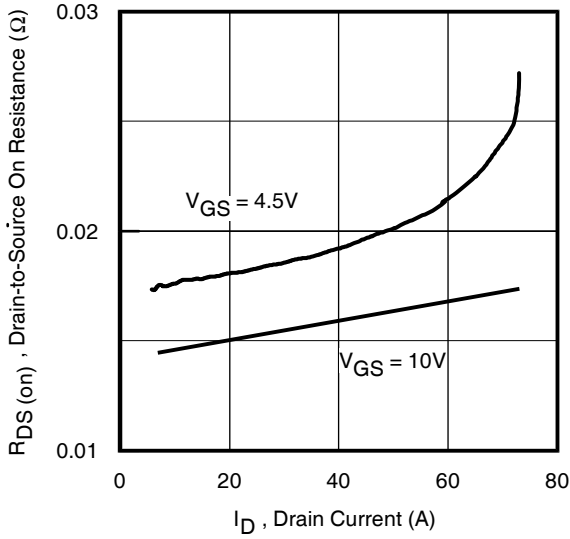


Fig 12. On-Resistance Vs. Drain Current

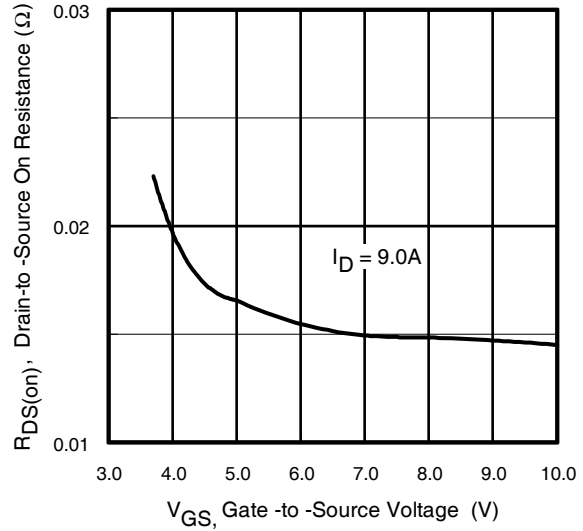


Fig 13. On-Resistance Vs. Gate Voltage

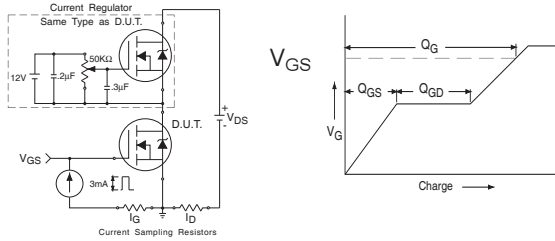


Fig 13a&b. Basic Gate Charge Test Circuit and Waveform

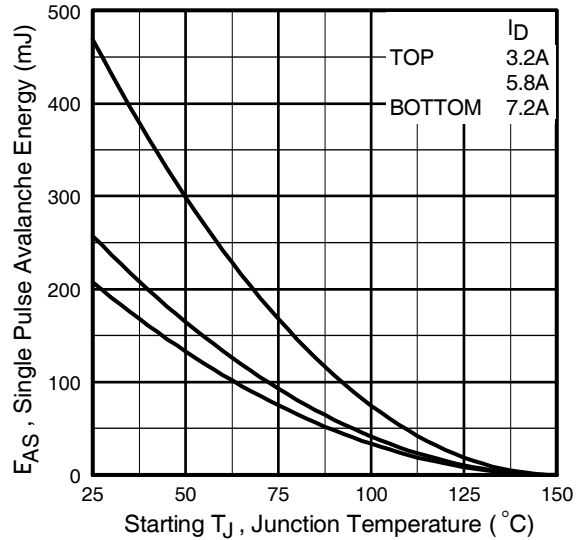


Fig 14c. Maximum Avalanche Energy Vs. Drain Current

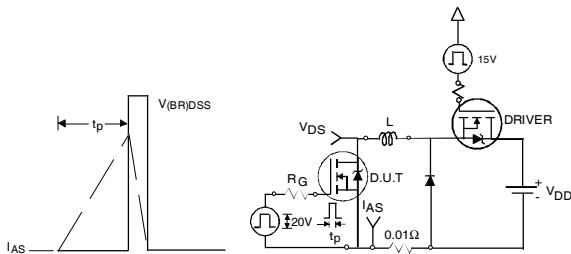
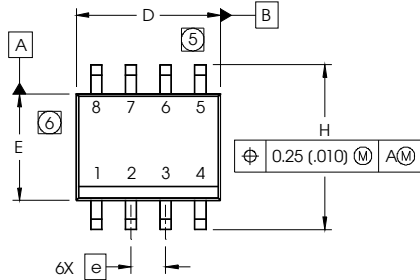


