

Features

- 0.56" (14.20mm) Digit Height
- Dual Digit Display
- Black/Grey Face, White Segment
- IC compatible, Easy assembly
- Dynamic drive connects
- RoHS Compliant, Pb Free

Description

The INND-TD56 series is a 0.56" dual 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

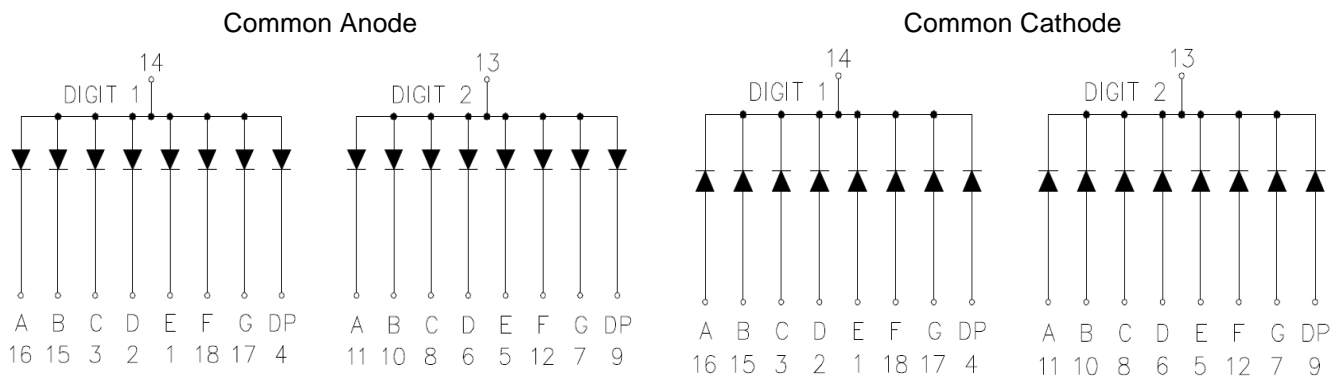


Figure 1. INND-TD56 series Internal Circuit Diagram

Package Dimensions

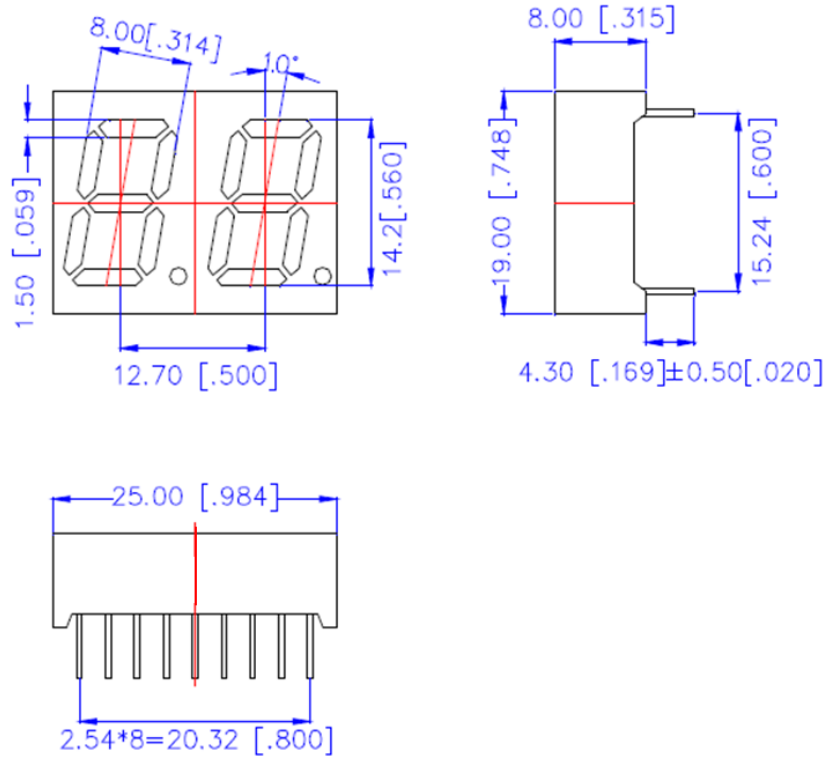


Figure 2. INND-TD56 series Package Dimensions

Notes

1. All pins are $\Phi 0.51 [0.020] \pm 0.1 [0.004]$
2. Dimension in millimeter [inch], tolerance is $\pm 0.25 [0.010]$ and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending $\leq \text{Length} * 1\%$.

