Features

- 0.39” (10.00mm) Digit Height
- Four Digit Display
- Black/Grey Face , White Segment
- IC compatible, Easy assembly
- Dynamic drive connect
- RoHS Compliant, Pb Free

Description

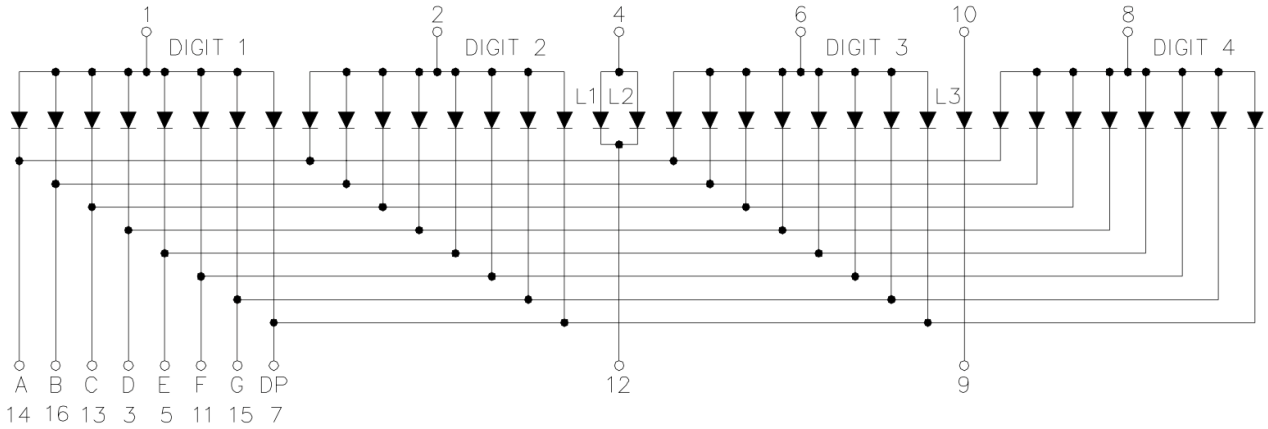
The INND-TQ39 series is a 0.39” four digit display. It is a through hole type LED display which can be used in various applications.

