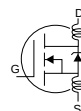


Electrical Characteristics @ $T_J = 25^\circ\text{C}$ (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	20	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	—	0.025	—	V/ $^\circ\text{C}$	Reference to 25°C , $I_D = 1mA$
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance	—	—	0.10	Ω	$V_{GS} = 10V, I_D = 1.8A$ ③
		—	—	0.15		$V_{GS} = 4.5V, I_D = 1.0A$ ③
$V_{GS(th)}$	Gate Threshold Voltage	1.0	—	3.0	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
g_{fs}	Forward Transconductance	1.1	—	—	S	$V_{DS} = 15V, I_D = 3.5A$ ③
I_{DSS}	Drain-to-Source Leakage Current	—	—	2.0	μA	$V_{DS} = 20V, V_{GS} = 0V$
		—	—	250		$V_{DS} = 16V, V_{GS} = 0V, T_J = 125^\circ\text{C}$
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	—	—	15	nC	$I_D = 1.8A$
Q_{gs}	Gate-to-Source Charge	—	—	2.0		$V_{DS} = 16V$
Q_{gd}	Gate-to-Drain ("Miller") Charge	—	—	3.6		$V_{GS} = 10V$
$t_{d(on)}$	Turn-On Delay Time	—	7.0	—	ns	$V_{DD} = 10V$
t_r	Rise Time	—	10	—		$I_D = 1.8A$
$t_{d(off)}$	Turn-Off Delay Time	—	24	—		$R_G = 8.2\Omega$
t_f	Fall Time	—	30	—		$R_D = 26\Omega$
L_D	Internal Drain Inductance	—	4.0	—	nH	Between lead, 6mm(0.25in.) from package and center of die contact
L_S	Internal Source Inductance	—	6.0	—		
C_{iss}	Input Capacitance	—	320	—	pF	$V_{GS} = 0V$
C_{oss}	Output Capacitance	—	250	—		$V_{DS} = 15V$
C_{rss}	Reverse Transfer Capacitance	—	75	—		$f = 1.0MHz$



Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)	—	—	2.0	A	MOSFET symbol showing the integral reverse p-n junction diode.
I_{SM}	Pulsed Source Current (Body Diode) ①	—	—	14		
V_{SD}	Diode Forward Voltage	—	—	1.2	V	$T_J = 25^\circ\text{C}, I_S = 1.7A, V_{GS} = 0V$ ③
t_{rr}	Reverse Recovery Time	—	36	54	ns	$T_J = 25^\circ\text{C}, I_F = 1.7A$
Q_{rr}	Reverse Recovery Charge	—	41	62	nC	$di/dt = 100A/\mu s$ ③
t_{on}	Forward Turn-On Time	Intrinsic turn-on time is negligible (turn-on is dominated by $L_S + L_D$)				

Notes:

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

③ Pulse width $\leq 300\mu s$; duty cycle $\leq 2\%$.

② $I_{SD} \leq 3.5A$, $di/dt \leq 90A/\mu s$, $V_{DD} \leq V_{(BR)DSS}$, $T_J \leq 150^\circ\text{C}$

④ Surface mounted on FR-4 board, $t \leq 10sec$.

