

#### **Features**

- 0.3" (7.62mm) Matrix Height
- Single Digit Display
- Black/Grey Face , White Segment
- IC compatible, Easy assembly
- Dynamic drive connect
- RoHS Compliant, Pb Free

# **Applications**

- Consumer Electronics
- Industrial Equipment

## **Description**

The INND-SS30 series is a 0.3" single digit display. It is a SMD type LED display which can be used in various applications.

## **Internal Circuit Diagram**

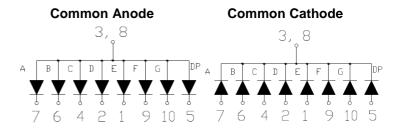


Figure 1. INND-SS30 series Internal Circuit Diagram

## **Package Dimensions**

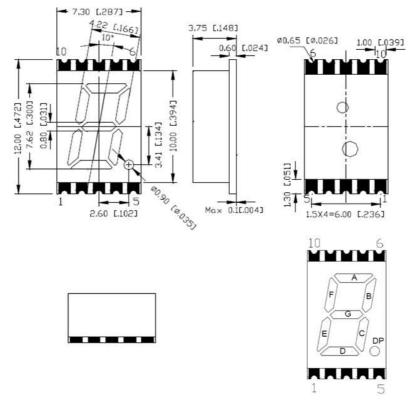


Figure 2. INND-SS30 series Package Dimensions



# Absolute Maximum Rating at 25°C (Note 1)

Product (Per Segment)	Emission Color	Technology	Pd (mW)	IF (mA)	IFP* (mA)	VR (V)	Derate From 25℃ (mA/℃)	Top (°C)	Tst (°C)
INND-SS30YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-40°C~+105°C	-40°C~+105°C
INND-SS30YXX	Yellow	AlGaInP	70	25	90	5	0.33	-40°C~+105°C	-40°C~+105°C
INND-SS30AXX	Amber	AlGaInP	70	25	90	5	0.33	-40°C~+105°C	-40°C~+105°C
INND-SS30RXX	Red	AlGaInP	70	25	90	5	0.33	-40°C~+105°C	-40°C~+105°C
INND-SS30DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-40°C~+105°C	-40°C~+105°C
INND-SS30GXX	Green	InGaN	114	30	100	5	0.4	-40°C~+105°C	-40°C~+105°C
INND-SS30BXX	Blue	InGaN	114	30	100	5	0.4	-40°C~+105°C	-40°C~+105°C
INND-SS30WXX	White	InGaN	114	30	100	5	0.4	-40°C~+105°C	-40°C~+105°C

### **Notes**

<sup>1.</sup> Condition for IFP is pulse of 1/10 duty and 0.1msec width



## Electrical Characteristics T<sub>A</sub> = 25°C (Note 1)

		VF	(V)@20	mA	λ(nm)@	))20mA	I*∨(m	ncd)@1	0mA	I <sub>R</sub> (μA)@V <sub>R</sub> =5V	I <sub>V-M</sub> @I <sub>F</sub> =10mA
Product (Per Segment)	Emission Color	min	typ.	max	$\lambda_{D}$	λ <sub>P</sub>	min	typ.	max	max	max
INND-SS30YGXX	Yellow Green	-	2.0	2.8	570	572	-	2	-	100	2:1
INND-SS30YXX	Yellow	-	2.0	2.8	590	592	-	8	1	100	2:1
INND-SS30AXX	Amber	ı	2.0	2.8	605	612	-	9	ı	100	2:1
INND-SS30RXX	Red	ı	2.0	2.8	630	644	-	5	ı	100	2:1
INND-SS30DRXX	Deep Red	ı	2.0	2.8	645	660	-	2	ı	100	2:1
INND-SS30GXX	Green	-	3.2	3.8	525	-	-	37	-	100	2:1
INND-SS30BXX	Blue	ı	3.2	3.8	465		-	7	ı	50	2:1
INND-SS30WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	10.7	19.3	-	50	2:1

#### **Notes**

1. Performance guaranteed only under conditions listed in above tables.

#### **ESD Precaution**

ATTENTION: Electrostatic Discharge (ESD) protection



The symbol above denotes that ESD precaution is needed. ESD protection for GaP and AlGaAs based chips is necessary even though they are relatively safe in the presence of low static-electric discharge. Parts built with AllnGaP, GaN, or/and InGaN based chips are STATIC SENSITIVE devices. ESD precaution must be taken during design and assembly. If manual work or processing is needed, please ensure the device is adequately protected from ESD during the process.

Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).



## Characteristic Curves for YG, Y, A, R, DR, G

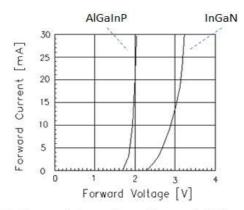


Fig 1. Forward Current vs. Forward Voltage

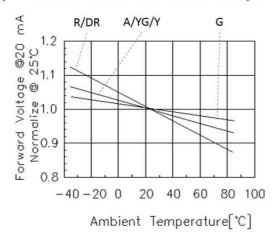


Fig 3. Forward Voltage vs. Temperature

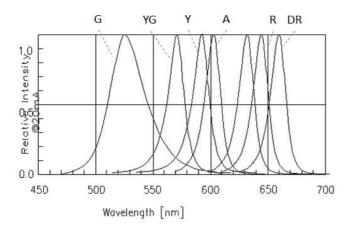


Fig 5. Relative Intensity vs. Wavelength

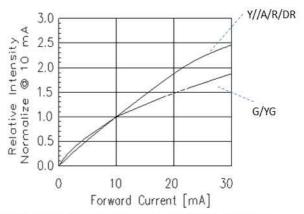


Fig 2. Relative Intensity vs. Forward Current

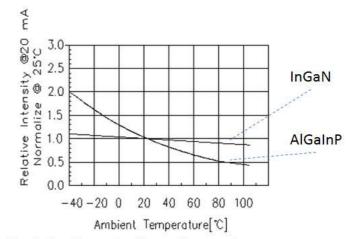


Fig 4. Relative Intensity vs. Temperature

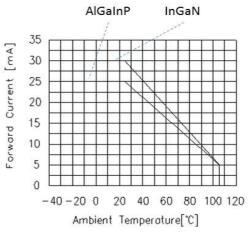


Fig 6. Forward current vs. Temperature



#### Characteristic Curves for B

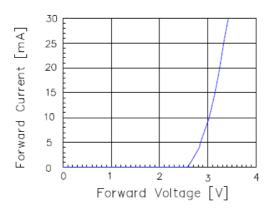


Fig 1. Forward Current vs. Forward Voltage

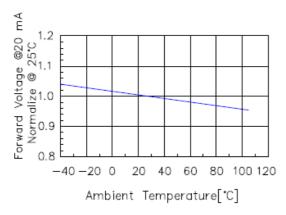


Fig 3. Forward Voltage vs. Temperature

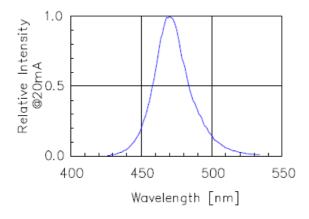


Fig 5. Relative Intensity vs. Wavelength

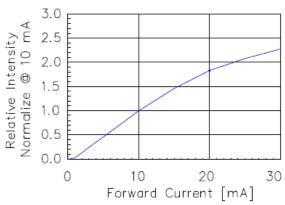


Fig 2. Relative Intensity vs. Forward Current

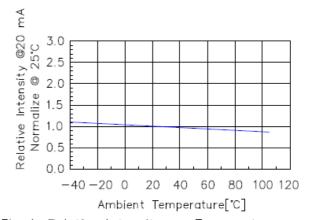


Fig 4. Relative Intensity vs. Temperature

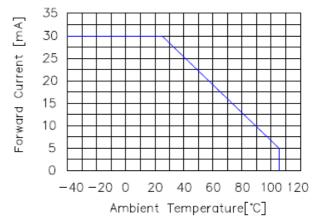


Fig 6, Forward current vs. Temperature



#### **Characteristic Curves for W**

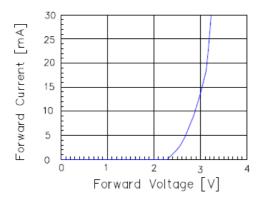


Fig 1. Forward Current vs. Forward Voltage

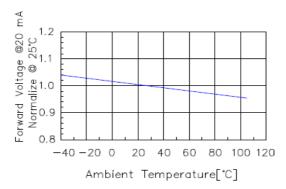


Fig 3. Forward Voltage vs. Temperature

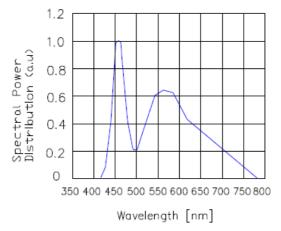


Fig 5. Spectral Power Distribution vs. Wavelength

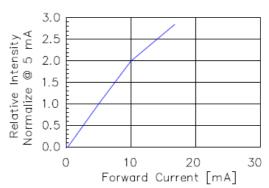


Fig 2. Relative Intensity vs. Forward Current

