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-TS30 series is a 0.3” single digit display. It is a through hole type LED display which can be used in various applications.

Internal Circuit Diagram

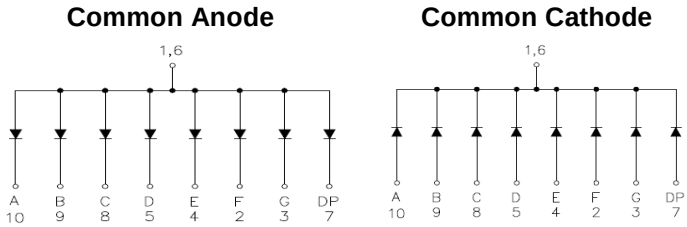


Figure 1. INND-TS30 series Internal Circuit Diagram

Package Dimensions

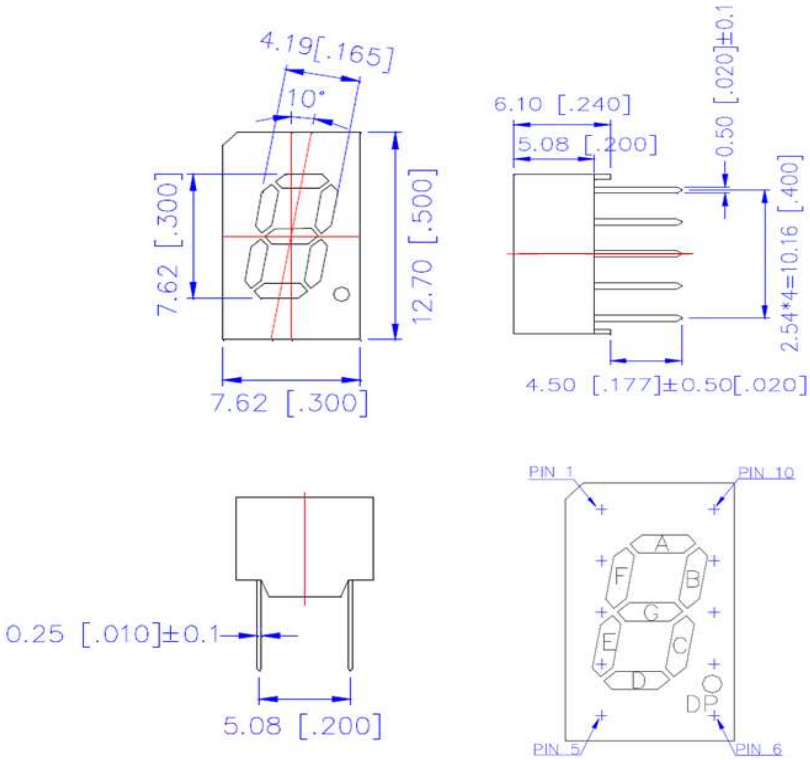


Figure 2. INND-TS30 series Package Dimensions

Absolute Maximum Rating at 25ºC (Note 1)

Product (Per Segment)	Emission Color	Technology	Pd (mW)	IF (mA)	IFP* (mA)	VR (V)	Derate From 25℃ (mA/℃)	T_{OP} (ºC)	T_{ST} (ºC)
INND-TS30YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS30YXX	Yellow	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS30AXX	Amber	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS30RXX	Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS30DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS30GXX	Green	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TS30BXX	Blue	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TS30WXX	White	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C

Notes
1. Condition for IFP is pulse of 1/10 duty and 0.1msec width

Electrical Characteristics T_A = 25℃ (Note 1)

