



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



**DUAL LOW SIDE DRIVER**

**Features**

- Gate drive supply range from 10.2 V to 20 V
- CMOS Schmitt-triggered inputs
- 3.3V and 5V logic compatible
- Two independent gate drivers
- Matched propagation delay for both channels
- Outputs out of phase with inputs
- Leadfree, RoHS compliant

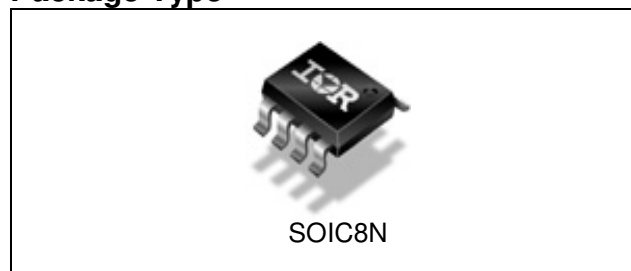
**Typical Applications**

- General Purpose Dual Low Side Driver
- DC-DC converters

**Product Summary**

Topology	General Driver
V <sub>OUT</sub>	10V - 20V
I <sub>o+</sub> & I <sub>o-</sub> (typical)	2.3A & 3.3A
t <sub>on</sub> & t <sub>off</sub> (typical)	50ns & 50ns

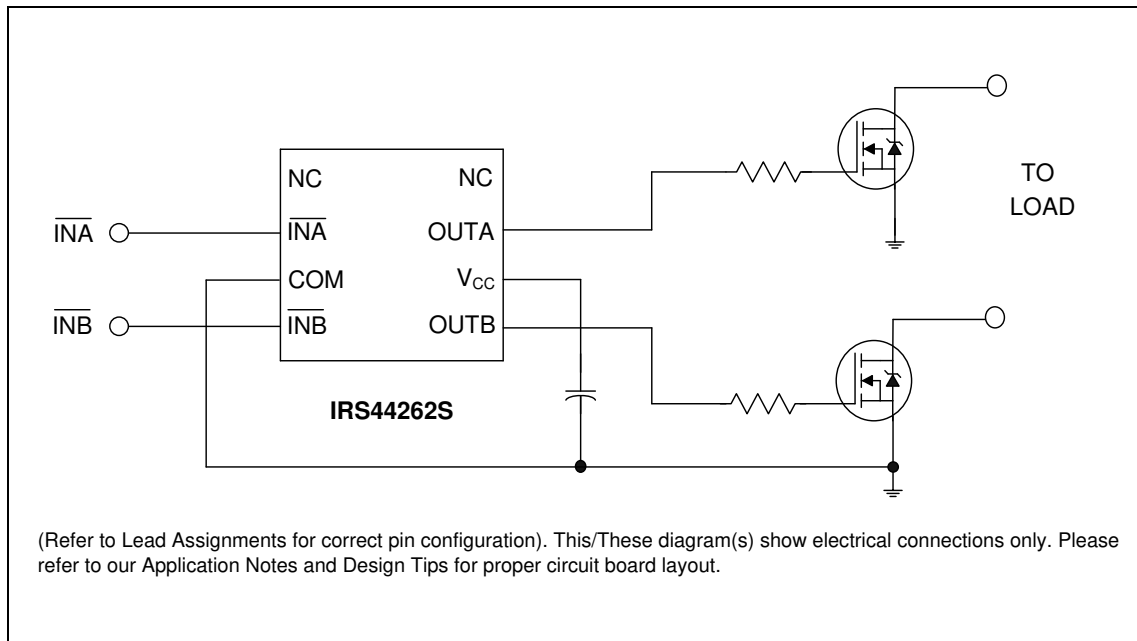
**Package Type**



**Ordering Information**

Base Part Number	Package Type	Standard Pack		Complete Part Number
		Form	Quantity	
IRS44262S	SOIC8N	Tube/Bulk	95	IRS44262SPBF
		Tape and Reel	2500	IRS44262STRPBF