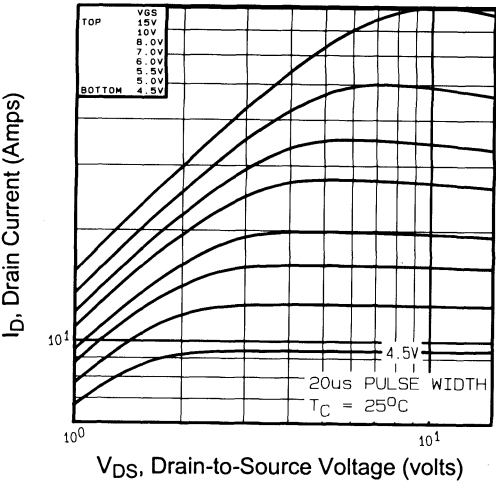


Fig 1. Typical Output Characteristics,

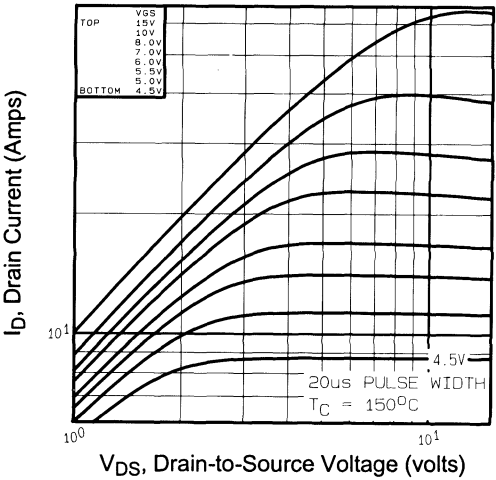


Fig 2. Typical Output Characteristics,

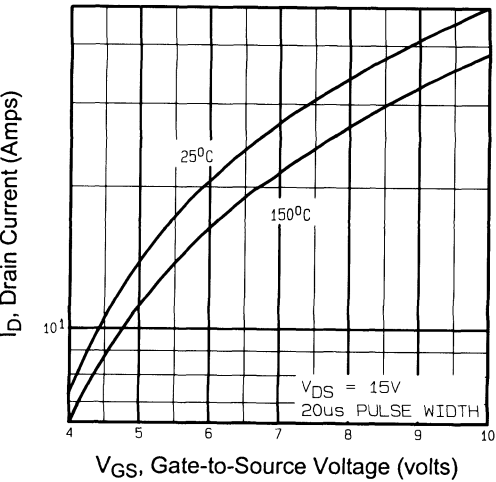


Fig 3. Typical Transfer Characteristics

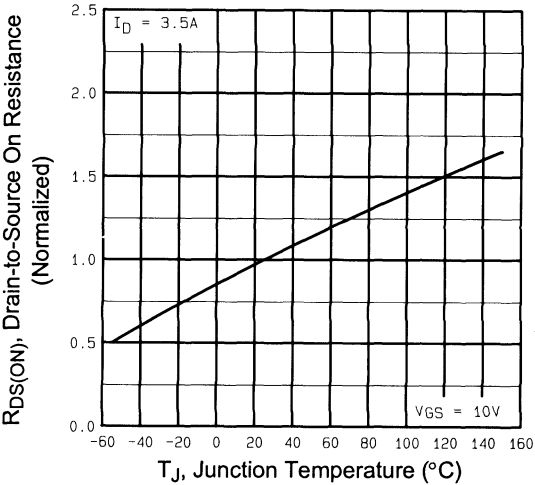


Fig 4. Normalized On-Resistance