Applications

- Consumer Electronics
- Industrial Equipment

Internal Circuit Diagram

Common Anode



Common Cathode

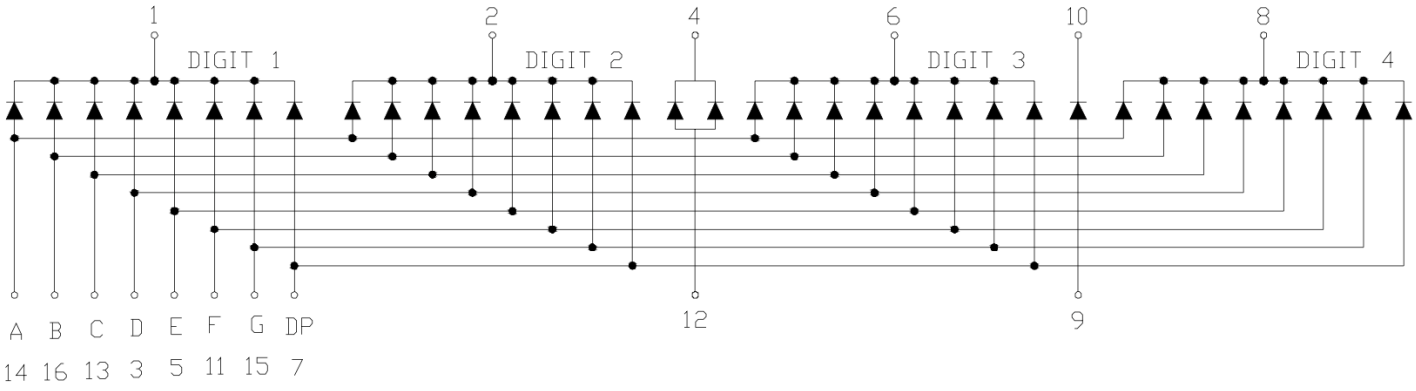


Figure 1. INND-TQ39 series Internal Circuit Diagram

Package Dimensions

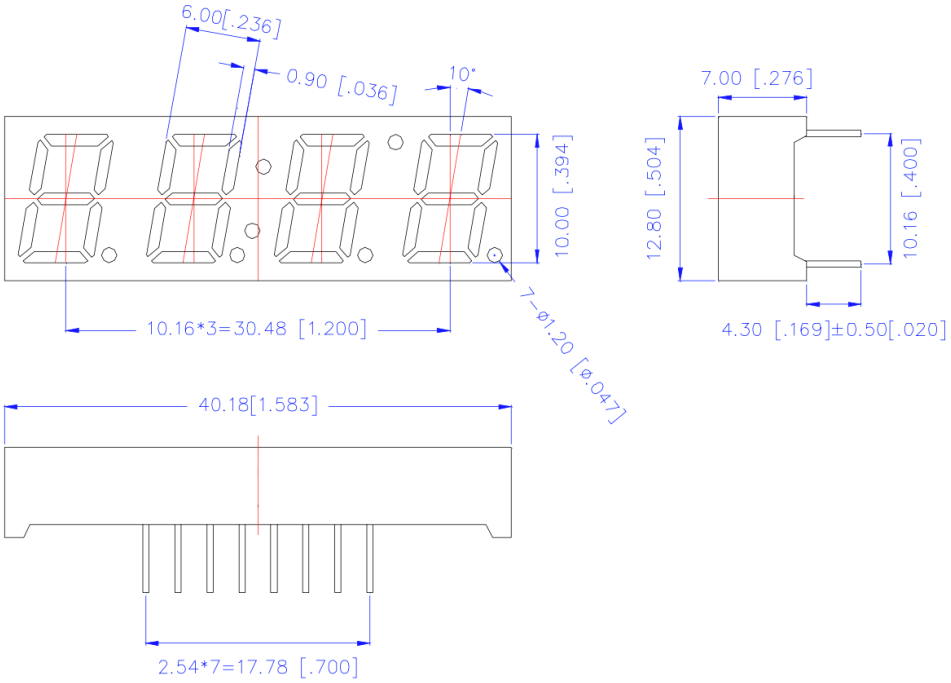


Figure 2. INND-TQ39 series Package Dimensions

Notes

1. All pins are ⌀0.51[.020]±0.1[.004]
2. Dimension in millimeter [inch], tolerance is ±0.25 [.010] and angle is ±1° unless otherwise noted.
3. Bending≤Length*1%.