**Typical Connection Diagram**



<b>Table of Contents</b>	<b>Page</b>
Ordering Information	1
Typical connection diagram	2
Description	4
Absolute Maximum Ratings	5
Recommended Operating Conditions	5
Static Electrical Characteristics	6
Dynamic Electrical Characteristics	6
Functional Block Diagram	7
Input/Output Pin Equivalent Circuit Diagram	8
Lead Definitions	9
Lead Assignments	9
Application Information and Additional Details	10
Package Details: SOIC8	12
Package Details: SOIC8, Tape and Reel	13
Part Marking Information	14
Qualification Information	15

### **Description**

The IRS44262S is a low voltage, high speed power MOSFET and IGBT driver. Proprietary latch immune CMOS technologies enable ruggedized monolithic construction. The logic input is compatible with standard CMOS or LSTTL output. The output drivers feature a high pulse current buffer stage designed for minimum driver cross-conduction. Propagation delays between two channels are matched.

### Absolute Maximum Ratings

Absolute Maximum Ratings indicate sustained limits beyond which damage to the device may occur. All voltage

Symbol	Definition	Min	Max	Units
$V_{CC}$	Supply voltage	-0.3	20	V
$V_O$	Output voltage	-0.3	$V_{CC} + 0.3$	
$V_{IN}$	Logic input voltage	-0.3	$V_{CC} + 0.3$	
$P_D$	Package power dissipation @ $T_A \leq 25^\circ\text{C}$	—	0.625	W
$R_{thJA}$	Thermal resistance, junction to ambient	—	200	$^\circ\text{C}/\text{W}$
$T_J$	Junction temperature	—	150	$^\circ\text{C}$
$T_S$	Storage temperature	-55	150	
$T_L$	Lead temperature (soldering, 10 seconds)	—	300	

parameters are absolute voltages referenced to COM. The thermal resistance and power dissipation ratings are measured under board mounted and still air conditions.

### Recommended Operating Conditions

For proper operation, the device should be used within the recommended conditions. All voltage parameters are absolute voltages referenced to COM unless otherwise stated in the table. The offset rating is tested with supply of  $V_{CC} = 15\text{V}$ .

Symbol	Definition	Min	Max	Units
$V_{CC}$	Supply voltage	11.2	20	V
$V_O$	Output voltage	0	$V_{CC}$	
$V_{IN}$	Logic input voltage	0	$V_{CC}$	
$T_A$	Ambient temperature	-40	125	$^\circ\text{C}$



### Static Electrical Characteristics

$V_{CC} = 15V$ ,  $T_A = 25^\circ C$  unless otherwise specified. The  $V_{IN}$  and  $I_{IN}$  parameters are referenced to COM and are applicable to input leads: INA and INB. The  $V_O$  and  $I_O$  parameters are referenced to COM and are applicable to the output leads: OUTA and OUTB.