All Light On Segments Feature & Pin Position

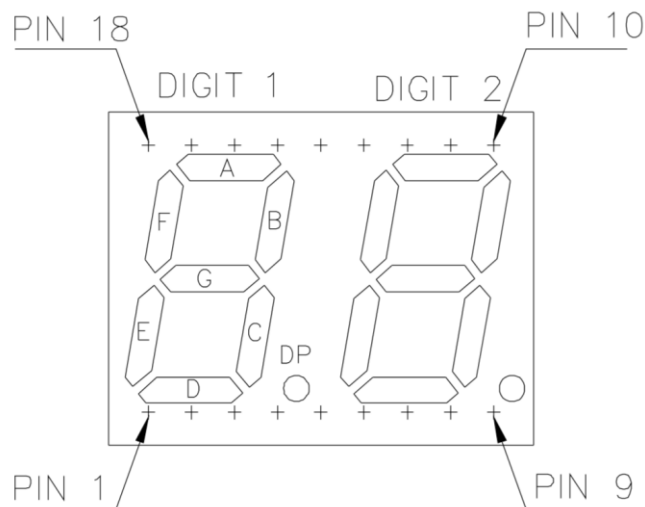


Figure 3. All Light On Segments Feature & Pin Position

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-TD56YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TD56YXX	Yellow	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TD56AXX	Amber	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TD56RXX	Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TD56DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TD56GXX	Green	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TD56BXX	Blue	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TD56WXX	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 $T_A = 25^\circ\text{C}$ (Note 1)

Product (Per Segment)	Emission Color	VF(V)@20mA			λ (nm)@20mA		I*V(mcd)@10mA			IR(μ A)@VR=5V	IV-M @IF =10mA
		min	typ.	max	λ D	λ P	min	typ.	max	max	max
INND-TD56YGXX	Yellow Green	-	2.0	2.8	570	572	-	15	-	100	2:1
INND-TD56YXX	Yellow	-	2.0	2.8	590	592	-	50	-	100	2:1
INND-TD56AXX	Amber	-	2.0	2.8	605	612	-	70	-	100	2:1
INND-TD56RXX	Red	-	2.0	2.8	630	644	-	30	-	100	2:1
INND-TD56DRXX	Deep Red	-	2.0	2.8	645	660	-	25	-	100	2:1
INND-TD56GXX	Green	-	3.2	3.8	525	-	-	218	-	100	2:1
INND-TD56BXX	Blue	-	3.2	3.8	465	-	-	22	-	50	2:1
INND-TD56WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	-	120	-	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).

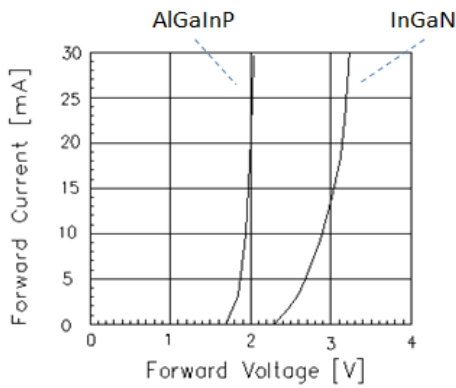
Characteristic Curves for YG, Y, A, R, DR, G