All Light On Segments Feature & Pin Position

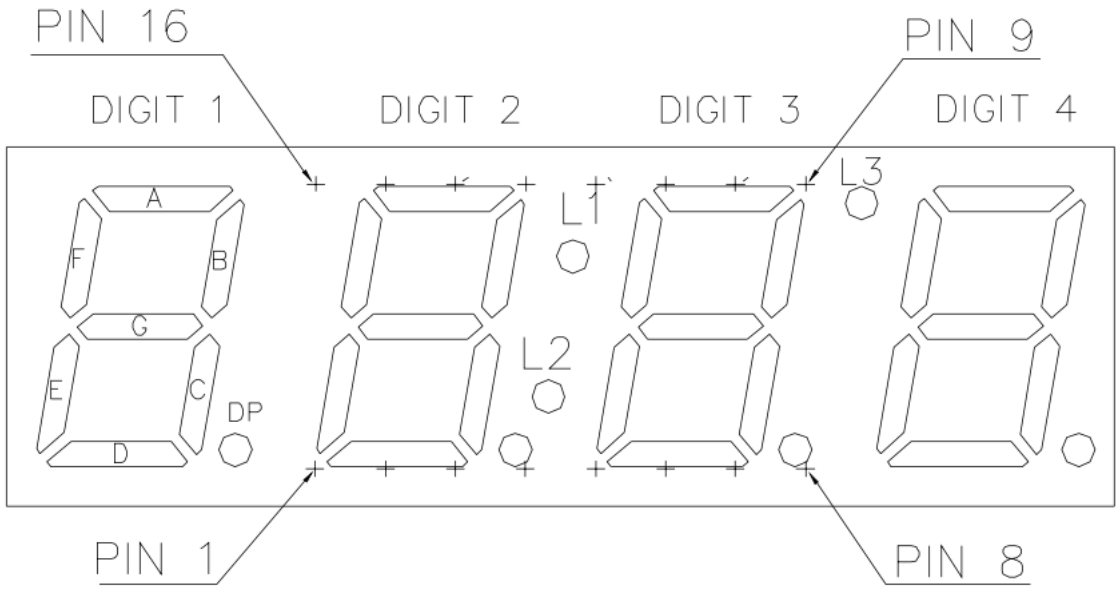


Figure 3. All Light On Segments Feature & Pin Position

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-TQ39YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TQ39YXX	Yellow	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TQ39AXX	Amber	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TQ39RXX	Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TQ39DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TQ39GXX	Green	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TQ39BXX	Blue	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TQ39WXX	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	VF(V)@20mA			λ(nm)@10mA		I*V(mcd)@10mA			IR(μA)@VR=5V	IV-M @IF =10mA
		min	typ.	max	λD	λP	min	typ.	max	max	max
INND-TQ39YGXX	Yellow Green	-	2.0	2.8	570	572	-	9	-	100	2:1
INND-TQ39YXX	Yellow	-	2.0	2.8	590	592	-	38	-	100	2:1
INND-TQ39AXX	Amber	-	2.0	2.8	605	612	-	48	-	100	2:1
INND-TQ39RXX	Red	-	2.0	2.8	630	644	-	16	-	100	2:1
INND-TQ39DRXX	Deep Red		2.0	2.8	645	660	-	14	-	100	2:1
INND-TQ39GXX	Green	-	3.2	3.8	525	-	-	156	-	100	2:1
INND-TQ39BXX	Blue	-	3.2	3.8	465	-	-	13	-	50	2:1
INND-TQ39WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	-	50	-	100	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