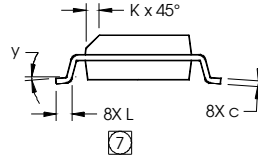
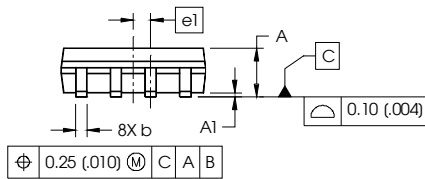
Fig 14a&b. Unclamped Inductive Test circuit and Waveforms

SO-8 Package Outline (MOSFET & Fetky)

Dimensions are shown in millimeters (inches)



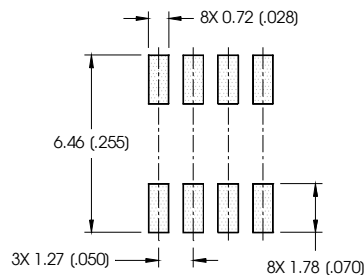
DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.0532	.0688	1.35	1.75
A1	.0040	.0098	0.10	0.25
b	.013	.020	0.33	0.51
c	.0075	.0098	0.19	0.25
D	.189	.1968	4.80	5.00
E	.1497	.1574	3.80	4.00
e	.050 BASIC		1.27 BASIC	
e1	.025 BASIC		0.635 BASIC	
H	.2284	.2440	5.80	6.20
K	.0099	.0196	0.25	0.50
L	.016	.050	0.40	1.27
y	0°	8°	0°	8°



NOTES:

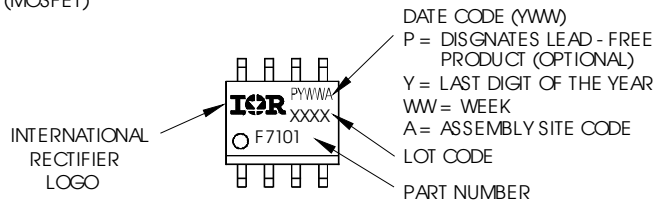
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994.
2. CONTROLLING DIMENSION: MILLIMETER
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
4. OUTLINE CONFORMS TO JEDEC OUTLINE MS-012AA
- ⑤ DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS. MOLD PROTRUSIONS NOT TO EXCEED 0.15 (.006).
- ⑥ DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS. MOLD PROTRUSIONS NOT TO EXCEED 0.25 (.010).
- ⑦ DIMENSION IS THE LENGTH OF LEAD FOR SOLDERING TO A SUBSTRATE.

FOOTPRINT



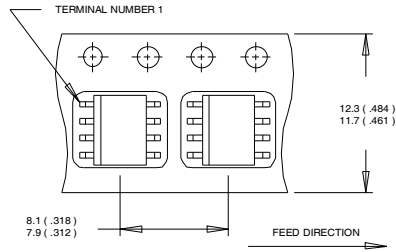
SO-8 Part Marking Information

EXAMPLE: THIS IS AN IRF7101 (MOSFET)

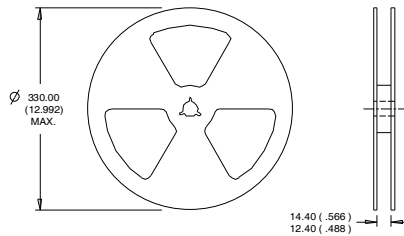


Note: For the most current drawing please refer to IR website at: <http://www.irf.com/package/>

SO-8 Tape and Reel (Dimensions are shown in millimeters (inches))



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.

Note: For the most current drawing please refer to IR website at: <http://www.irf.com/package/>

Notes:

- ① Repetitive rating; pulse width limited by max. junction temperature.
- ② Starting $T_J = 25^\circ\text{C}$, $L = 8.1\text{mH}$, $R_G = 25\Omega$, $I_{AS} = 7.2\text{A}$.
- ③ Pulse width $\leq 400\mu\text{s}$; duty cycle $\leq 2\%$.
- ④ When mounted on 1 inch square copper board.

Qualification information[†]

Qualification level	Industriid (per JEDEC JESD47F ^{††} guidelines)	
Moisture Sensitivity Level	SO-8	MSL1 (per JEDEC J-STD-020D ^{††})
RoHS compliant	Yes	

[†] Qualification standards can be found at International Rectifier's web site: <http://www.irf.com/product-info/reliability>

^{††} Applicable version of JEDEC standard at the time of product release

单击下面可查看定价，库存，交付和生命周期等信息

[>>Infineon Technologies\(英飞凌\)](#)