Product (Per Segment)	Emission Color	V_F(V)@20mA			λ(nm)@20mA		I^*_V(mcd)@10mA			I_R(μA)@V_R=5V	I_{V-M} @I_F =10mA
		min	typ.	max	λ_D	λ_P	min	typ.	max	max	max
INND-TS30YGXX	Yellow Green	-	2.0	2.8	570	572	-	12	-	100	2:1
INND-TS30YXX	Yellow	-	2.0	2.8	590	592	-	30	-	100	2:1
INND-TS30AXX	Amber	-	2.0	2.8	605	612	-	40	-	100	2:1
INND-TS30RXX	Red	-	2.0	2.8	630	644	-	18	-	100	2:1
INND-TS30DRXX	Deep Red	-	2.0	2.8	645	660	-	12	-	100	2:1
INND-TS30GXX	Green	-	3.2	3.8	525	-	-	120	-	100	2:1
INND-TS30BXX	Blue	-	3.2	3.8	465	-	-	17	-	50	2:1
INND-TS30WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	-	42.3	-	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 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

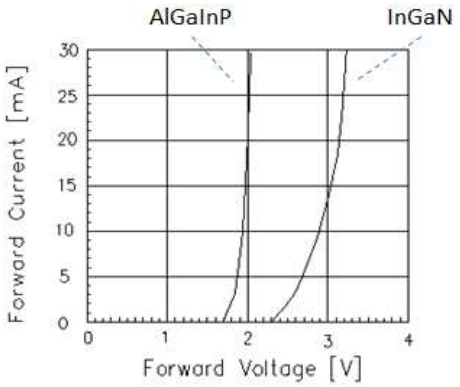


Fig 1. Forward Current vs. Forward Voltage

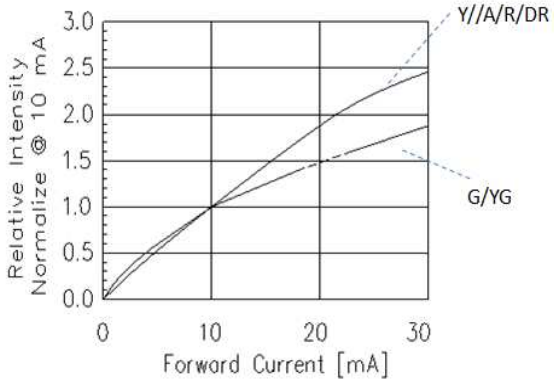


Fig 2. Relative Intensity vs. Forward Current

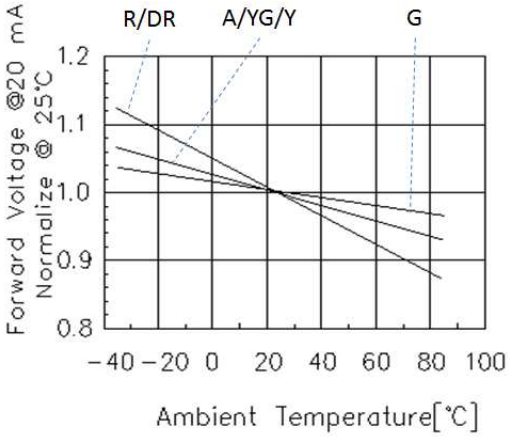


Fig 3. Forward Voltage vs. Temperature

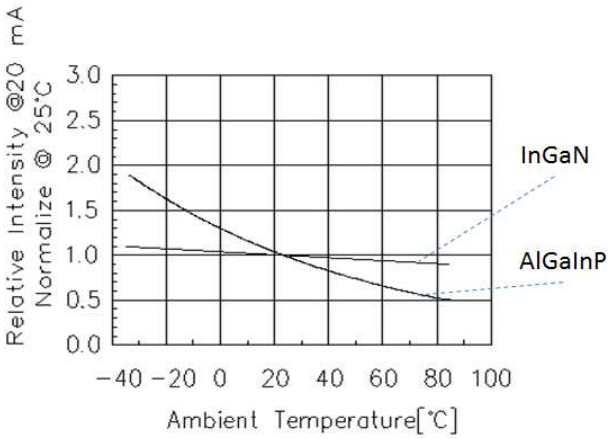


Fig 4. Relative Intensity vs. Temperature

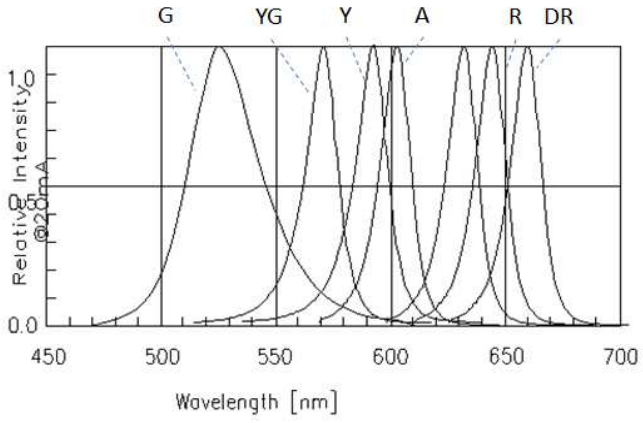


Fig 5. Relative Intensity vs. Wavelength

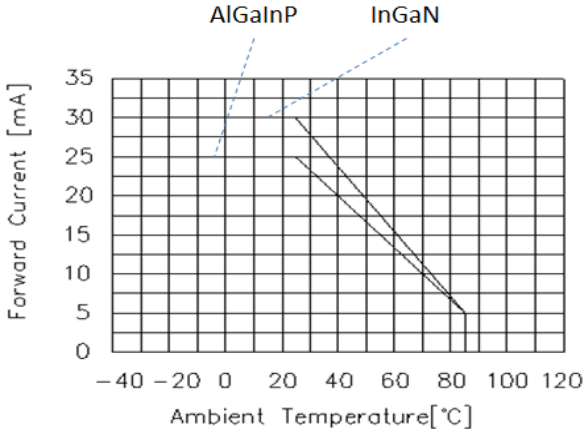


Fig 6. Forward current vs. Temperature

Characteristic Curves for B

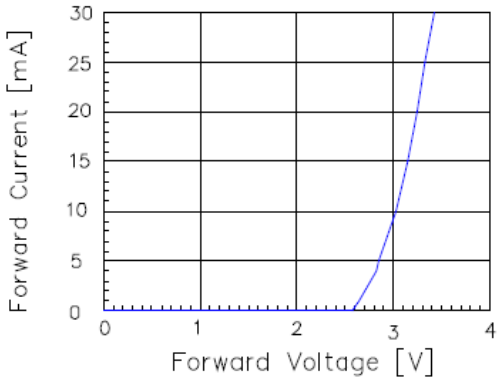