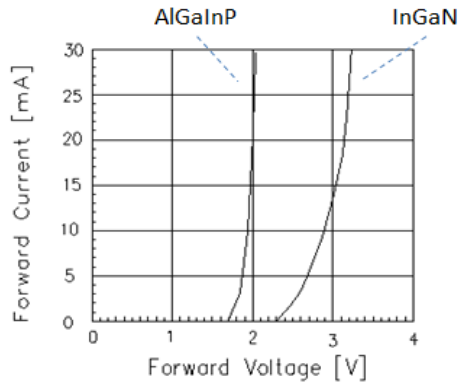


Fig 1. Forward Current vs. Forward Voltage

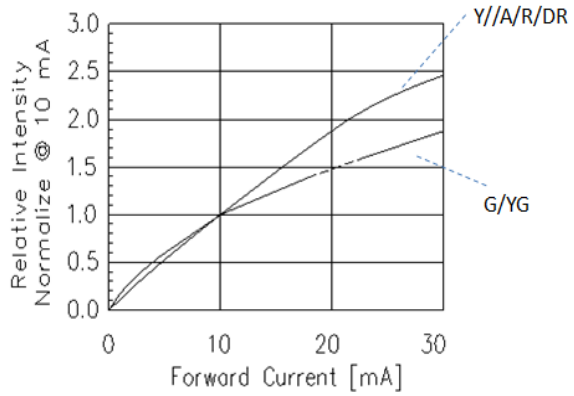


Fig 2. Relative Intensity vs. Forward Current

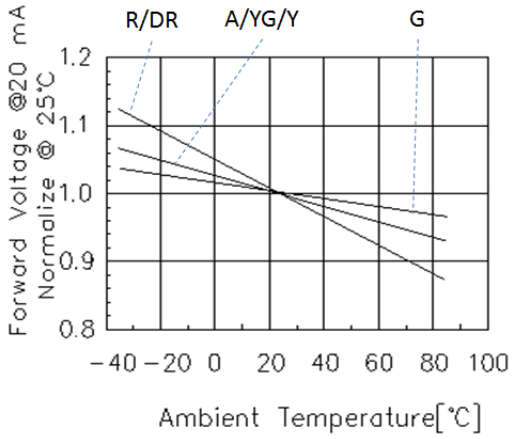


Fig 3. Forward Voltage vs. Temperature

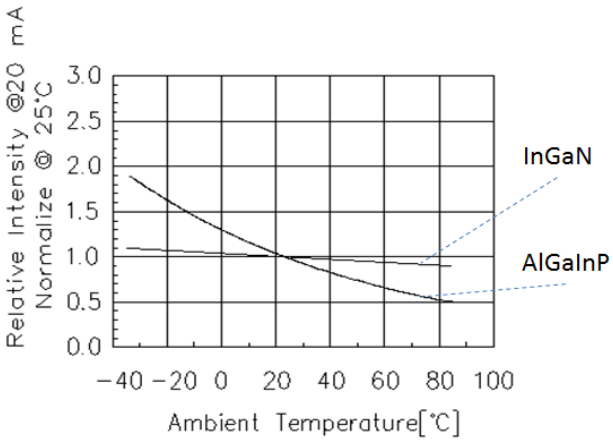


Fig 4. Relative Intensity vs. Temperature

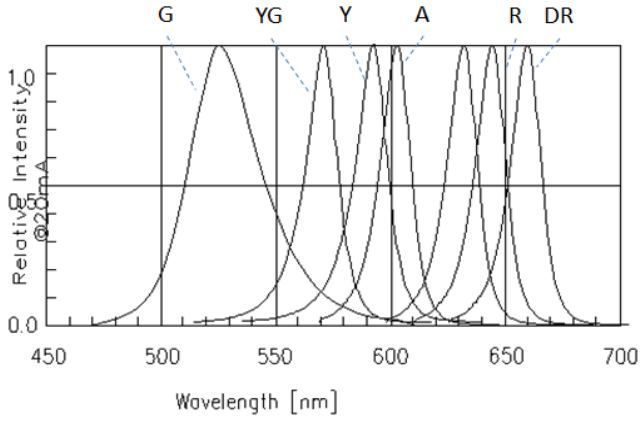


Fig 5. Relative Intensity vs. Wavelength

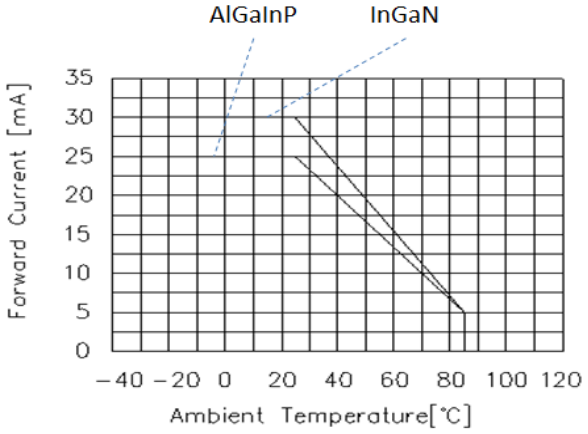


Fig 6. Forward current vs. Temperature

Characteristic Curves for B

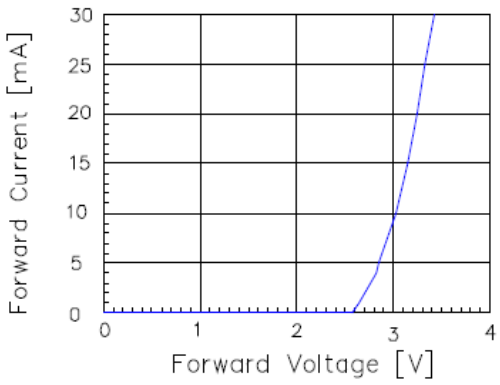


Fig 1. Forward Current vs. Forward Voltage

