

Features

- 0.4" (10.16mm) Digit Height
- Dual Digit Display
- Black/Grey Face , White Segment
- IC compatible, Easy assembly
- Dynamic drive connect
- RoHS Compliant, Pb Free

Description

The INND-SD40 series is a 0.4" dual digit display. It is a SMD type LED display which can be used in various applications.

Applications

- Consumer Electronics
- Industrial Equipment

Internal Circuit Diagram

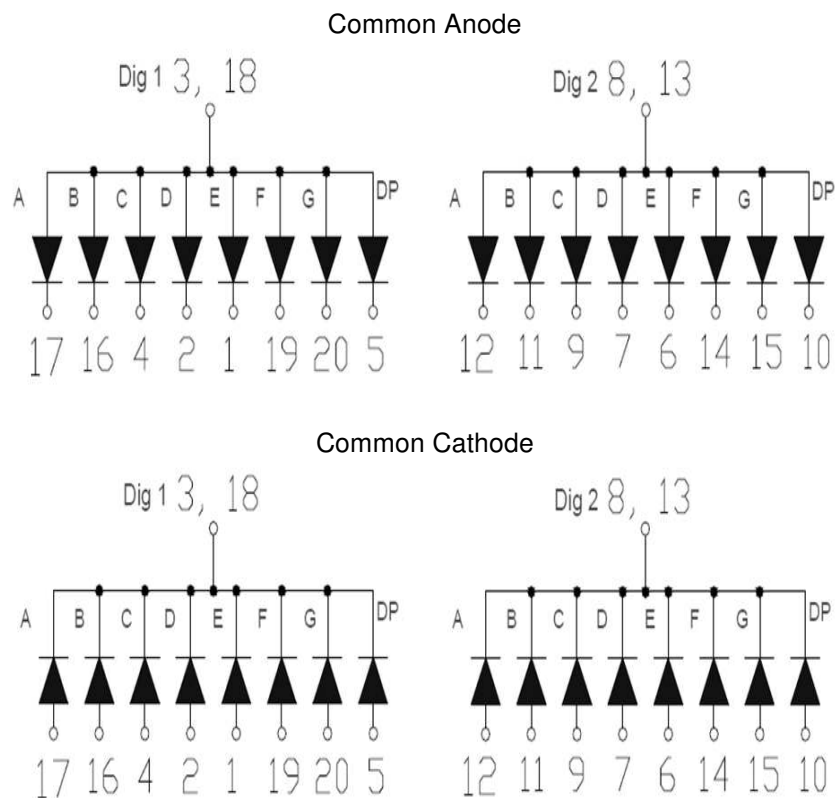


Figure 1. INND-SD40 series Internal Circuit Diagram

Package Dimensions

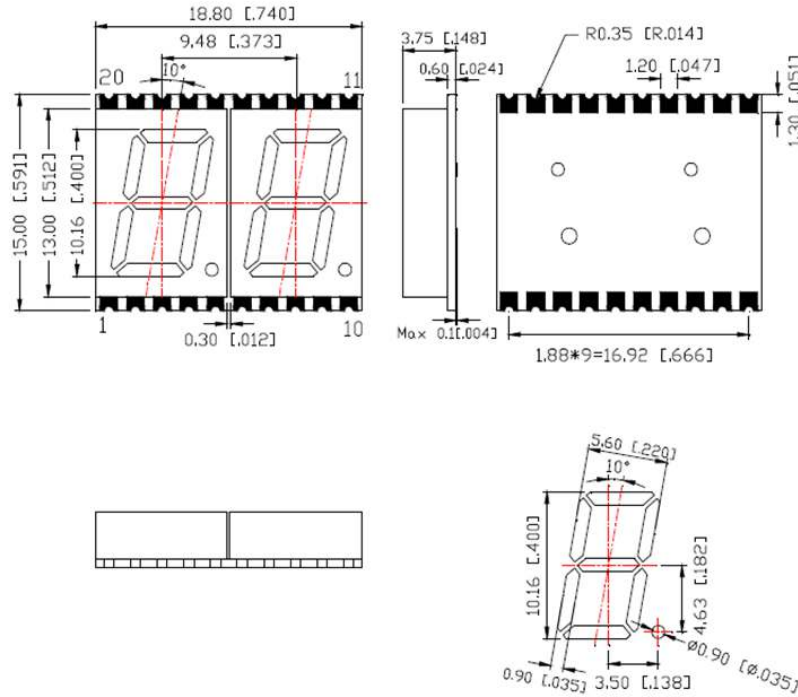


Figure 2. INND-SD40 series Package Dimensions

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

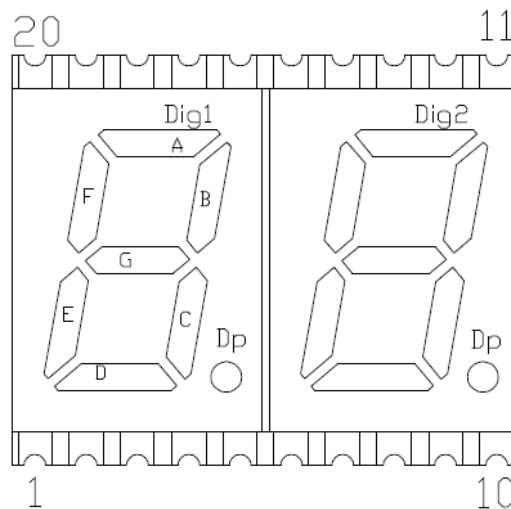


Figure 3. All Light On Segments Feature & Pin Position

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-SD40YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40YXX	Yellow	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40AXX	Amber	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40RXX	Red	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40GXX	Green	InGaN	114	30	100	5	0.4	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40BXX	Blue	InGaN	114	30	100	5	0.4	-40 °C ~+105 °C	-40 °C ~+105 °C