Vs. Temperature

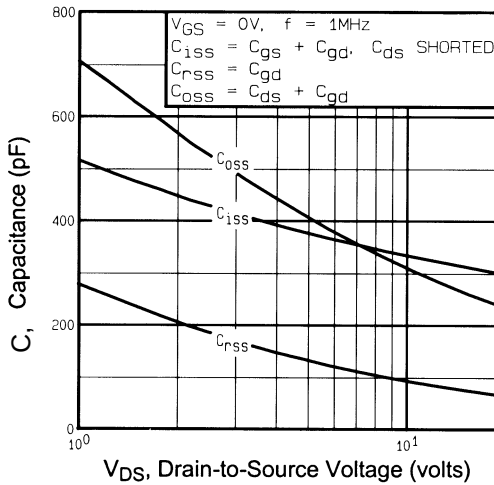


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

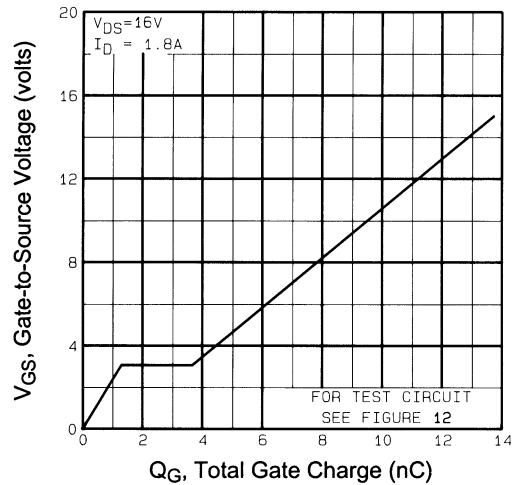


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

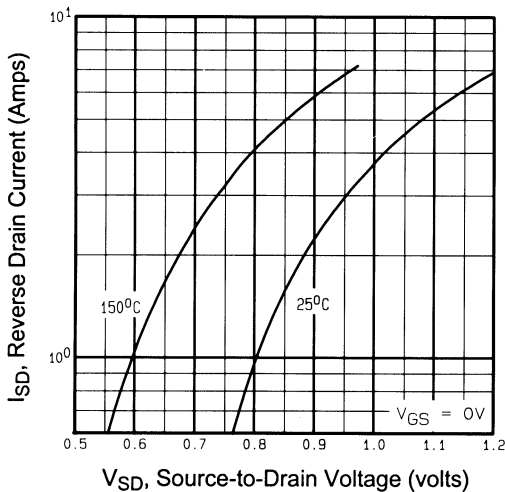


Fig 7. Typical Source-Drain Diode Forward Voltage