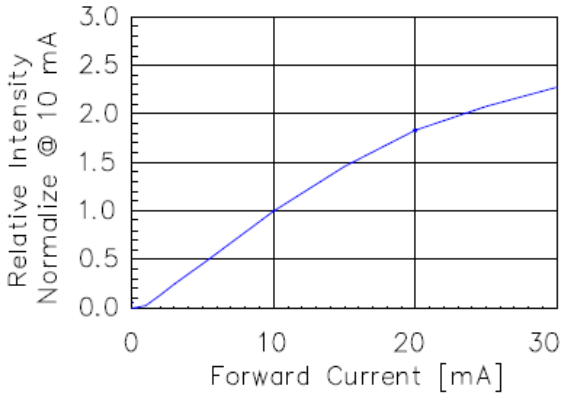


Fig 2. Relative Intensity vs. Forward Current

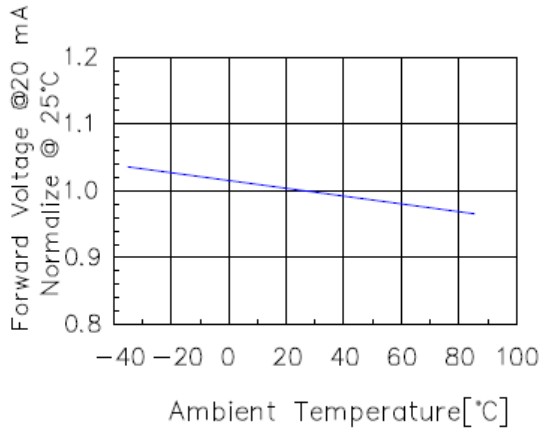


Fig 3. Forward Voltage vs. Temperature

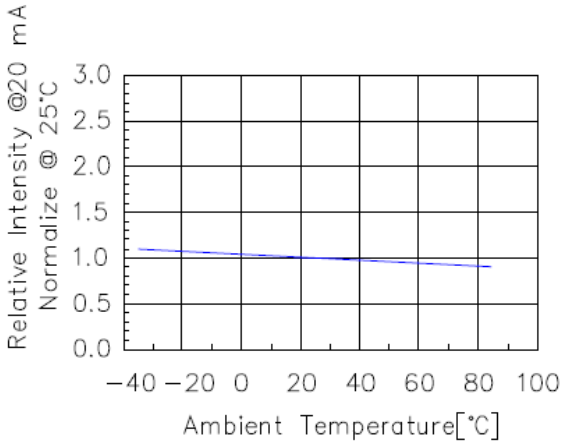


Fig 4. Relative Intensity vs. Temperature

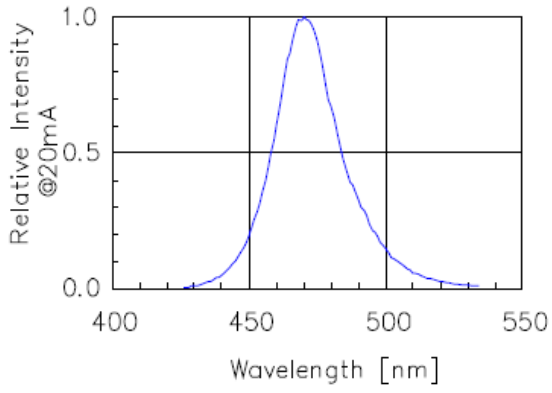


Fig 5. Relative Intensity vs. Wavelength

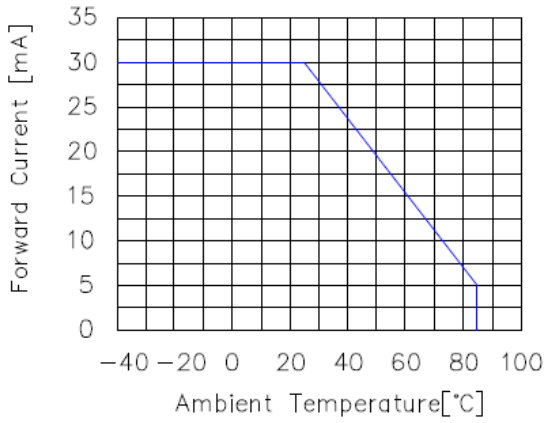


Fig 6. Forward current vs. Temperature

Characteristic Curves for W

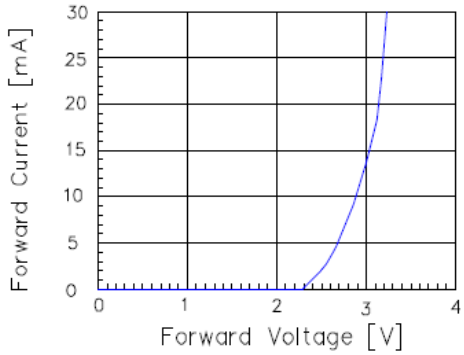


Fig 1. Forward Current vs. Forward Voltage

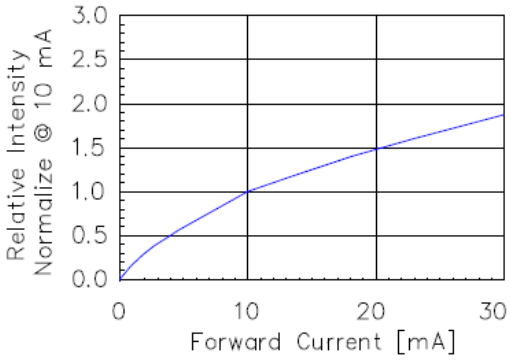


Fig 2. Relative Intensity vs. Forward Current