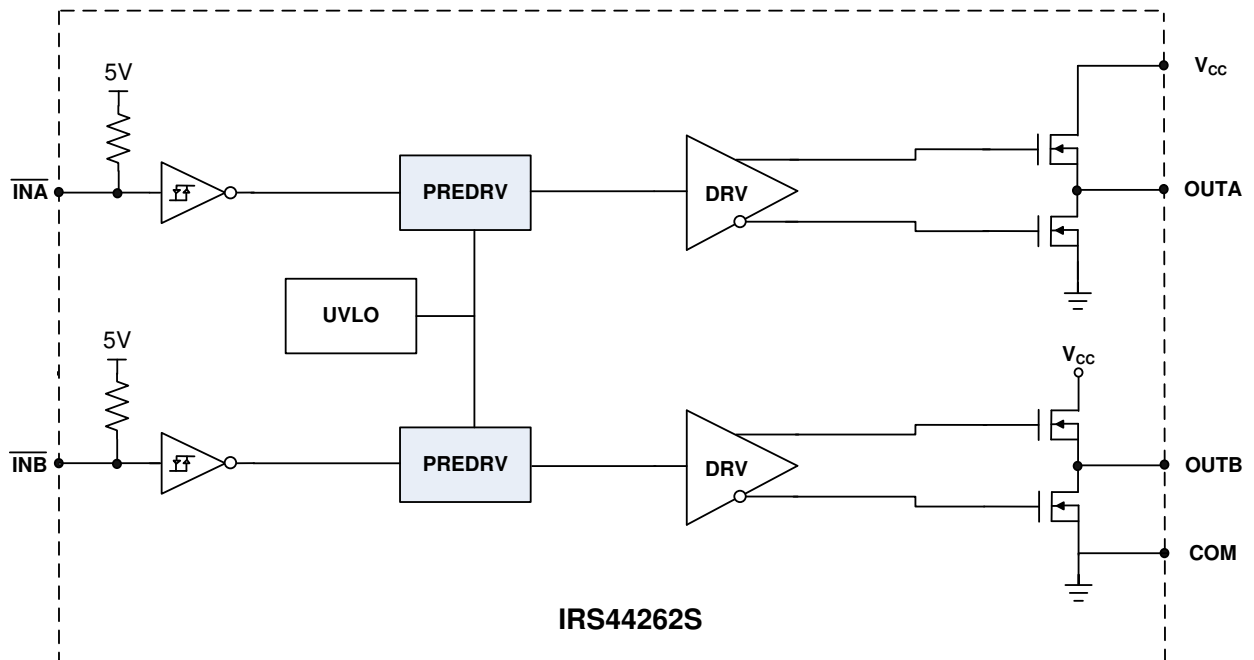
Symbol	Definition	Min	Typ	Max	Units	Test Conditions
$V_{CCUV+}$	Vcc supply undervoltage positive going threshold	9.2	10.2	11.2	V	
$V_{CCUV-}$	Vcc supply undervoltage negative going threshold	8.2	9.2	10.2		
$V_{CCUVH}$	Vcc supply undervoltage lockout hysteresis		1.0			
$V_{IH}$	Logic "0" input voltage (OUTA = LO, OUTB = LO)	2.5	—	—	V	
$V_{IL}$	Logic "1" input voltage (OUTA = HI, OUTB = HI)	—	—	0.8	V	
$V_{OH}$	High level output voltage, $V_{BIAS} - V_O$	—	—	1.4		$I_O = 0 \text{ mA}$
$V_{OL}$	Low level output voltage, $V_O$	—	—	0.15		$I_O = 20 \text{ mA}$
$I_{IN+}$	Logic "1" input bias current	—	5	15	$\mu A$	$V_{IN} = 0V$
$I_{IN-}$	Logic "0" input bias current	-30	-10	—		$V_{IN} = 5V$
$I_{OCC}$	Quiescent $V_{CC}$ supply current	—	170	340		$V_{IN} = 0V \text{ or } 5V$
$I_{O+}$	Output high short circuit pulsed current	—	2.3	—	A	$V_O = 0V, V_{IN} = 0V$
$I_{O-}$	Output low short circuit pulsed current	—	3.3	—		$V_O = 15V, V_{IN} = 5V$

### Dynamic Electrical Characteristics

$V_{CC} = 15V$ ,  $T_A = 25^\circ C$ , and  $C_L = 1000pF$  unless otherwise specified.