INND-SD40WXX	White	InGaN	114	30	100	5	0.4	-40 °C ~+105 °C	-40 °C ~+105 °C

Notes

1. Condition for IFP 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	$V_F(\text{V})@20\text{mA}$			$\lambda(\text{nm})@20\text{mA}$		$I_V^*(\text{mcd})@10\text{mA}$			$I_R(\mu\text{A})@V_R=5\text{V}$	$I_{V-M}@I_F=10\text{mA}$
		min	typ.	max	λ_D	λ_P	min	typ.	max	max	max
INND-SD40YGXX	Yellow Green	-	2.0	2.8	570	572	-	2	-	100	2:1
INND-SD40YXX	Yellow	-	2.0	2.8	590	592	-	13	-	100	2:1
INND-SD40AXX	Amber	-	2.0	2.8	605	612	-	13	-	100	2:1
INND-SD40RXX	Red	-	2.0	2.8	630	644	-	4	-	100	2:1
INND-SD40DRXX	Deep Red	-	2.0	2.8	645	660	-	4	-	100	2:1
INND-SD40GXX	Green	-	3.2	3.8	525	-	-	47	-	100	2:1
INND-SD40BXX	Blue	-	3.2	3.8	465	-	-	7	-	50	2:1
INND-SD40WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	-	30	-	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).

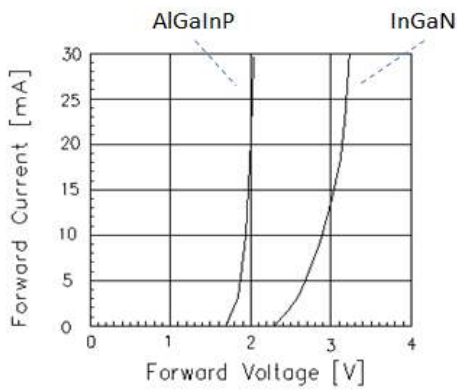
Characteristic Curves for YG, Y, A, R, DR, G