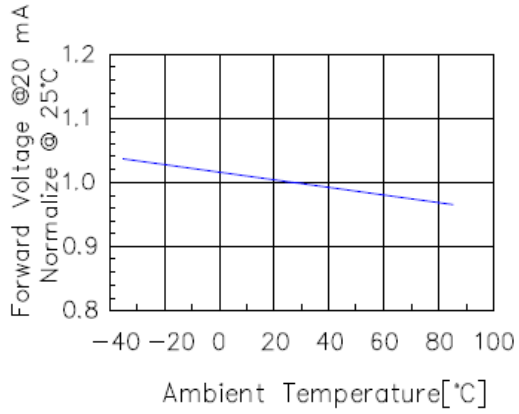


Fig 3. Forward Voltage vs. Temperature

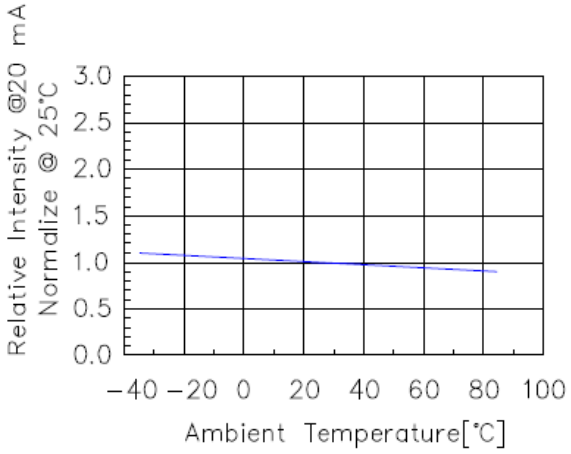


Fig 4. Relative Intensity vs. Temperature

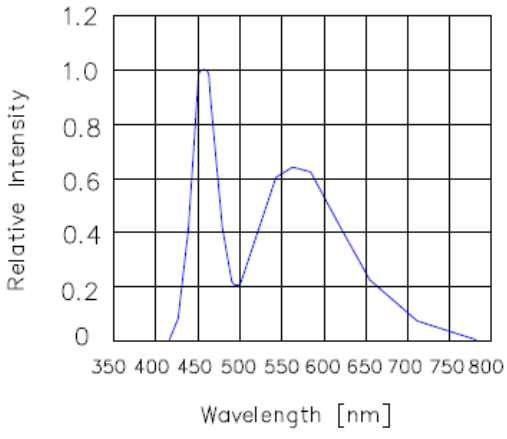


Fig 5. Relative Intensity vs. Wavelength

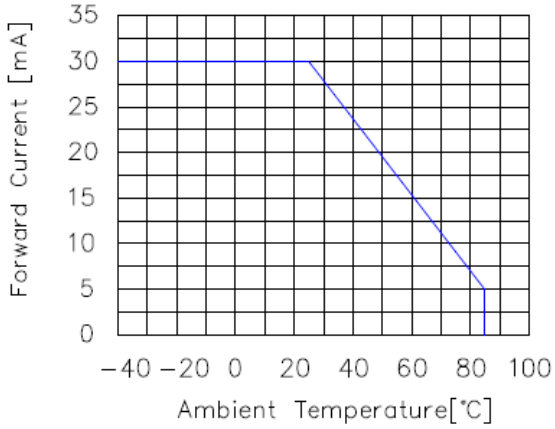
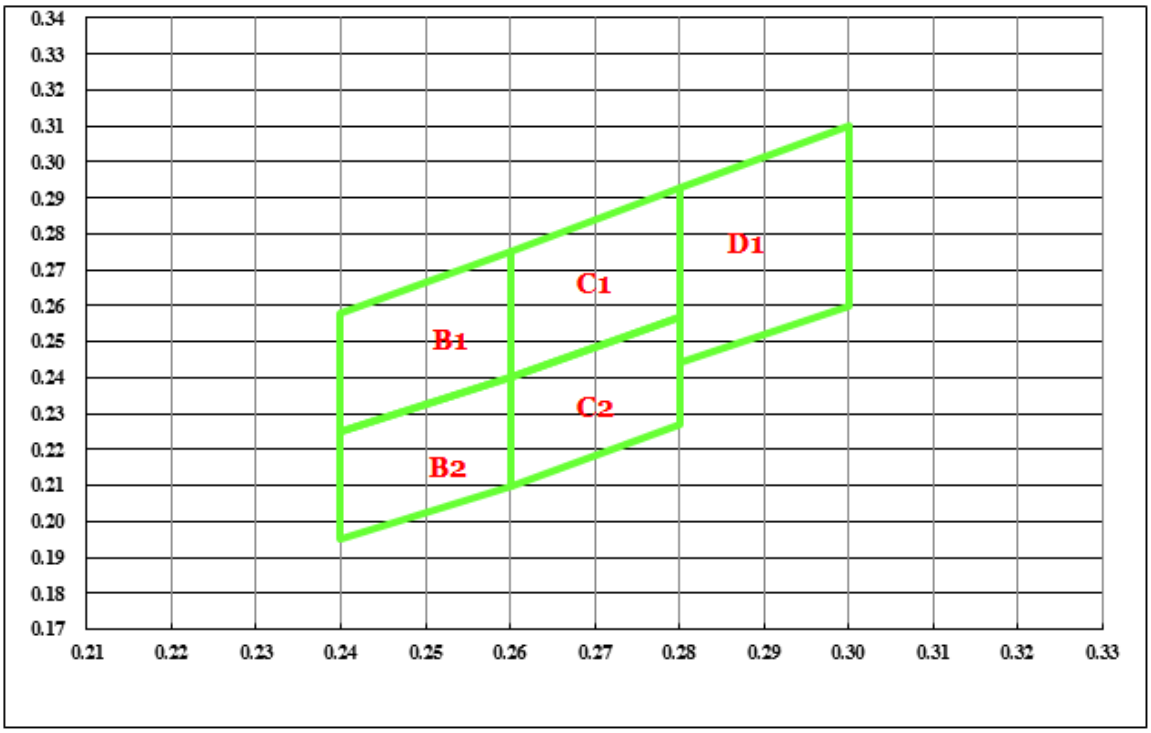


Fig 6. Forward current vs. Temperature

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

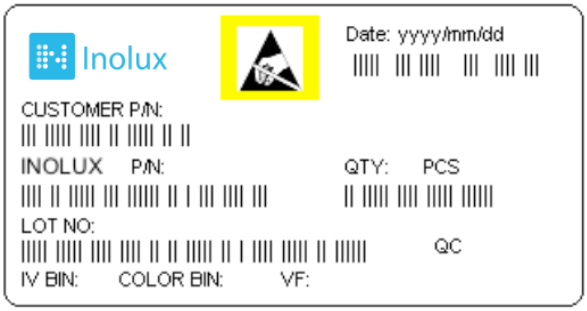
D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TQ39YGXX	Yellow Green	AlGaInP	8	2.0	Common Anode	Black	INND-TQ39YGAB
					Common Cathode	Black	INND-TQ39YGCB
					Common Anode	Grey	INND-TQ39YGAG
					Common Cathode	Grey	INND-TQ39YGCG
INND-TQ39YXX	Yellow	AlGaInP	38	2.0	Common Anode	Black	INND-TQ39YAB
					Common Cathode	Black	INND-TQ39YCB
					Common Anode	Grey	INND-TQ39YAG
					Common Cathode	Grey	INND-TQ39YCG
INND-TQ39AXX	Amber	AlGaInP	48	2.0	Common Anode	Black	INND-TQ39AAB
					Common Cathode	Black	INND-TQ39ACB
					Common Anode	Grey	INND-TQ39AAG
					Common Cathode	Grey	INND-TQ39ACG
INND-TQ39RXX	Red	AlGaInP	16	2.0	Common Anode	Black	INND-TQ39RAB
					Common Cathode	Black	INND-TQ39RCB
					Common Anode	Grey	INND-TQ39RAG
					Common Cathode	Grey	INND-TQ39RCG