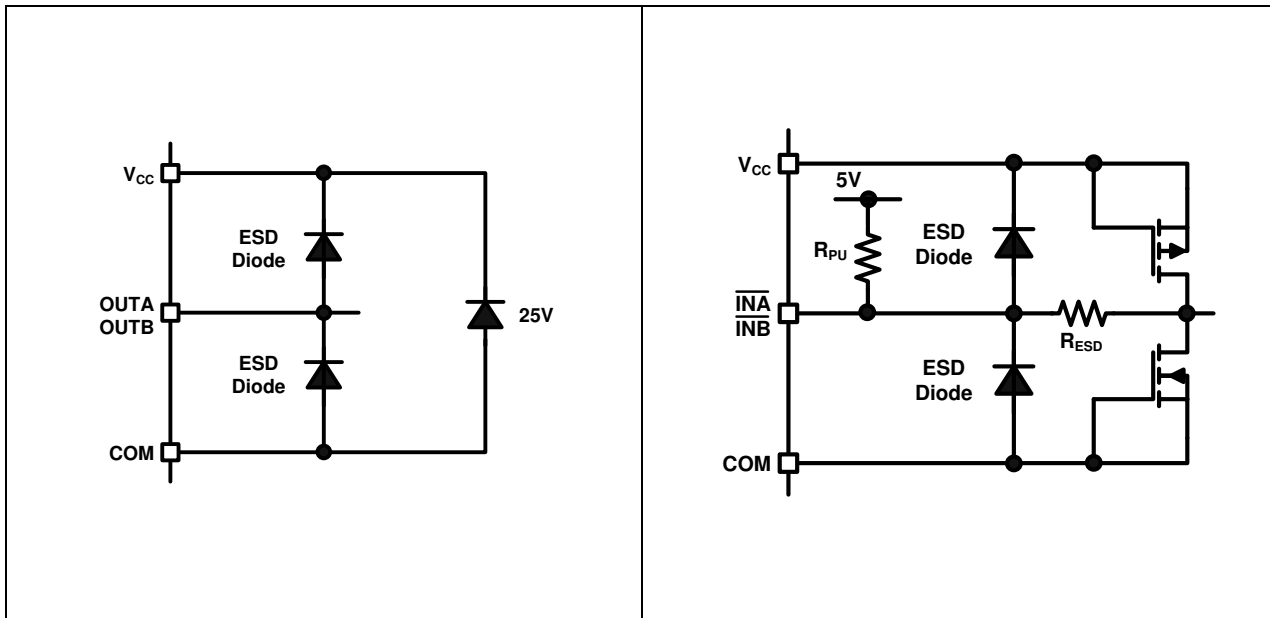
Symbol	Definition	Min	Typ	Max	Units	Test Conditions
$t_{on}$	Turn-on propagation delay	—	50	95	ns	Figure 2
$t_{off}$	Turn-off propagation delay	—	50	95		
$t_r$	Turn-on rise time	—	25	55		
$t_f$	Turn-off fall time	—	25	55		

**Functional Block Diagram**





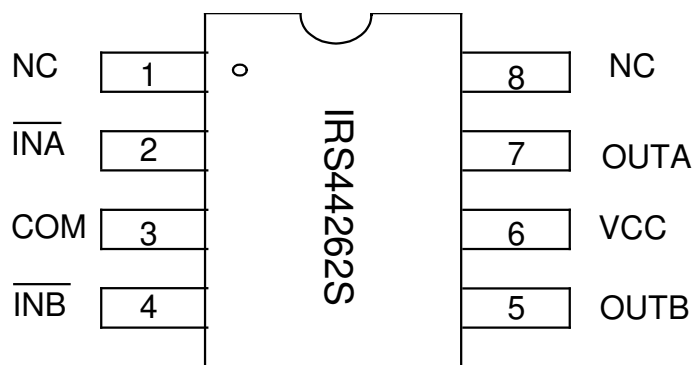
**Input/Output Pin Equivalent Circuit Diagrams**