Fig 1. Forward Current vs. Forward Voltage

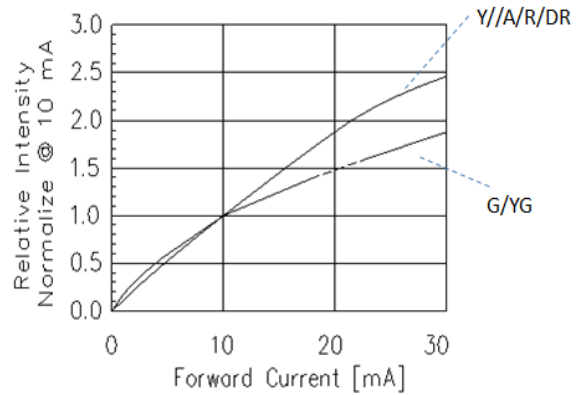


Fig 2. Relative Intensity vs. Forward Current

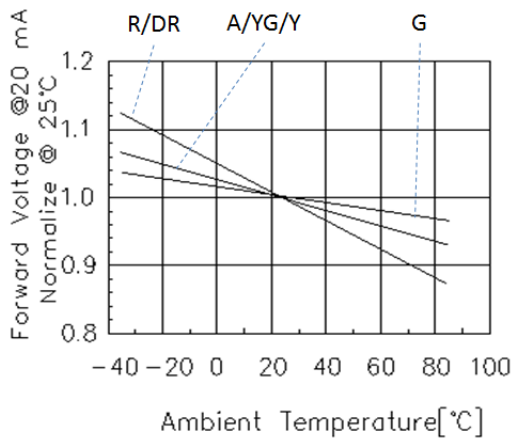


Fig 3. Forward Voltage vs. Temperature

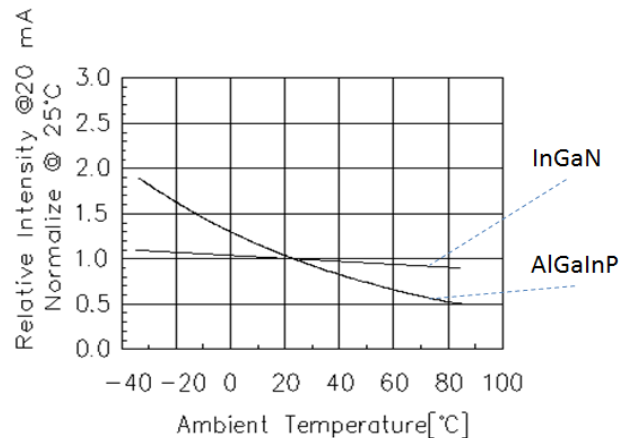


Fig 4. Relative Intensity vs. Temperature

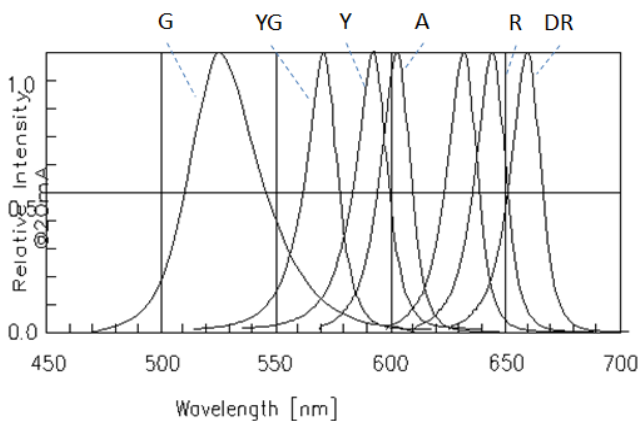


Fig 5. Relative Intensity vs. Wavelength