Fig 1. Forward Current vs. Forward Voltage

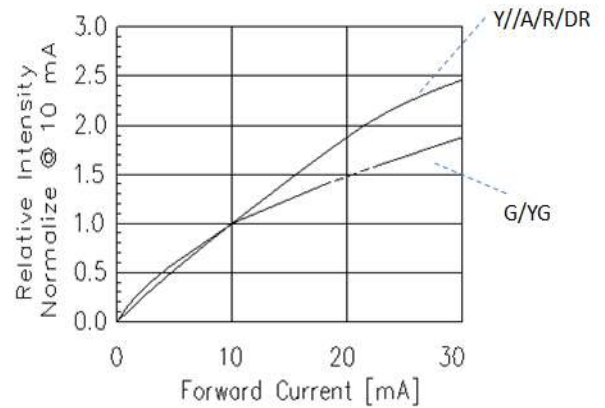


Fig 2. Relative Intensity vs. Forward Current

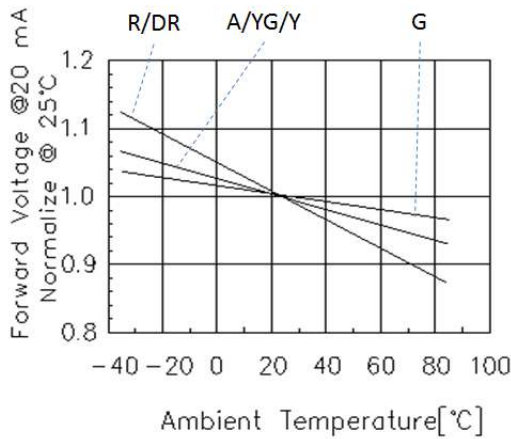


Fig 3. Forward Voltage vs. Temperature

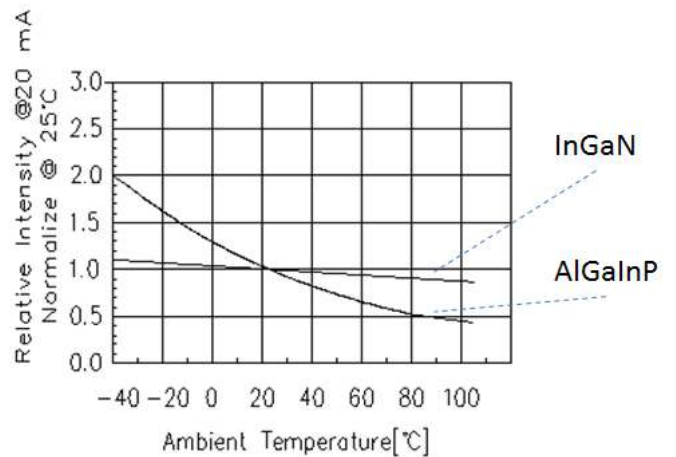


Fig 4. Relative Intensity vs. Temperature

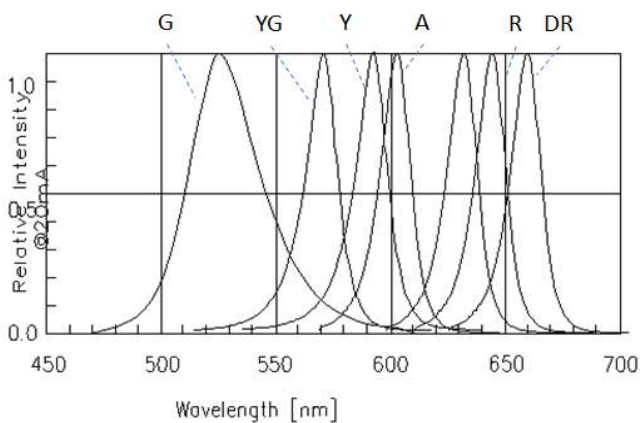


Fig 5. Relative Intensity vs. Wavelength

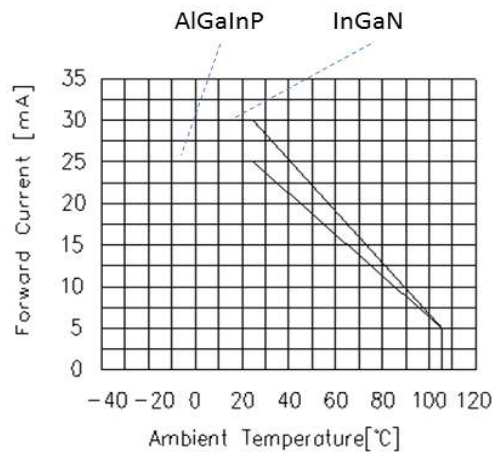


Fig 6. Forward current vs. Temperature

Characteristic Curves for B

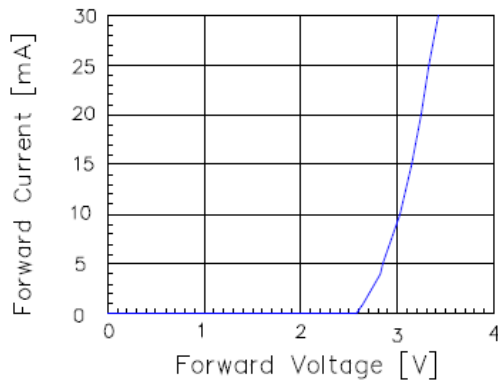


Fig 1. Forward Current vs. Forward Voltage

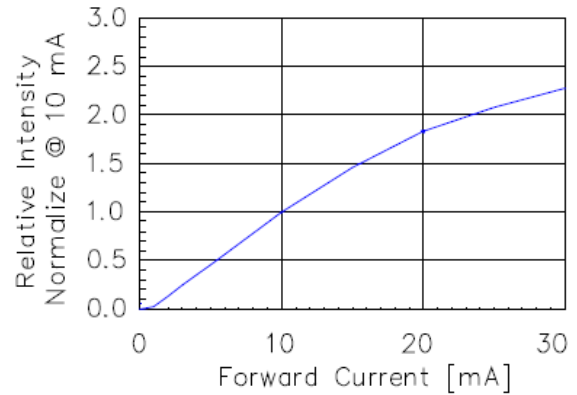


Fig 2. Relative Intensity vs. Forward Current