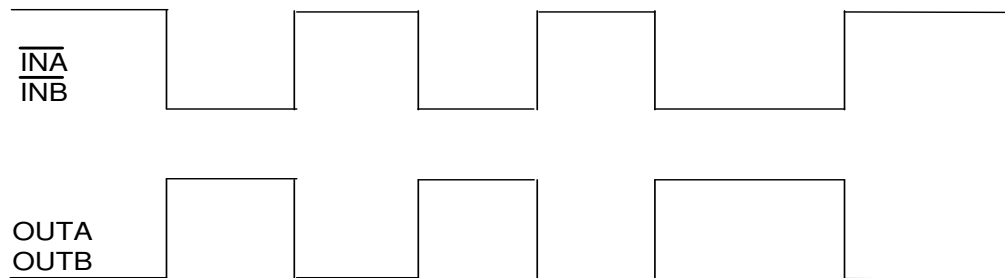


**Lead Definitions**

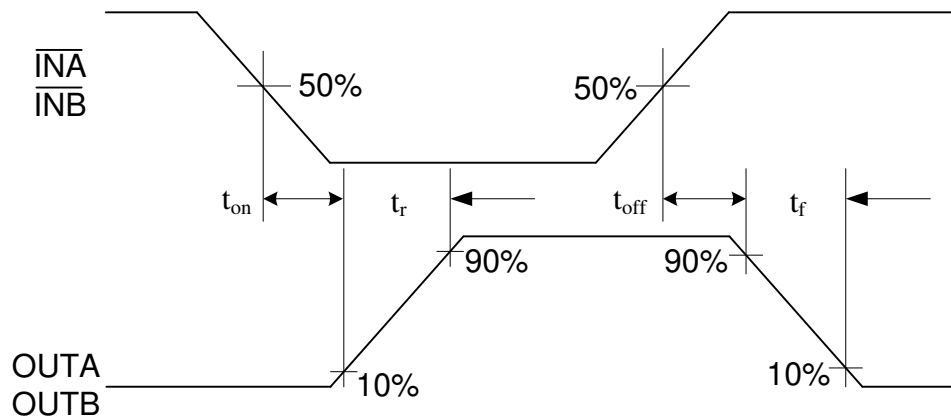
PIN	Symbol	Description
1	NC	No connection
2	$\overline{\text{INA}}$	Logic input for gate driver output (OUTA), out of phase
3	COM	Ground
4	$\overline{\text{INB}}$	Logic input for gate driver output (OUTB), out of phase
5	OUTB	Gate drive output B
6	V <sub>CC</sub>	Supply voltage
7	OUTA	Gate drive output A
8	NC	No connection

**Lead Assignments**

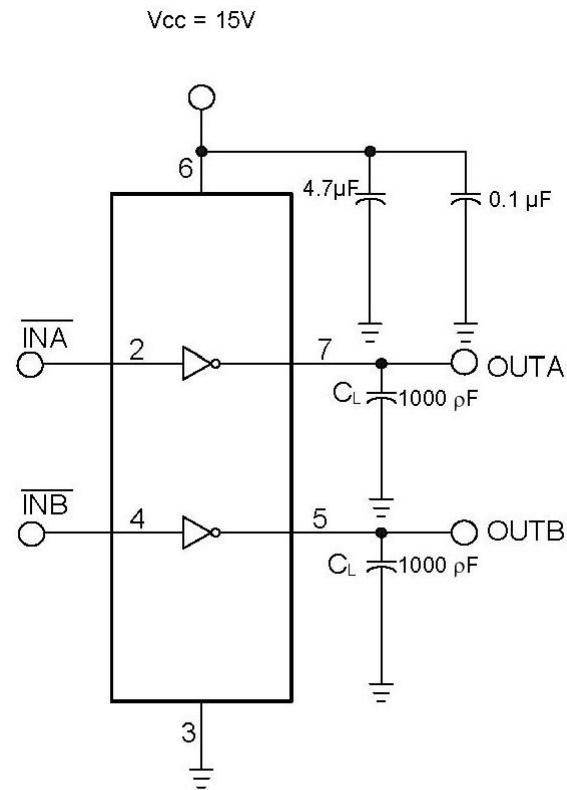




**Figure 1: Input/output Timing Diagram**

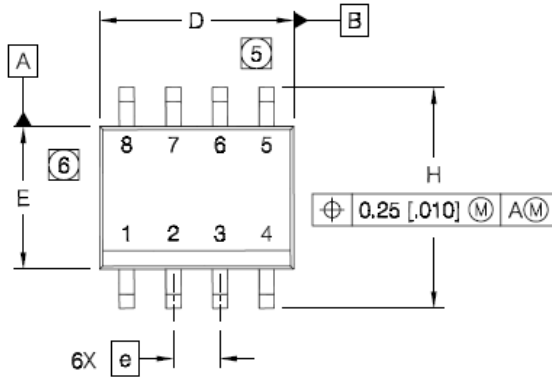


**Figure 2: Switching Time Waveform Definitions**

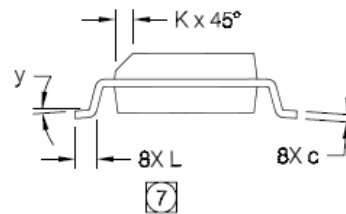
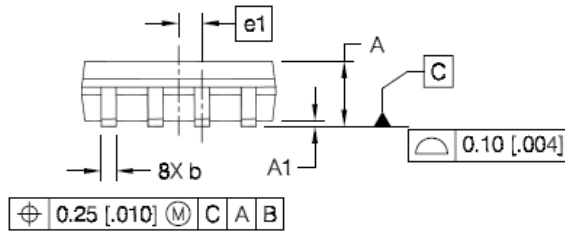