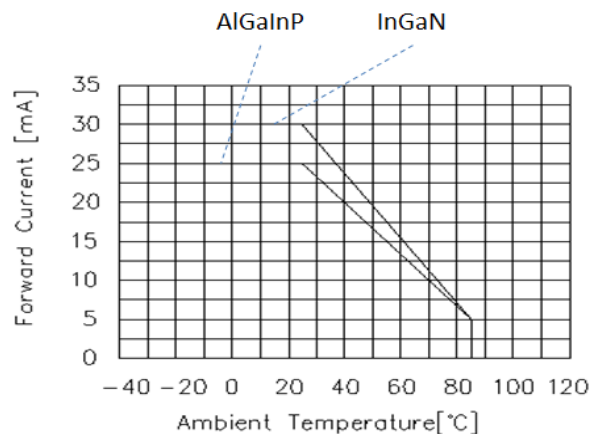


Fig 6. Forward current vs. Temperature

Characteristic Curves for B

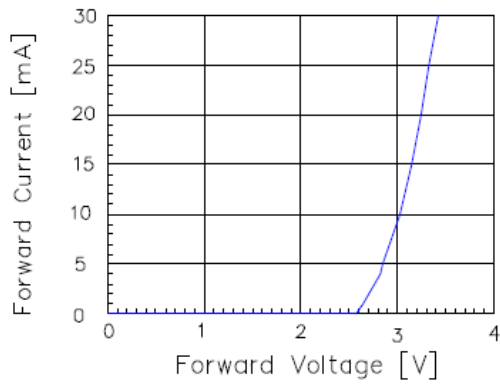


Fig 1. Forward Current vs. Forward Voltage

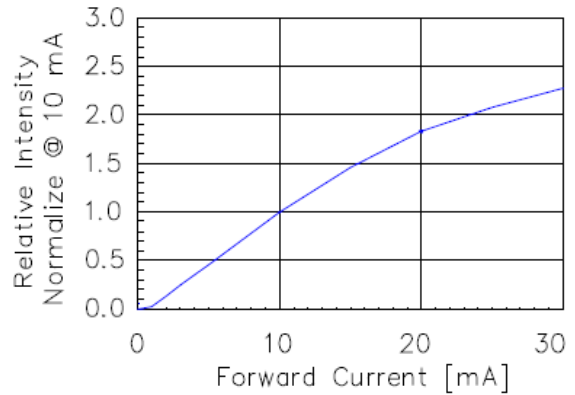


Fig 2. Relative Intensity vs. Forward Current

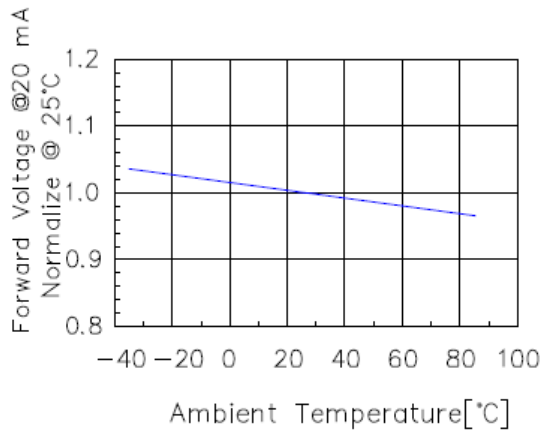


Fig 3. Forward Voltage vs. Temperature