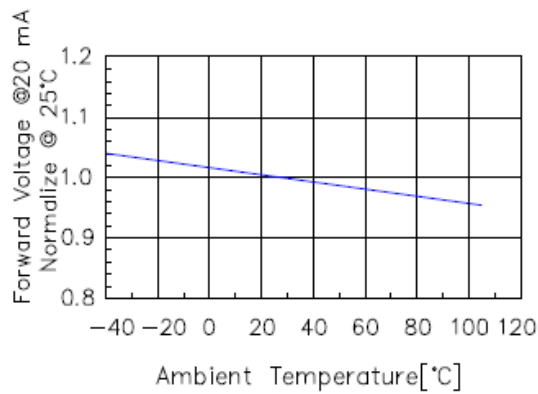


Fig 3. Forward Voltage vs. Temperature

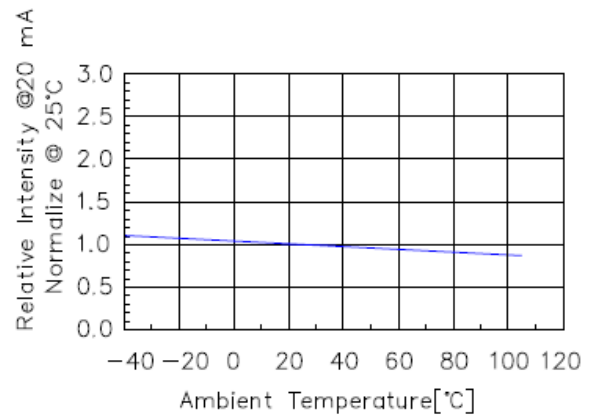


Fig 4. Relative Intensity vs. Temperature

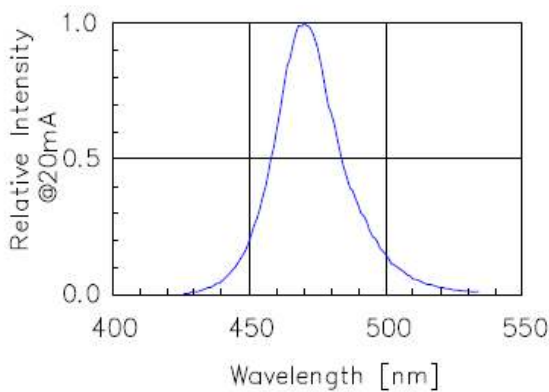


Fig 5. Relative Intensity vs. Wavelength

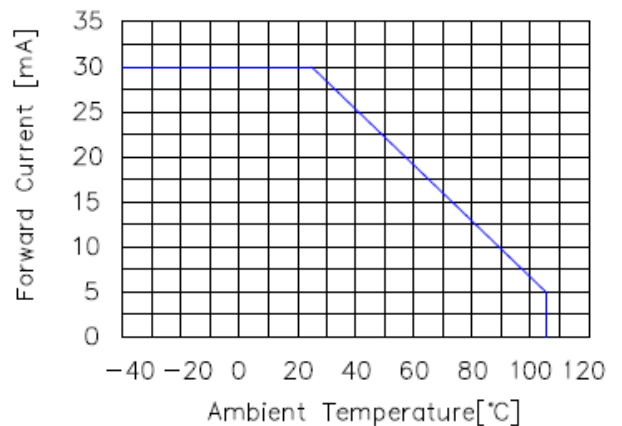


Fig 6. Forward current vs. Temperature

Characteristic Curves for W

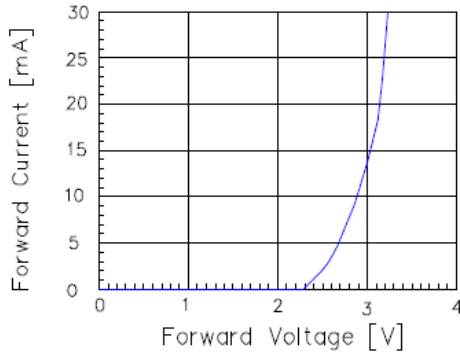


Fig 1. Forward Current vs. Forward Voltage

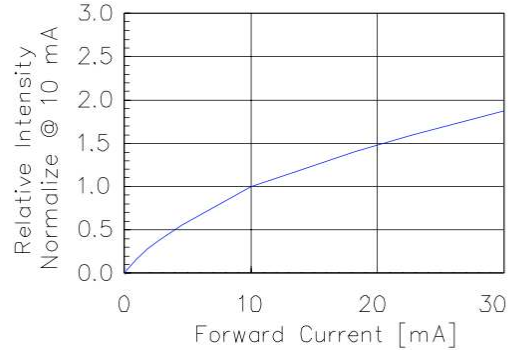


Fig 2. Relative Intensity vs. Forward Current

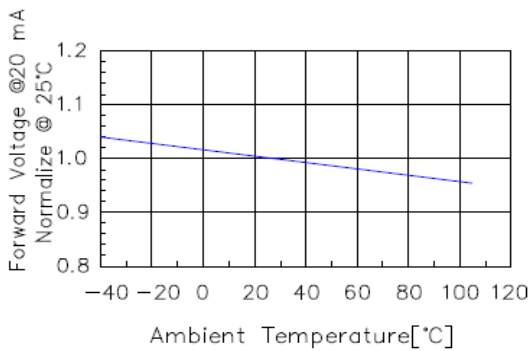


Fig 3. Forward Voltage vs. Temperature

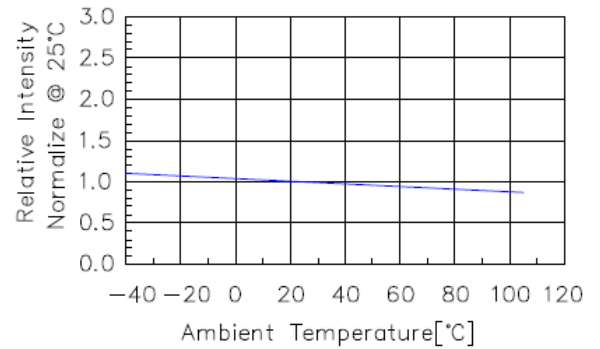