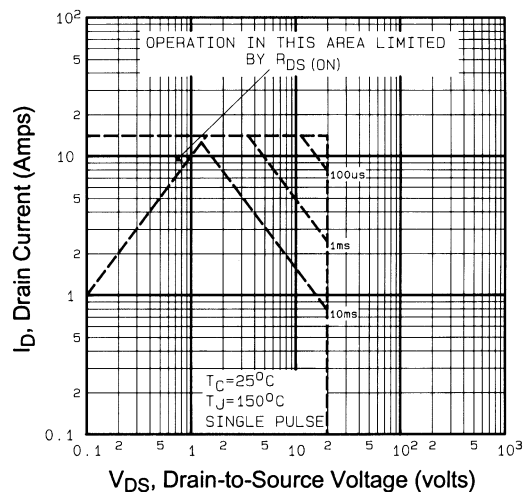


Fig 8. Maximum Safe Operating Area

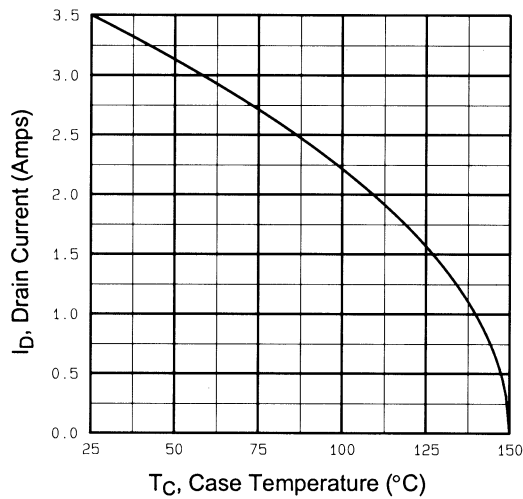


Fig 9. Maximum Drain Current Vs. Case Temperature

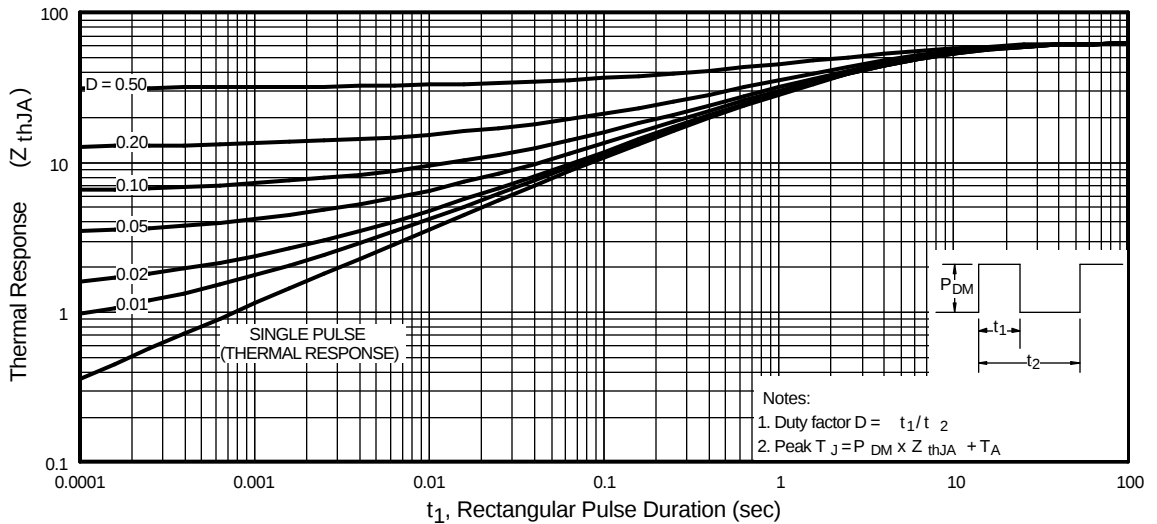


Fig 10. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

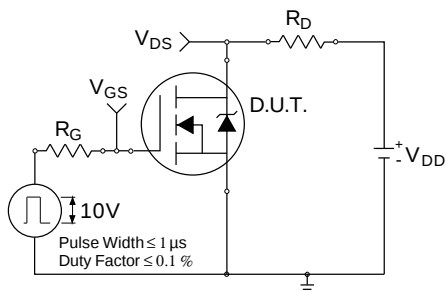