**Figure 3: Switching Time Test Circuit**

**Package Details, SOIC8N**



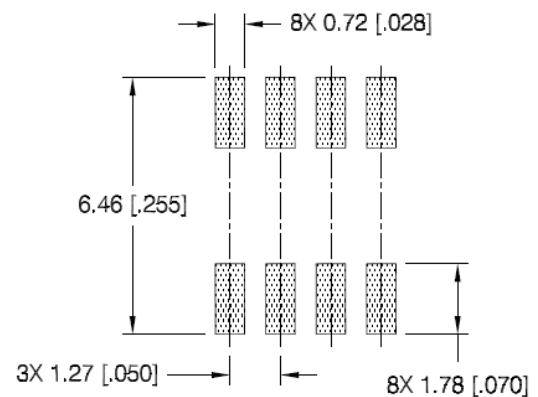
DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.0532	.0688	1.35	1.75
A1	.0040	.0098	0.10	0.25
b	.013	.020	0.33	0.51
c	.0075	.0098	0.19	0.25
D	.189	.1968	4.80	5.00
E	.1497	.1574	3.80	4.00
e	.050 BASIC		1.27 BASIC	
e1	.025 BASIC		0.635 BASIC	
H	.2284	.2440	5.80	6.20
K	.0099	.0196	0.25	0.50
L	.016	.050	0.40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



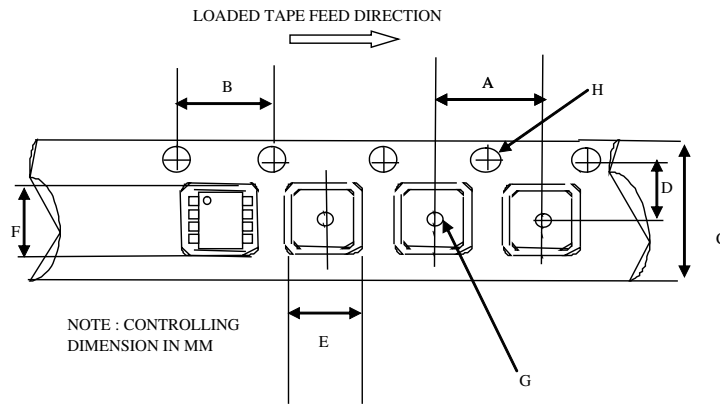
**NOTES:**

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 [0.006].
6. DIMENSION DOES NOT INCLUDE MOLD PROTRUSIONS. MOLD PROTRUSIONS NOT TO EXCEED 0.25 [0.010].
7. DIMENSION IS THE LENGTH OF LEAD FOR SOLDERING TO A SUBSTRATE.