Fig 1. Forward Current vs. Forward Voltage

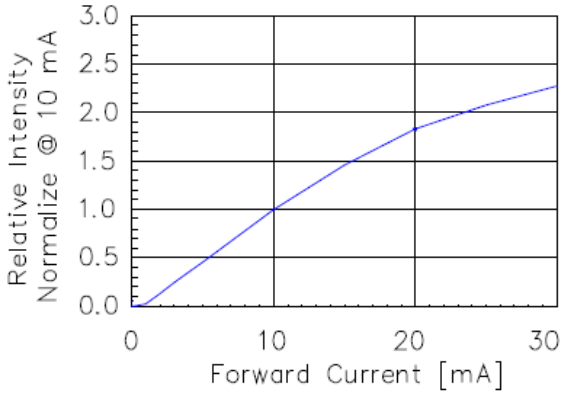


Fig 2. Relative Intensity vs. Forward Current

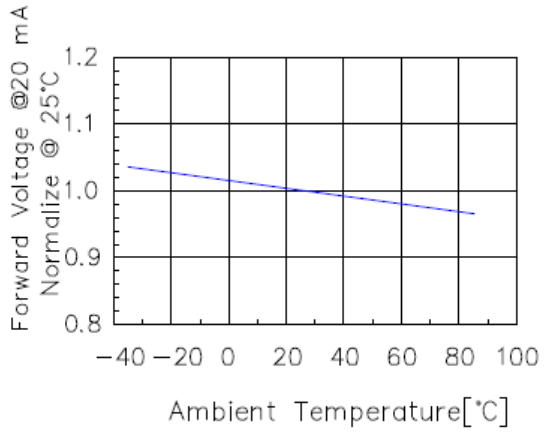


Fig 3. Forward Voltage vs. Temperature

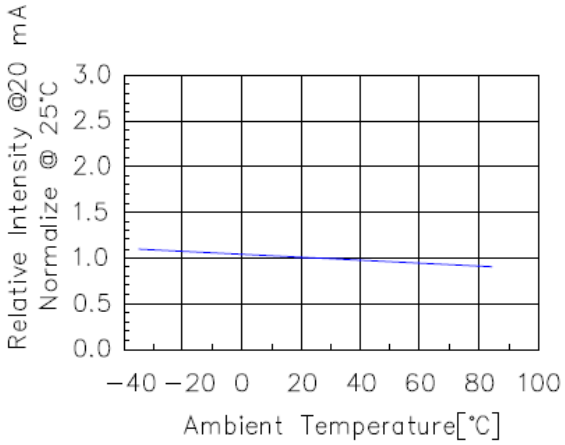


Fig 4. Relative Intensity vs. Temperature

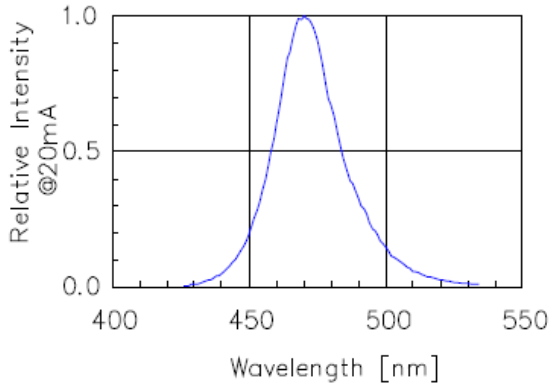


Fig 5. Relative Intensity vs. Wavelength

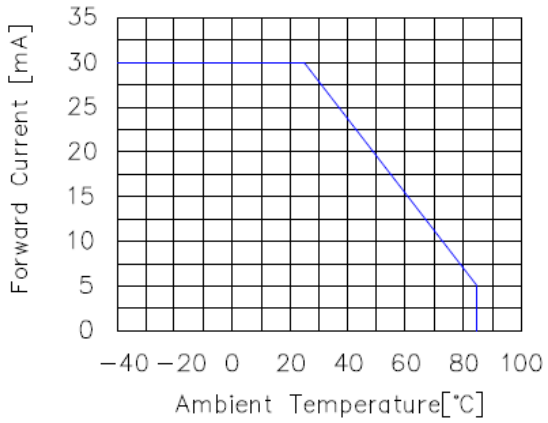


Fig 6. Forward current vs. Temperature

Characteristic Curves for W

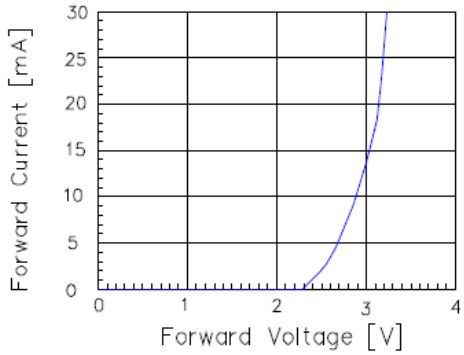


Fig 1. Forward Current vs. Forward Voltage

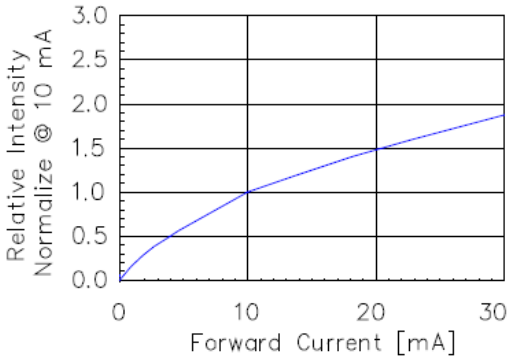


