

Features

- 0.2" (5.08mm) Digit 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-SS20 series is a 0.2" single digit display. It is a SMD type LED display which can be used in various applications.

Internal Circuit Diagram

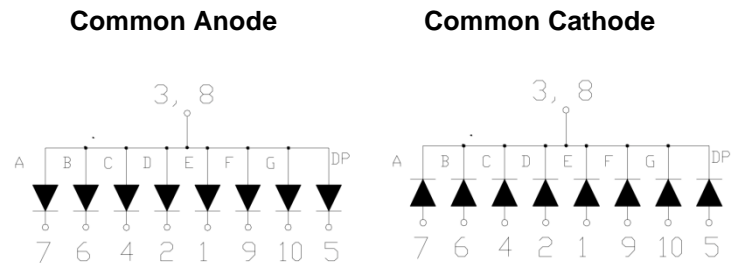


Figure 1. INND-SS20 series Internal Circuit Diagram

Package Dimensions

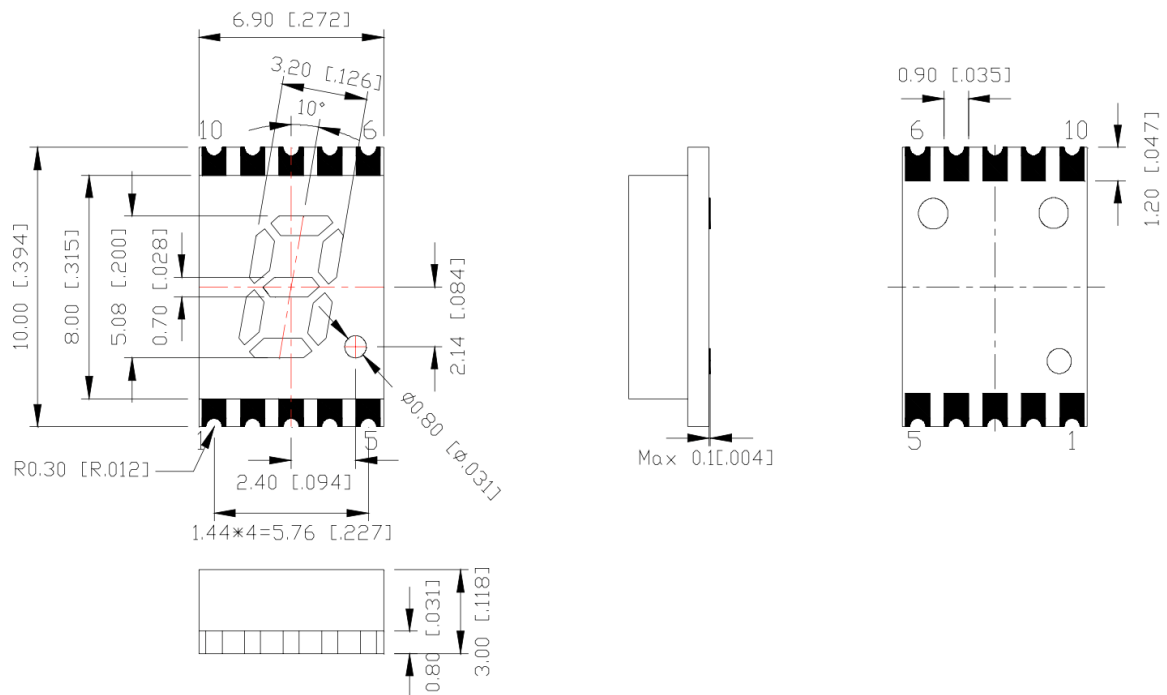
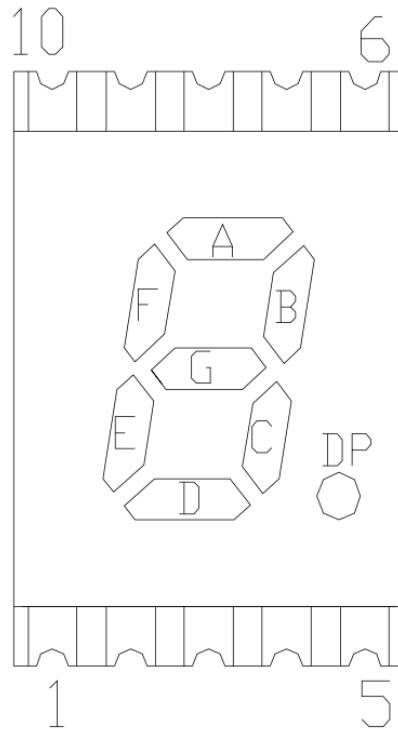
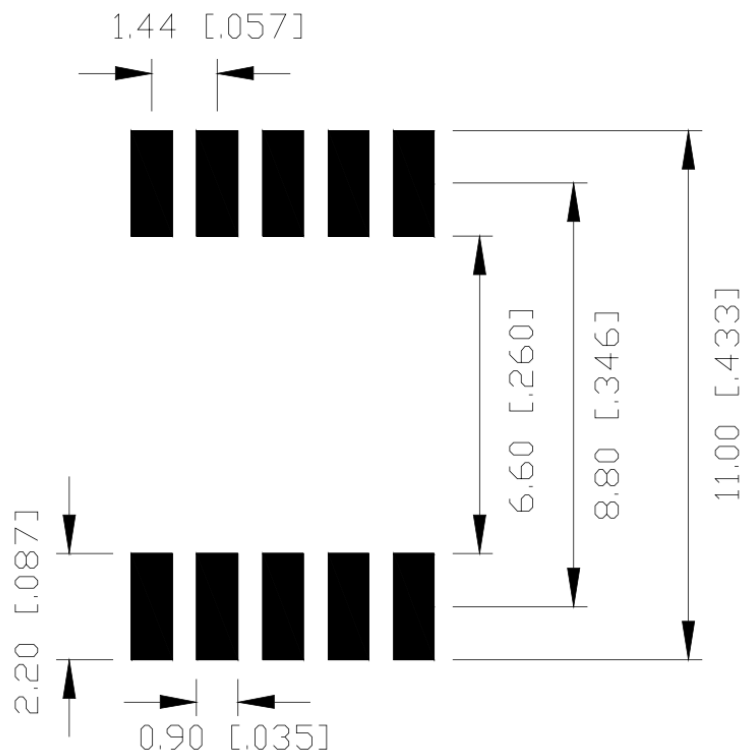