**FOOTPRINT**

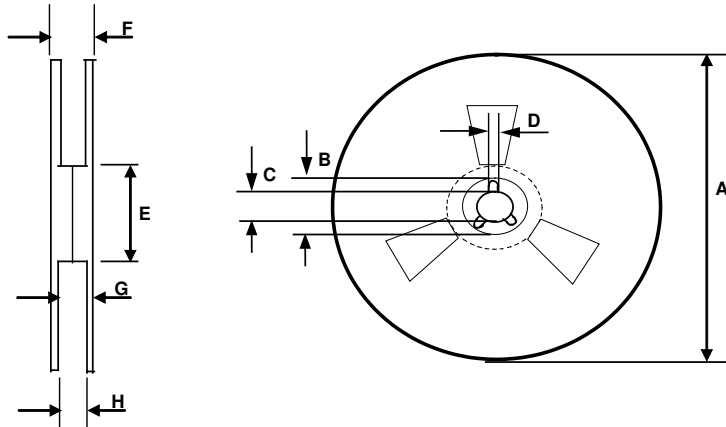


**Package details: SOIC8N, Tape and Reel**



CARRIER TAPE DIMENSION FOR 8SOICN

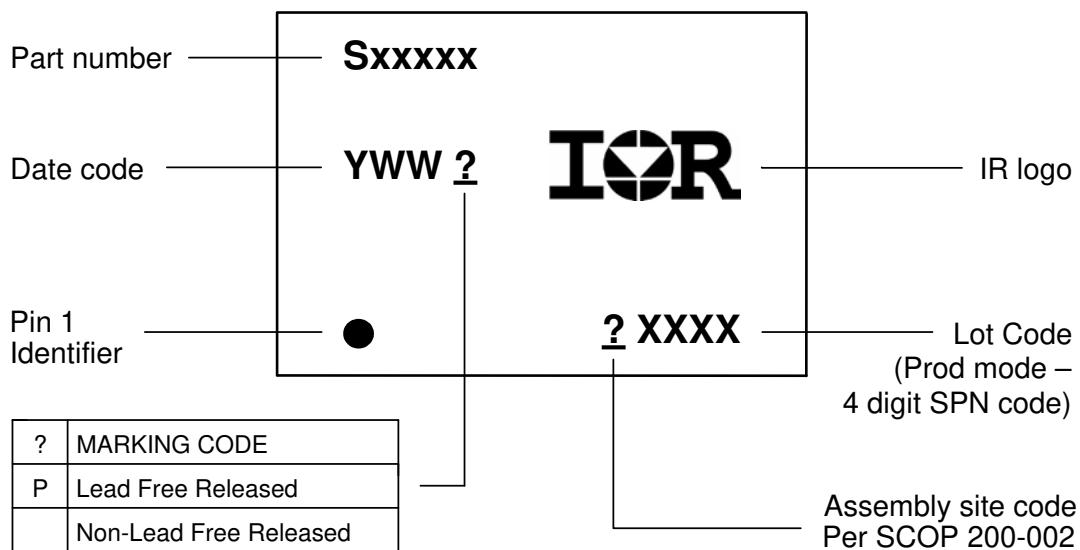
Code	Metric		Imperial	
	Min	Max	Min	Max
A	7.90	8.10	0.311	0.318
B	3.90	4.10	0.153	0.161
C	11.70	12.30	0.46	0.484
D	5.45	5.55	0.214	0.218
E	6.30	6.50	0.248	0.255
F	5.10	5.30	0.200	0.208
G	1.50	n/a	0.059	n/a
H	1.50	1.60	0.059	0.062



REEL DIMENSIONS FOR 8SOICN

Code	Metric		Imperial	
	Min	Max	Min	Max
A	329.60	330.25	12.976	13.001
B	20.95	21.45	0.824	0.844
C	12.80	13.20	0.503	0.519
D	1.95	2.45	0.767	0.096
E	98.00	102.00	3.858	4.015
F	n/a	18.40	n/a	0.724
G	14.50	17.10	0.570	0.673
H	12.40	14.40	0.488	0.566

**Part Marking Information**





**Qualification Information<sup>†</sup>**

<b>Qualification Level</b>		Industrial <sup>††</sup>
		Comments: This family of ICs has passed JEDEC's Industrial qualification. IR's Consumer qualification level is granted by extension of the higher Industrial level.
<b>Moisture Sensitivity Level</b>		MSL2 <sup>†††</sup> 260°C (per IPC/JEDEC J-STD-020)
<b>ESD</b>	Machine Model	Class B (per JEDEC standard JESD22-A115)
	Human Body Model	Class 2 (per EIA/JEDEC standard EIA/JESD22-A114)
<b>IC Latch-Up Test</b>		Class 1, Level A (per JESD78)
<b>RoHS Compliant</b>		Yes

- † Qualification standards can be found at International Rectifier's web site <http://www.irf.com/>
- †† Higher qualification ratings may be available should the user have such requirements. Please contact your International Rectifier sales representative for further information.
- ††† Higher MSL ratings may be available for the specific package types listed here. Please contact your International Rectifier sales representative for further information.

The information provided in this document is believed to be accurate and reliable. However, International Rectifier assumes no responsibility for the consequences of the use of this information. International Rectifier assumes no responsibility for any infringement of patents or of other rights of third parties which may result from the use of this information. No license is granted by implication or otherwise under any patent or patent rights of International Rectifier. The specifications mentioned in this document are subject to change without notice. This document supersedes and replaces all information previously supplied.

For technical support, please contact IR's Technical Assistance Center  
<http://www.irf.com/technical-info/>

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