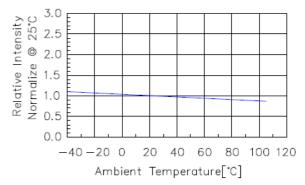


Fig 4. Relative Intensity vs. Temperature

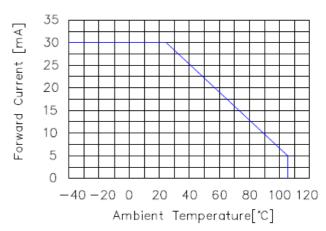
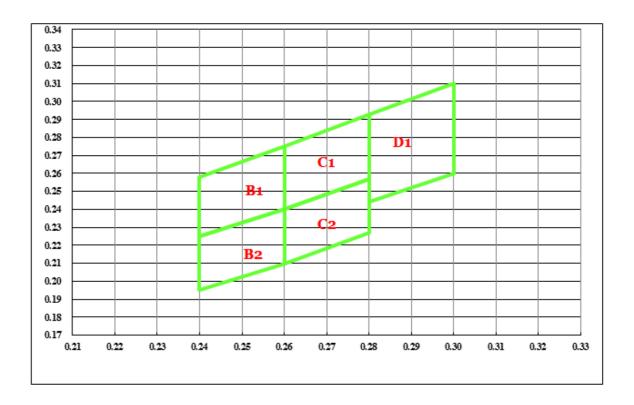


Fig 6. Forward current vs. Temperature



# **Chromaticity Bin (for White only)**



		B1		
Х	0.240	0.240	0.260	0.260
Υ	0.225	0.258	0.275	0.240

		B2		
X	0.240	0.240	0.260	0.260
Υ	0.195	0.225	0.240	0.210

		C1		
Х	0.260	0.260	0.280	0.280
Υ	0.240	0.275	0.293	0.257

		C2		
X	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227

		D1		
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260



# **Ordering Information**

	<del>                                     </del>		1		<u> </u>	1	
Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
					Common Anode	Black	INND-SS30YGAB
INND CC20VCVV	Vallau Crass	ALC alla D		2.0	Common Cathode	Black	INND-SS30YGCB
INND-SS30YGXX	Yellow Green	AlGaInP	2	2.0	Common Anode	Grey	INND-SS30YGAG
					Common Cathode	Grey	INND-SS30YGCG
					Common Anode	Black	INND-SS30YAB
ININD CC20VVV	Yellow	AlGalnP	8	2.0	Common Cathode	Black	INND-SS30YCB
INND-SS30YXX	Yellow				Common Anode	Grey	INND-SS30YAG
					Common Cathode	Grey	INND-SS30YCG
					Common Anode	Black	INND-SS30AAB
ININD CC20AVV	A male a m			2.0	Common Cathode	Black	INND-SS30ACB
INND-SS30AXX	Amber	AlGaInP	9	2.0	Common Anode	Grey	INND-SS30AAG
					Common Cathode	Grey	INND-SS30ACG
					Common Anode	Black	INND-SS30RAB
INND-SS30RXX	Dod	AIC class	F	2.0	Common Cathode	Black	INND-SS30RCB
	Red	AlGaInP	5	2.0	Common Anode	Grey	INND-SS30RAG
					Common Cathode	Grey	INND-SS30RCG