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TQ39DRXX	Deep Red	AlGaInP	14	2.0	Common Anode	Black	INND-TQ39DRAB
					Common Cathode	Black	INND-TQ39DRCB
					Common Anode	Grey	INND-TQ39DRAG
					Common Cathode	Grey	INND-TQ39DRCG
INND-TQ39GXX	Green	InGaN	156	3.2	Common Anode	Black	INND-TQ39GAB
					Common Cathode	Black	INND-TQ39GCB
					Common Anode	Grey	INND-TQ39GAG
					Common Cathode	Grey	INND-TQ39GCG
INND-TQ39BXX	Blue	InGaN	13	3.2	Common Anode	Black	INND-TQ39BAB
					Common Cathode	Black	INND-TQ39BCB
					Common Anode	Grey	INND-TQ39BAG
					Common Cathode	Grey	INND-TQ39BCG
INND-TQ39WXX	White	InGaN	50	3.2	Common Anode	Black	INND-TQ39WAB
					Common Cathode	Black	INND-TQ39WCB
					Common Anode	Grey	INND-TQ39WAG
					Common Cathode	Grey	INND-TQ39WCG

Label Specifications



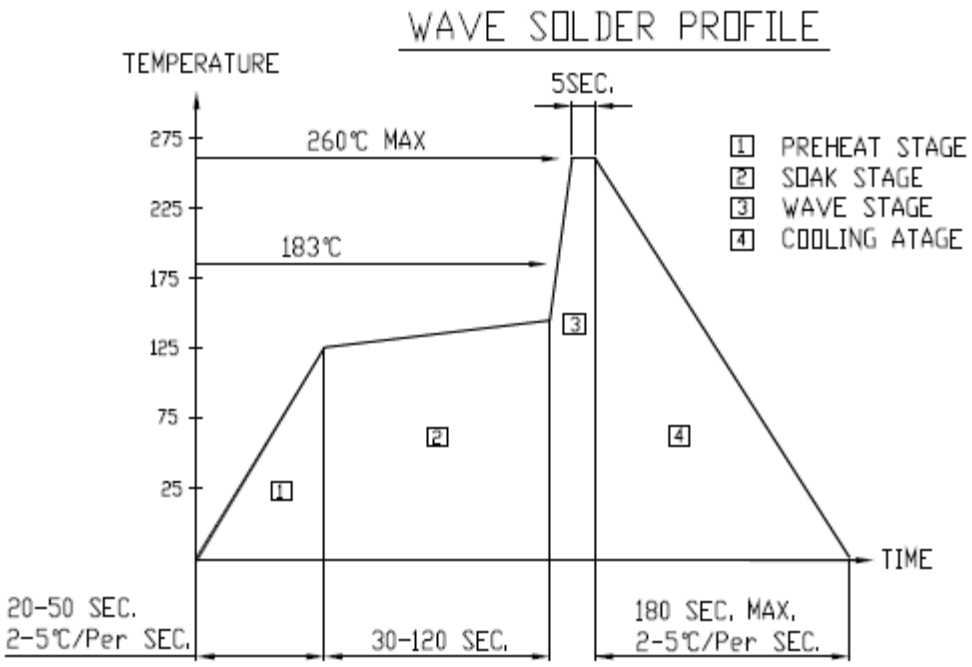
Inolux P/N:

I	N	N	D	-	T	Q	3	9	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 Q: Four Digit		39 = 0.39” Display Height		YG: 570 nm Y: 590 nm A: 605 nm R: 624 nm DR:645 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	12-27-2019

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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.