Fig 11a. Switching Time Test Circuit

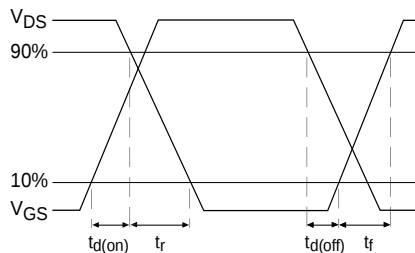


Fig 11b. Switching Time Waveforms

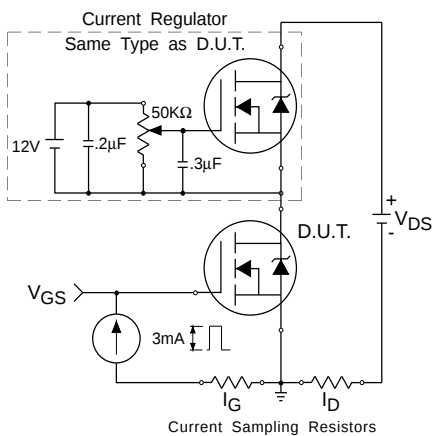


Fig 12a. Gate Charge Test Circuit

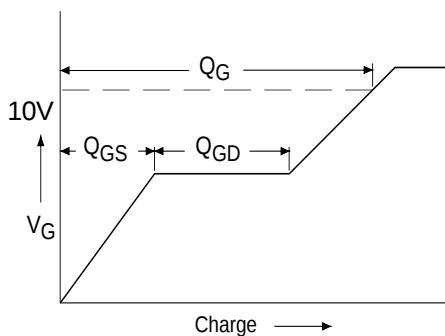
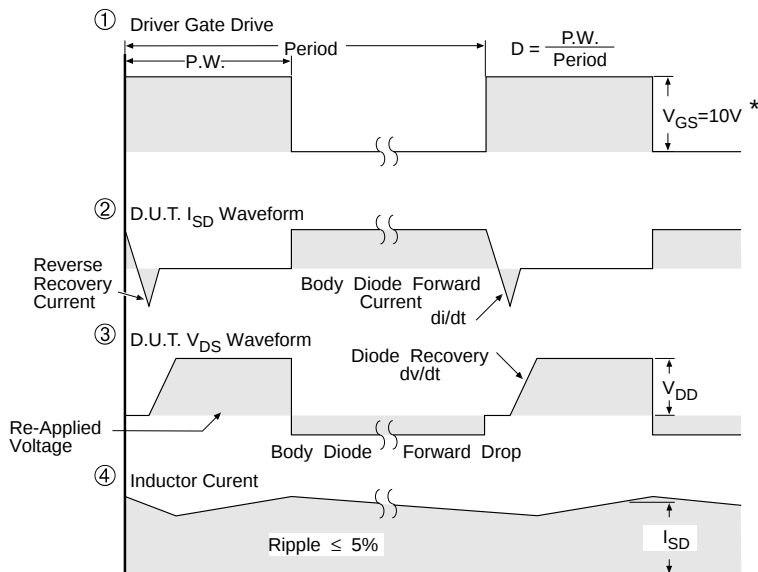
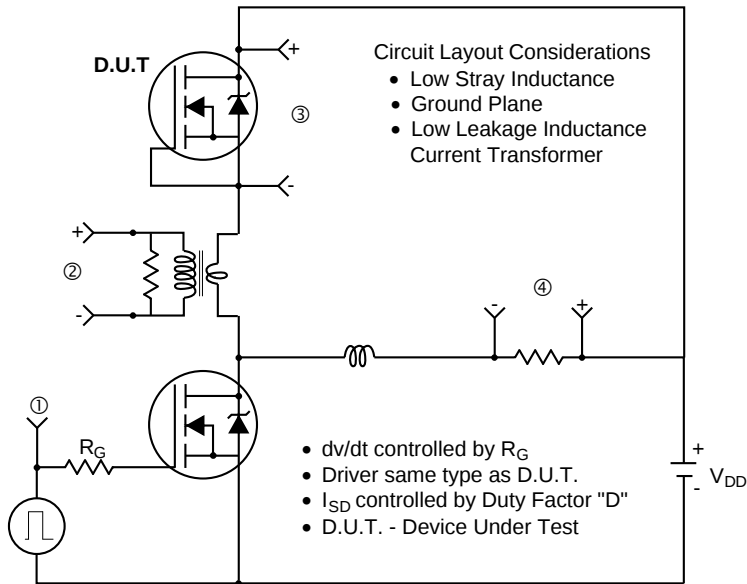