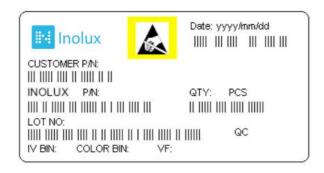




Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
					Common Anode	Black	INND-SS30DRAB
INND-SS30DRXX	Deep Red	AlGaInP	2	2.0	Common Cathode	Black	INND-SS30DRCB
ININD-0030DIXXX	Беер Кей	AlGailli	2	2.0	Common Anode	Grey	INND-SS30DRAG
					Common Cathode	Grey	INND-SS30DRCG
					Common Anode	Black	INND-SS30GAB
INND-SS30GXX	Green	InGaN	37	3.2	Common Cathode	Black	INND-SS30GCB
IININD-0030GAA	Green				Common Anode	Grey	INND-SS30GAG
					Common Cathode	Grey	INND-SS30GCG
					Common Anode	Black	INND-SS30BAB
INND-SS30BXX		InGaN	7	3.2	Common Cathode	Black	INND-SS30BCB
IINID-3330BAA	Blue	IIIGaN	,	3.2	Common Anode	Grey	INND-SS30BAG
					Common Cathode	Grey	INND-SS30BCG
					Common Anode	Black	INND-SS30WAB
INND-SS30WXX	White	InGaN	10.2	3.2	Common Cathode	Black	INND-SS30WCB
	vville	InGaN	19.3	3.2	Common Anode	Grey	INND-SS30WAG
					Common Cathode	Grey	INND-SS30WCG



# **Label Specifications**



## **Inolux P/N:**

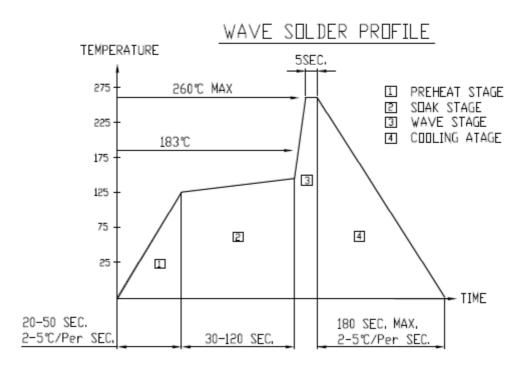
1	N	N	D	-	S	S	3	0	Х	Х	Х	-	Χ	Х	Χ	Х
		Dis <sub>l</sub> Ty	olay pe		Displa	y Type	Dime	nsion	Color	Polarity	Face Color			usto: Stam		
Ino	olux	Nun	) = neric blay		S: SMI S: Si		30 = Display	0.30" Height	YG: 570 nm Y: 590 nm A: 605 nm R: 630 nm DR: 660 nm G: 525 nm B: 465 nm W: X: 0.27 Y: 0.25	A = Common Anode C=Common Cathode	B = Black G = Grey					

## Lot No.:

Z	2	0	1	7	01	24	001
Internal		Voor (2017	, 2018,)	Month	Date	Serial	
Tracker		16ai (2017	, 2010,)	IVIOIILII	Date	Sellal	



# **Reflow Soldering**



# **Soldering Iron**

Basic Spec is  $\leq$  4 sec. when 260°C (+10°C  $\rightarrow$  -1 second). Power dissipation of Iron should be less than 15W. Surface temperature should be under 230°C

## **Rework**

Rework should be completed within 4 second under 245°C





**Revision History** 

Changes since last revision	Page	Version No.	Revision Date
Initial Release		1.0	07-12-2017

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1624 LTC-2621JD LTC-2623WC LTC-4627JD LTD-322G LTD-482PC LTP-1057AHR LTP-1457AKR LTP-3784G-01 LTS-313AP LTS4812SKR-P LTS-547AE LTS-6780P 446010401-3 HV-7W30-6829 DA43-11GWA LDD-A516RI-17 LDD-E305RI LDQ-N3402RI LDQN3606RI LDT-M2804RI 86004CB830 LTP-3862JD LTP-2088AKD LTD-6740P LTS-6880Y LDS-SMC3002RISUGTR LTC-2623E
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