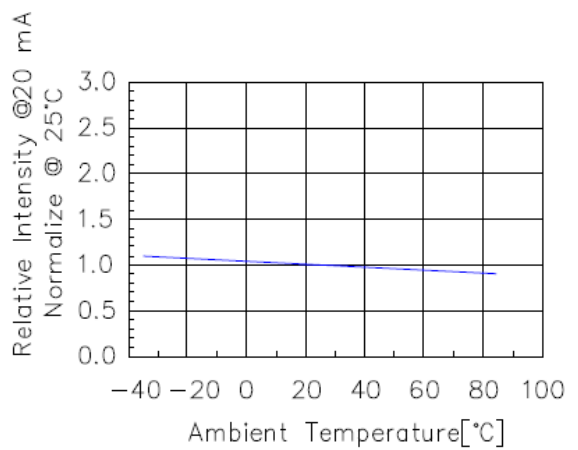


Fig 4. Relative Intensity vs. Temperature

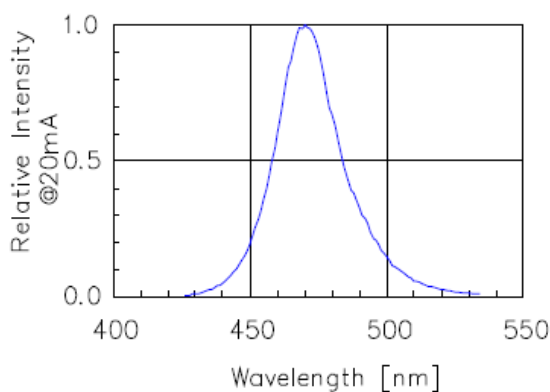


Fig 5. Relative Intensity vs. Wavelength

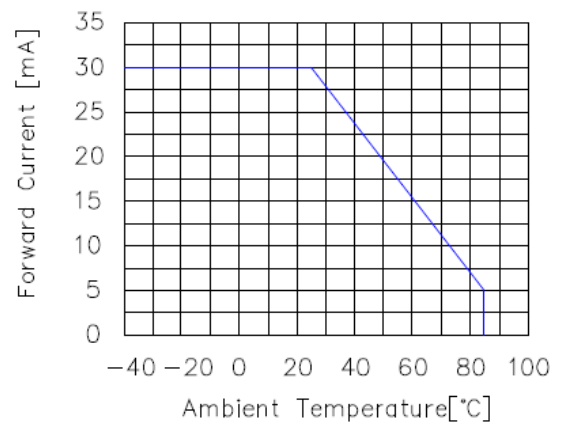


Fig 6. Forward current vs. Temperature

Characteristic Curves for W

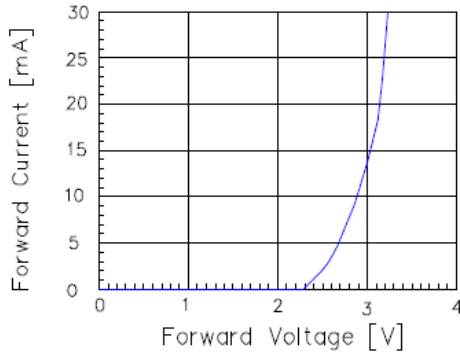


Fig 1. Forward Current vs. Forward Voltage

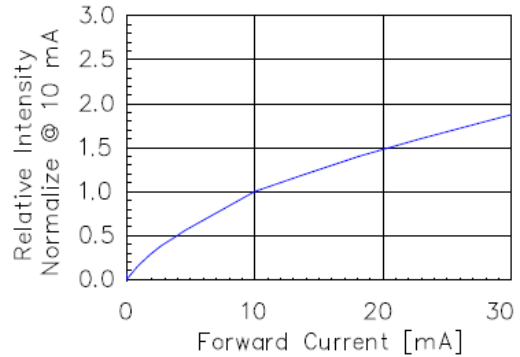