Fig 2. Relative Intensity vs. Forward Current

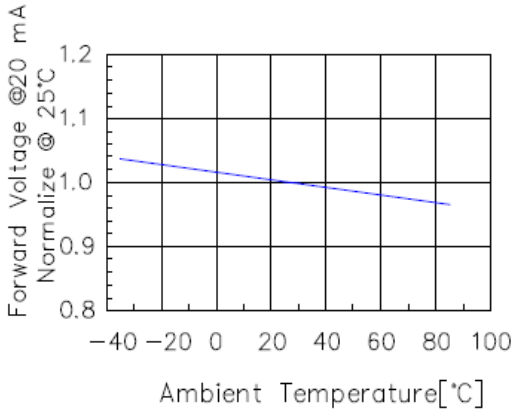


Fig 3. Forward Voltage vs. Temperature

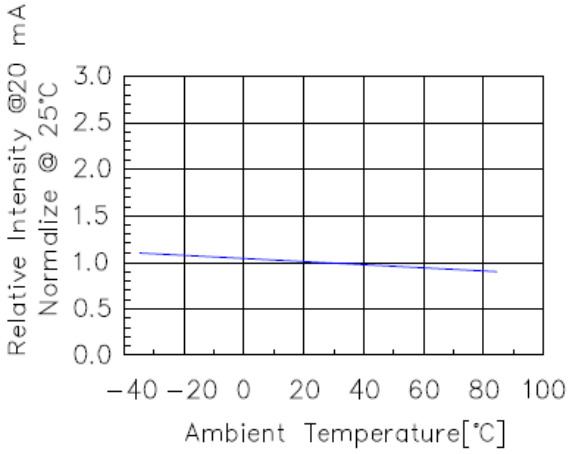


Fig 4. Relative Intensity vs. Temperature

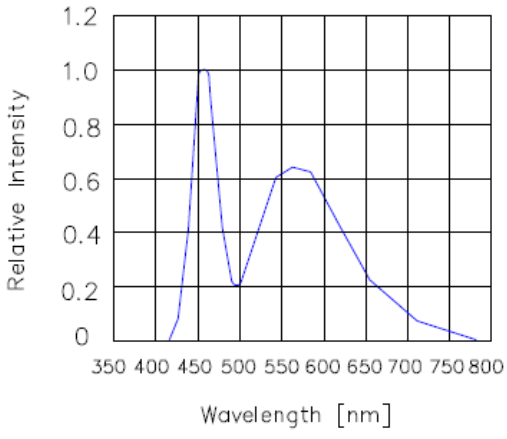


Fig 5. Relative Intensity vs. Wavelength

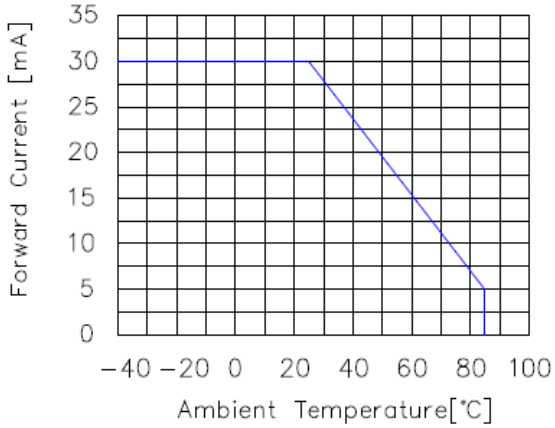
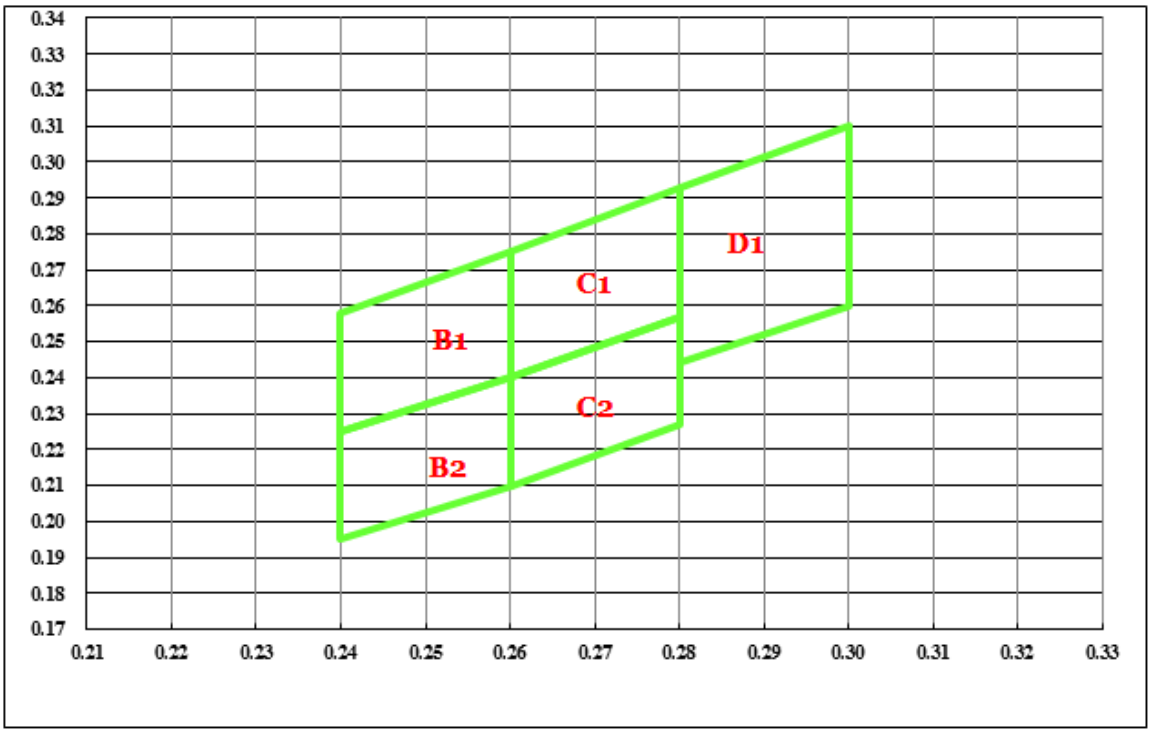


Fig 6. Forward current vs. Temperature

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

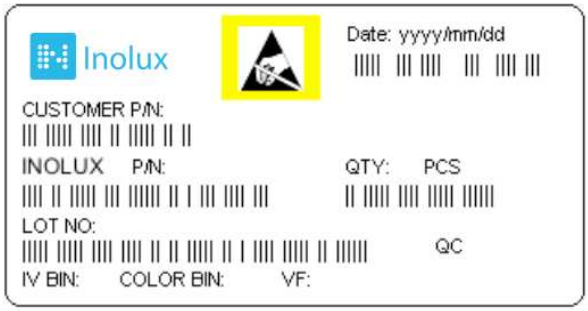
D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TS30YGXX	Yellow Green	AlGaInP	12	2.0	Common Anode	Black	INND-TS30YGAB
					Common Cathode	Black	INND-TS30YGCB
					Common Anode	Grey	INND-TS30YGAG
					Common Cathode	Grey	INND-TS30YGCG
INND-TS30YXX	Yellow	AlGaInP	30	2.0	Common Anode	Black	INND-TS30YAB
					Common Cathode	Black	INND-TS30YCB
					Common Anode	Grey	INND-TS30YAG
					Common Cathode	Grey	INND-TS30YCG
INND-TS30AXX	Amber	AlGaInP	40	2.0	Common Anode	Black	INND-TS30AAB
					Common Cathode	Black	INND-TS30ACB
					Common Anode	Grey	INND-TS30AAG
					Common Cathode	Grey	INND-TS30ACG
INND-TS30RXX	Red	AlGaInP	18	2.0	Common Anode	Black	INND-TS30RAB
					Common Cathode	Black	INND-TS30RCB
					Common Anode	Grey	INND-TS30RAG
					Common Cathode	Grey	INND-TS30RCG