Figure 2. INND-SS20 series Package Dimensions

Notes

1. Dimension in millimeter [inch], tolerance is ± 0.25 [0.010] and angle is $\pm 1^\circ$ unless otherwise noted.
2. Bending \leq Length * 1%

All Light On Segments Feature & Pin Position

Soldering Pad Size


Absolute Maximum Rating at 25°C (Note 1)

Product (Per Segment)	Emission Color	Technology	P _d (mW)	I _F (mA)	I _{FP} * (mA)	V _R (V)	Derate From 25°C (mA/°C)	T _{OP} (°C)	T _{ST} (°C)
INND-SS20YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20YXX	Yellow	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20AXX	Amber	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20RXX	Red	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20GXX	Green	InGaN	114	30	100	5	0.4	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SS20BXX	Blue	InGaN	114	30	100	5	0.4	-40 °C ~+105 °C	-40 °C ~+105 °C

Notes

1. Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width

Electrical Characteristics $T_A = 25^\circ\text{C}$ (Note 1)

Product (Per Segment)	Emission Color	$V_F(\text{V})@20\text{mA}$			$\lambda(\text{nm})@10\text{mA}$		$I_V^*(\text{mcd})@10\text{mA}$			$I_R(\mu\text{A})@V_R=5\text{V}$	$I_{V-M}@I_F=10\text{mA}$
		min	typ.	max	λ_D	λ_P	min	typ.	max	max	max
INND-SS20YGXX	Yellow Green	-	2.0	2.8	570	572	-	2	-	100	2:1
INND-SS20YXX	Yellow	-	2.0	2.8	590	592	-	12	-	100	2:1
INND-SS20AXX	Amber	-	2.0	2.8	605	612	-	13	-	100	2:1
INND-SS20RXX	Red	-	2.0	2.8	630	644	-	5	-	100	2:1
INND-SS20DRXX	Deep Red	-	2.0	2.8	645	660	-	4	-	100	2:1
INND-SS20GXX	Green	-	3.2	3.8	525	-	-	75	-	100	2:1
INND-SS20BXX	Blue	-	3.2	3.8	465	-	-	11	-	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 AlInGaP, 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).

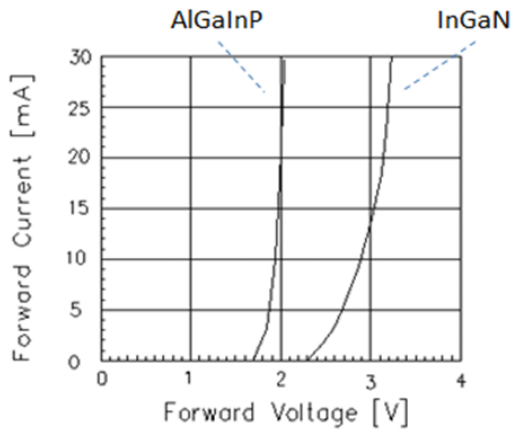
Characteristic Curves for YG, Y, A, R, DR, G