Fig 12b. Basic Gate Charge Waveform

Peak Diode Recovery dv/dt Test Circuit



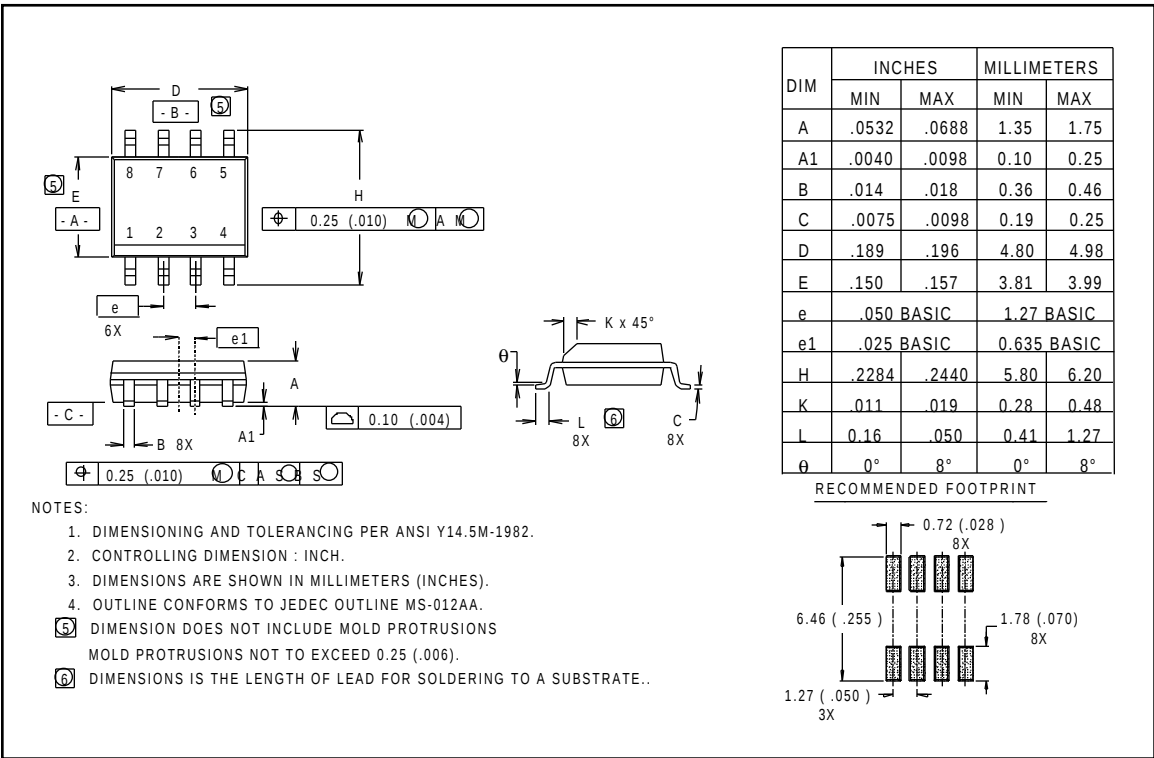
* $V_{GS} = 5V$ for Logic Level Devices

Fig 13. For N-Channel HEXFETS

IRF7101

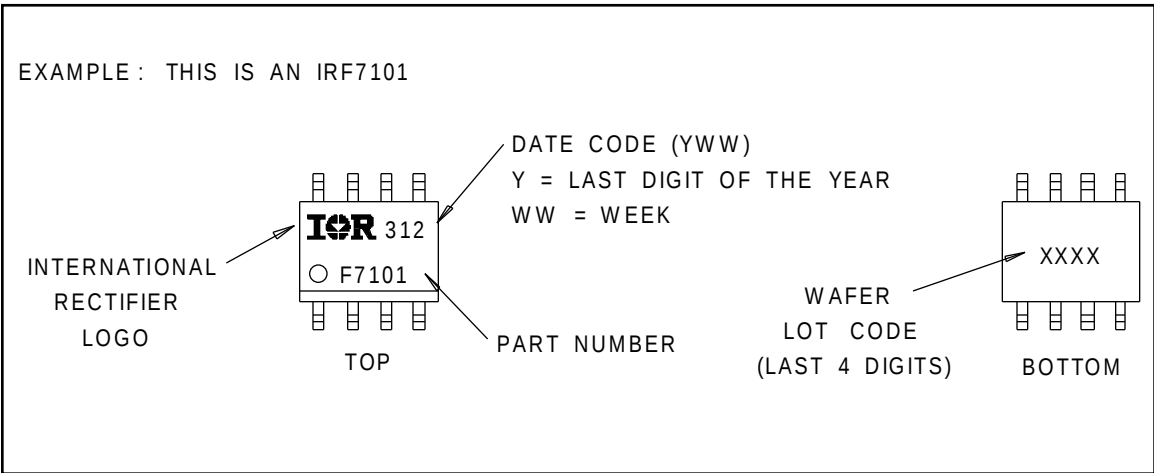
Package Outline

SO8 Outline



Part Marking Information

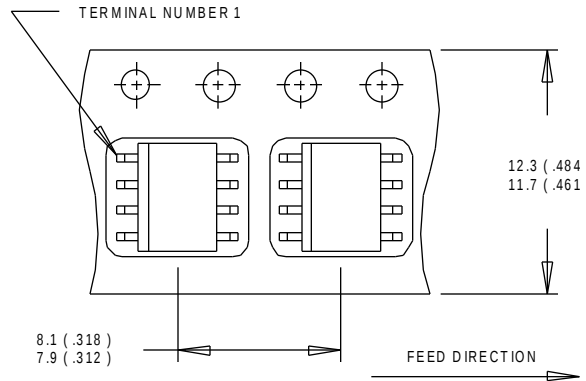
SO8



Tape & Reel Information

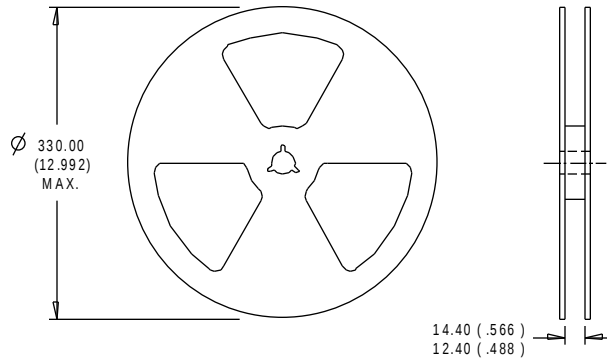
SO8

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.

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

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

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Data and specifications subject to change without notice.

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