Fig 2. Relative Intensity vs. Forward Current

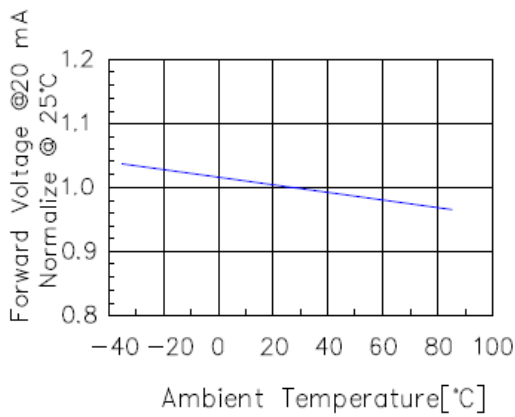


Fig 3. Forward Voltage vs. Temperature

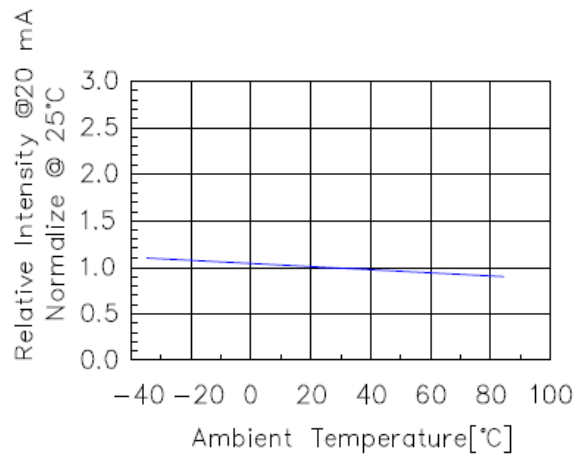


Fig 4. Relative Intensity vs. Temperature

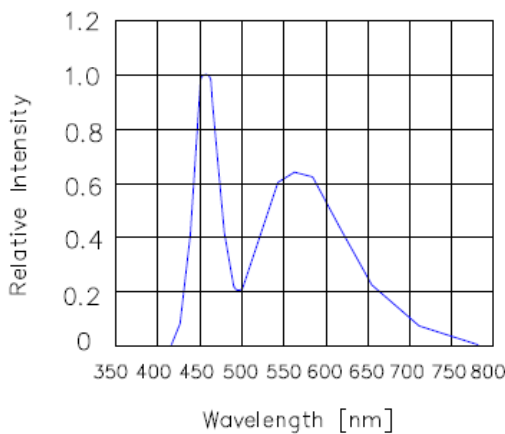


Fig 5. Relative Intensity vs. Wavelength

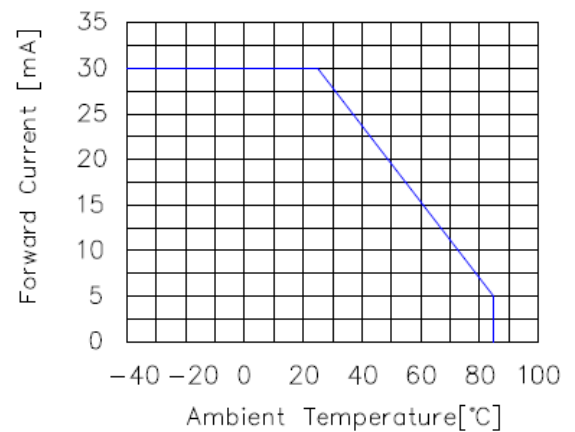
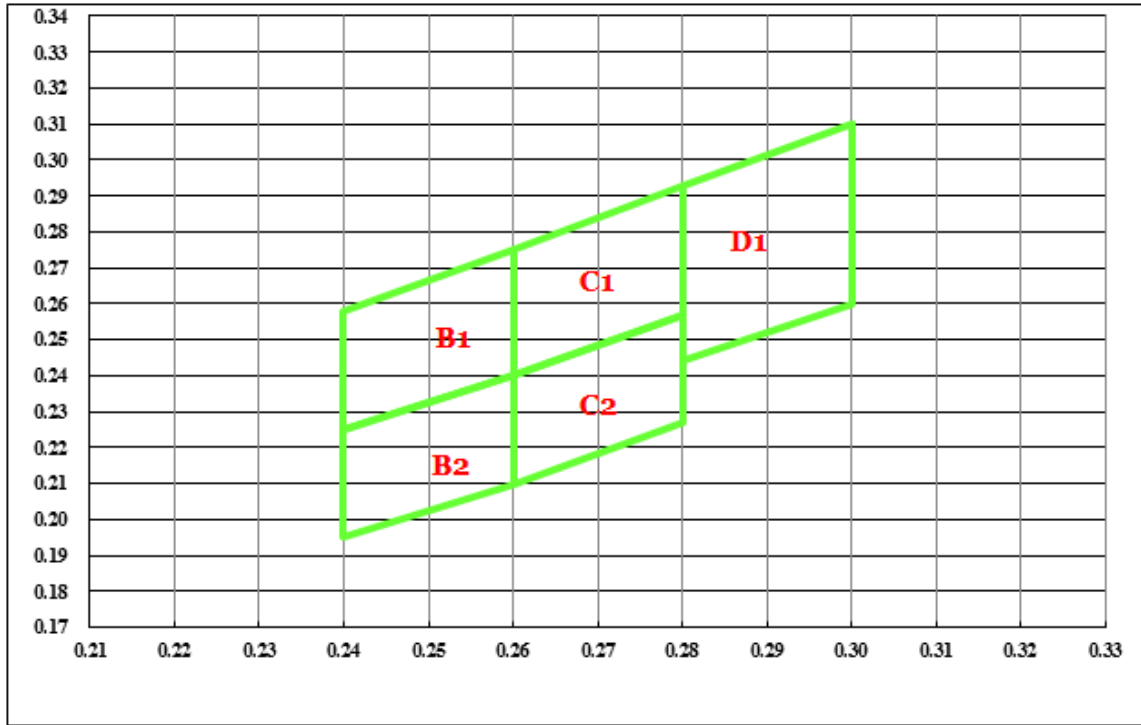