Fig 1. Forward Current vs. Forward Voltage

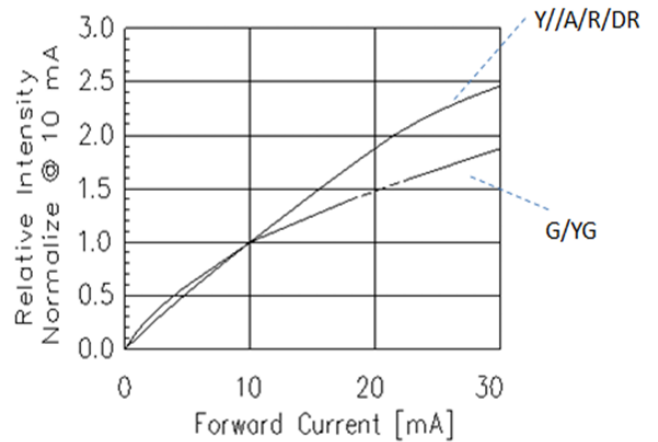


Fig 2. Relative Intensity vs. Forward Current

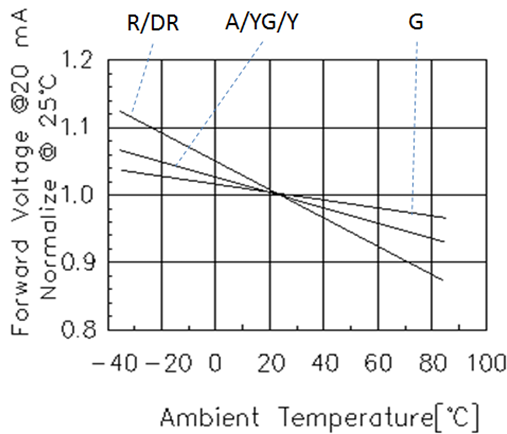


Fig 3. Forward Voltage vs. Temperature

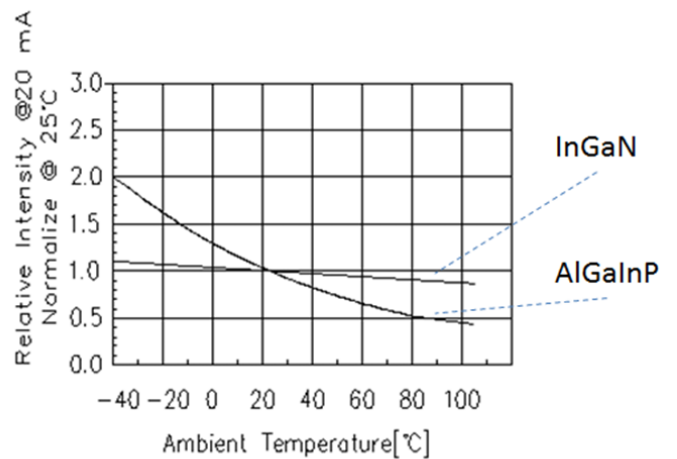


Fig 4. Relative Intensity vs. Temperature

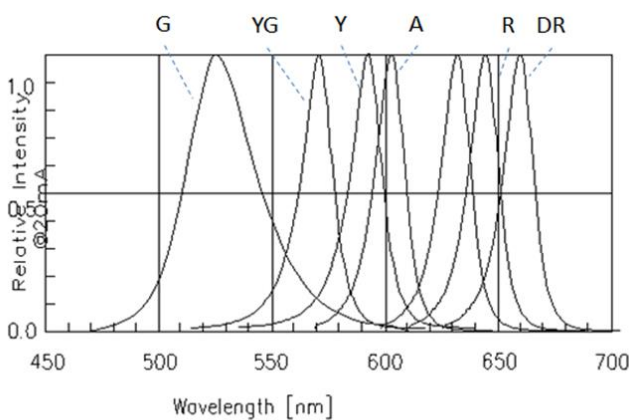


Fig 5. Relative Intensity vs. Wavelength

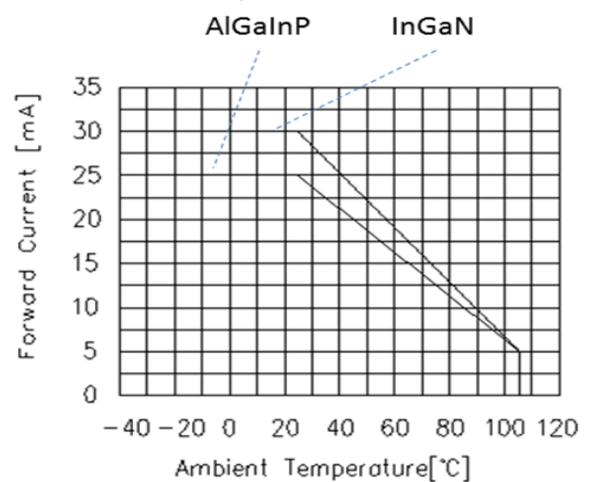


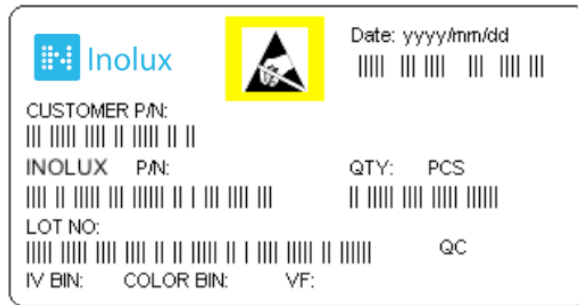
Fig 6. Forward current vs. Temperature

Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-SS20YGXX	Yellow Green	AlGaInP	2	2.0	Common Anode	Black	INND-SS20YGAB
					Common Cathode	Black	INND-SS20YGCB
					Common Anode	Grey	INND-SS20YGAG
					Common Cathode	Grey	INND-SS20YGCG
INND-SS20YXX	Yellow	AlGaInP	12	2.0	Common Anode	Black	INND-SS20YAB
					Common Cathode	Black	INND-SS20YCB
					Common Anode	Grey	INND-SS20YAG
					Common Cathode	Grey	INND-SS20YCG
INND-SS20AXX	Amber	AlGaInP	13	2.0	Common Anode	Black	INND-SS20AAB
					Common Cathode	Black	INND-SS20ACB
					Common Anode	Grey	INND-SS20AAG
					Common Cathode	Grey	INND-SS20ACG
INND-SS20RXX	Red	AlGaInP	5	2.0	Common Anode	Black	INND-SS20RAB
					Common Cathode	Black	INND-SS20RCB
					Common Anode	Grey	INND-SS20RAG
					Common Cathode	Grey	INND-SS20RCG