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TS30DRXX	Deep Red	AlGaInP	12	2.0	Common Anode	Black	INND-TS30DRAB
					Common Cathode	Black	INND-TS30DRCB
					Common Anode	Grey	INND-TS30DRAG
					Common Cathode	Grey	INND-TS30DRCG
INND-TS30GXX	Green	InGaN	120	3.2	Common Anode	Black	INND-TS30GAB
					Common Cathode	Black	INND-TS30GCB
					Common Anode	Grey	INND-TS30GAG
					Common Cathode	Grey	INND-TS30GCG
INND-TS30BXX	Blue	InGaN	17	3.2	Common Anode	Black	INND-TS30BAB
					Common Cathode	Black	INND-TS30BCB
					Common Anode	Grey	INND-TS30BAG
					Common Cathode	Grey	INND-TS30BCG
INND-TS30WXX	White	InGaN	42.3	3.2	Common Anode	Black	INND-TS30WAB
					Common Cathode	Black	INND-TS30WCB
					Common Anode	Grey	INND-TS30WAG
					Common Cathode	Grey	INND-TS30WCG

Label Specifications



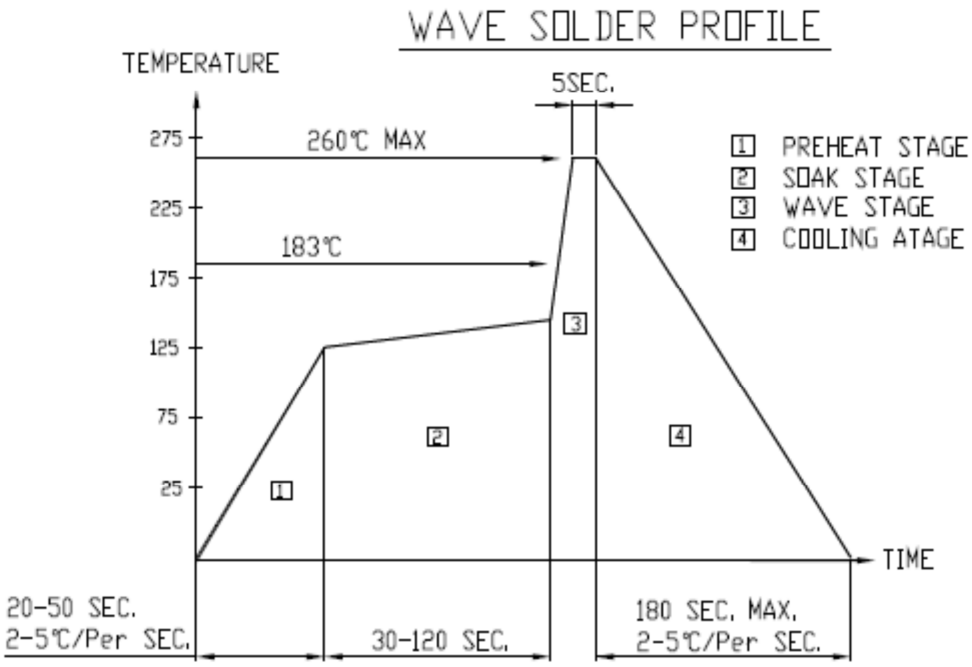
Inolux P/N:

I	N	N	D	-	T	S	3	0	X	X	X	-	X	X	X	X
		Display Type			Display Type		Dimension		Color	Polarity	Face Color		Customized Stamp-off			
Inolux		ND = Numeric Display			T: Through hole S: Single		30 = 0.30” Display 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 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	07-12-2017

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