Fig 4. Relative Intensity vs. Temperature

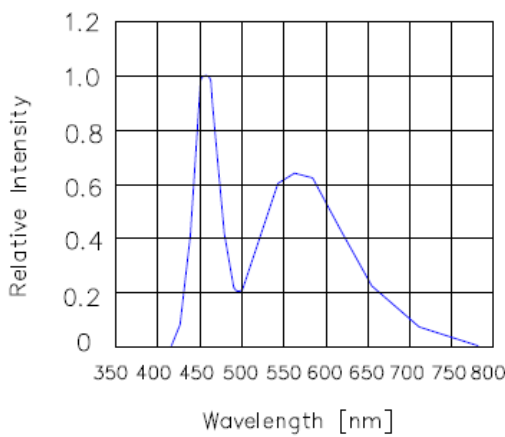


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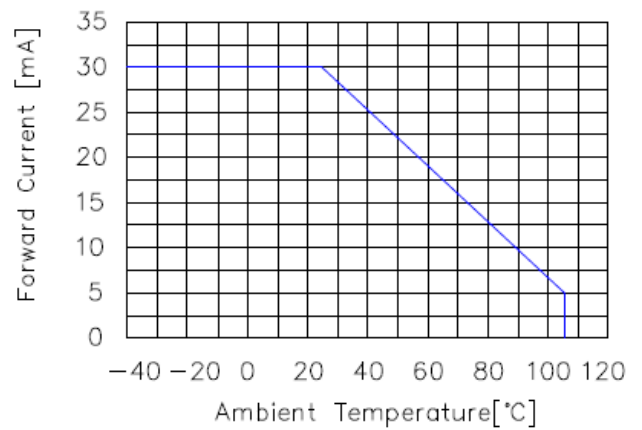
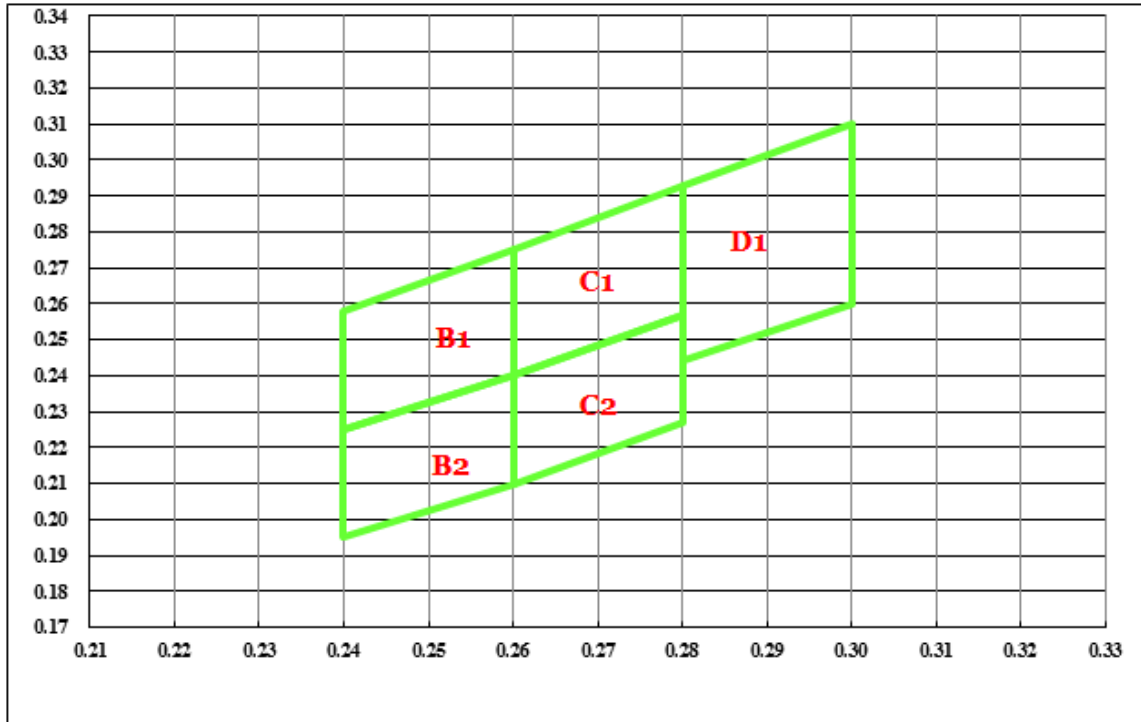


Fig 6. Forward current vs. Temperature

Chromaticity Bin (for White only)


B1				
X	0.240	0.240	0.260	0.260
Y	0.225	0.258	0.275	0.240

B2				
X	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

C1				
X	0.260	0.260	0.280	0.280
Y	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

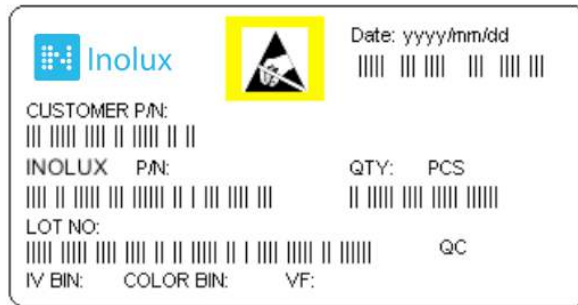
D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-SD40YGXX	Yellow Green	AlGaInP	2	2.0	Common Anode	Black	INND-SD40YGAB
					Common Cathode	Black	INND-SD40YGCB
					Common Anode	Grey	INND-SD40YGAG
					Common Cathode	Grey	INND-SD40YGCG
INND-SD40YXX	Yellow	AlGaInP	13	2.0	Common Anode	Black	INND-SD40YAB
					Common Cathode	Black	INND-SD40YCB
					Common Anode	Grey	INND-SD40YAG
					Common Cathode	Grey	INND-SD40YCG
INND-SD40AXX	Amber	AlGaInP	13	2.0	Common Anode	Black	INND-SD40AAB
					Common Cathode	Black	INND-SD40ACB
					Common Anode	Grey	INND-SD40AAG
					Common Cathode	Grey	INND-SD40ACG
INND-SD40RXX	Red	AlGaInP	4	2.0	Common Anode	Black	INND-SD40RAB
					Common Cathode	Black	INND-SD40RCB
					Common Anode	Grey	INND-SD40RAG
					Common Cathode	Grey	INND-SD40RCG