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-SS20DRXX	Deep Red	AlGaInP	4	2.0	Common Anode	Black	INND-SS20DRAB
					Common Cathode	Black	INND-SS20DRCB
					Common Anode	Grey	INND-SS20DRAG
					Common Cathode	Grey	INND-SS20DRCG
INND-SS20GXX	Green	InGaN	75	3.2	Common Anode	Black	INND-SS20GAB
					Common Cathode	Black	INND-SS20GCB
					Common Anode	Grey	INND-SS20GAG
					Common Cathode	Grey	INND-SS20GCG
INND-SS20BXX	Blue	InGaN	11	3.2	Common Anode	Black	INND-SS20BAB
					Common Cathode	Black	INND-SS20BCB
					Common Anode	Grey	INND-SS20BAG
					Common Cathode	Grey	INND-SS20BCG

Label Specifications



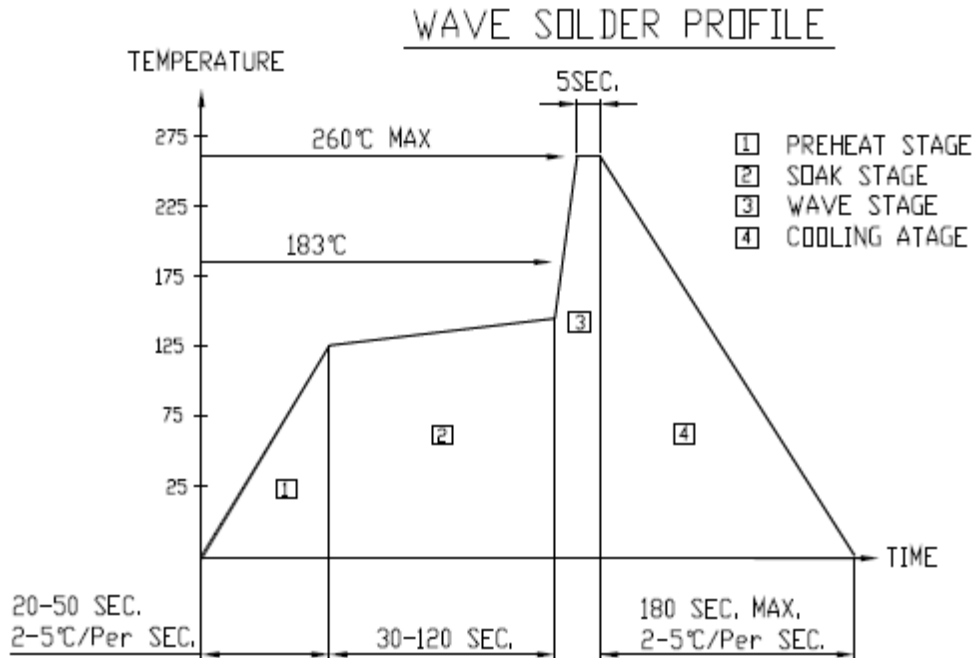
Inolux P/N:

I	N	N	D	-	S	S	2	0	X	X	X	-	X	X	X	X
Inolux		Display Type		Display Type	Dimension	Color	Polarity	Face Color		Customized Stamp-off						
		ND = Numeric Display		S: SMD Type S: Single	20 = 0.2" Display Height	YG: 570 nm Y: 590 nm A: 605 nm R: 624 nm DR: 660 nm G: 520nm B: 470 nm	A = Common Anode C=Common Cathode	B = Black G = Grey								

Lot No.:

Z	2	0	1	7	01	24	001
Internal Tracker	Year (2017, 2018,)				Month	Date	Serial

Reflow Soldering



Soldering Iron

Basic Spec is ≤ 4 sec. when 260°C (+10°C → -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	12-23-2019

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