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-SD40DRXX	Deep Red	AlGaInP	4	2.0	Common Anode	Black	INND-SD40DRAB
					Common Cathode	Black	INND-SD40DRCB
					Common Anode	Grey	INND-SD40DRAG
					Common Cathode	Grey	INND-SD40DRCG
INND-SD40GXX	Green	InGaN	47	3.2	Common Anode	Black	INND-SD40GAB
					Common Cathode	Black	INND-SD40GCB
					Common Anode	Grey	INND-SD40GAG
					Common Cathode	Grey	INND-SD40GCG
INND-SD40BXX	Blue	InGaN	7	3.2	Common Anode	Black	INND-SD40BAB
					Common Cathode	Black	INND-SD40BCB
					Common Anode	Grey	INND-SD40BAG
					Common Cathode	Grey	INND-SD40BCG
INND-SD40WXX	White	InGaN	30	3.2	Common Anode	Black	INND-SD40WAB
					Common Cathode	Black	INND-SD40WCB
					Common Anode	Grey	INND-SD40WAG
					Common Cathode	Grey	INND-SD40WCG

Label Specifications



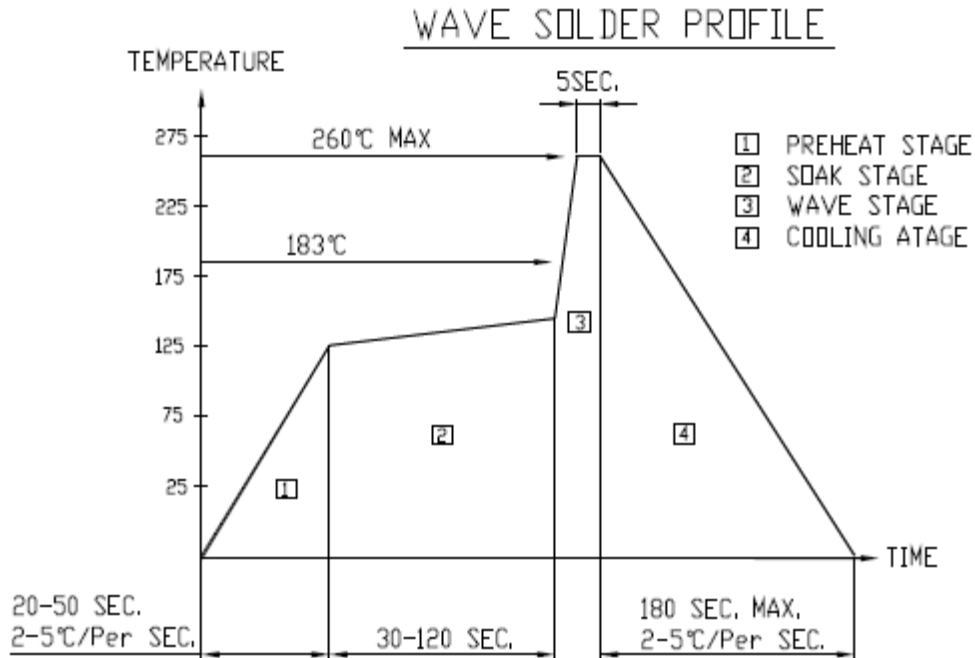
Inolux P/N:

I	N	N	D	-	S	D	4	0	X	X	X	-	X	X	X	X
Inolux		Display Type	Display Type	Dimension	Color	Polarity	Face Color	Customized Stamp-off								
Inolux		ND = Numeric Display	S: SMD Type D: Dual	40 = 0.40" Display Height	YG: 570 nm Y: 590 nm A: 605 nm R: 624 nm DR: 660 nm G: 520 nm B: 470 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 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	12-25-2019

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.