Fig 6. Forward current vs. Temperature

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

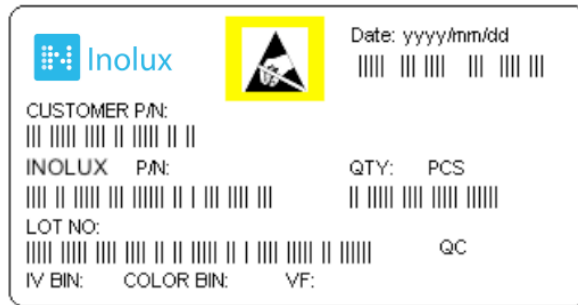
D1				
X	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TD56YGXX	Yellow Green	AlGaInP	15	2.0	Common Anode	Black	INND-TD56YGAB
					Common Cathode	Black	INND-TD56YGCB
					Common Anode	Grey	INND-TD56YGAG
					Common Cathode	Grey	INND-TD56YGCG
INND-TD56YXX	Yellow	AlGaInP	50	2.0	Common Anode	Black	INND-TD56YAB
					Common Cathode	Black	INND-TD56YCB
					Common Anode	Grey	INND-TD56YAG
					Common Cathode	Grey	INND-TD56YCG
INND-TD56AXX	Amber	AlGaInP	70	2.0	Common Anode	Black	INND-TD56AAB
					Common Cathode	Black	INND-TD56ACB
					Common Anode	Grey	INND-TD56AAG
					Common Cathode	Grey	INND-TD56ACG
INND-TD56RXX	Red	AlGaInP	30	2.0	Common Anode	Black	INND-TD56RAB
					Common Cathode	Black	INND-TD56RCB
					Common Anode	Grey	INND-TD56RAG
					Common Cathode	Grey	INND-TD56RCG

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
INND-TD56DRXX	Deep Red	AlGaInP	25	2.0	Common Anode	Black	INND-TD56DRAB
					Common Cathode	Black	INND-TD56DRCB
					Common Anode	Grey	INND-TD56DRAG
					Common Cathode	Grey	INND-TD56DRCG
INND-TD56GXX	Green	InGaN	218	3.2	Common Anode	Black	INND-TD56GAB
					Common Cathode	Black	INND-TD56GCB
					Common Anode	Grey	INND-TD56GAG
					Common Cathode	Grey	INND-TD56GCG
INND-TD56BXX	Blue	InGaN	22	3.2	Common Anode	Black	INND-TD56BAB
					Common Cathode	Black	INND-TD56BCB
					Common Anode	Grey	INND-TD56BAG
					Common Cathode	Grey	INND-TD56BCG
INND-TD56WXX	White	InGaN	120	3.2	Common Anode	Black	INND-TD56WAB
					Common Cathode	Black	INND-TD56WCB
					Common Anode	Grey	INND-TD56WAG
					Common Cathode	Grey	INND-TD56WCG

Label Specifications



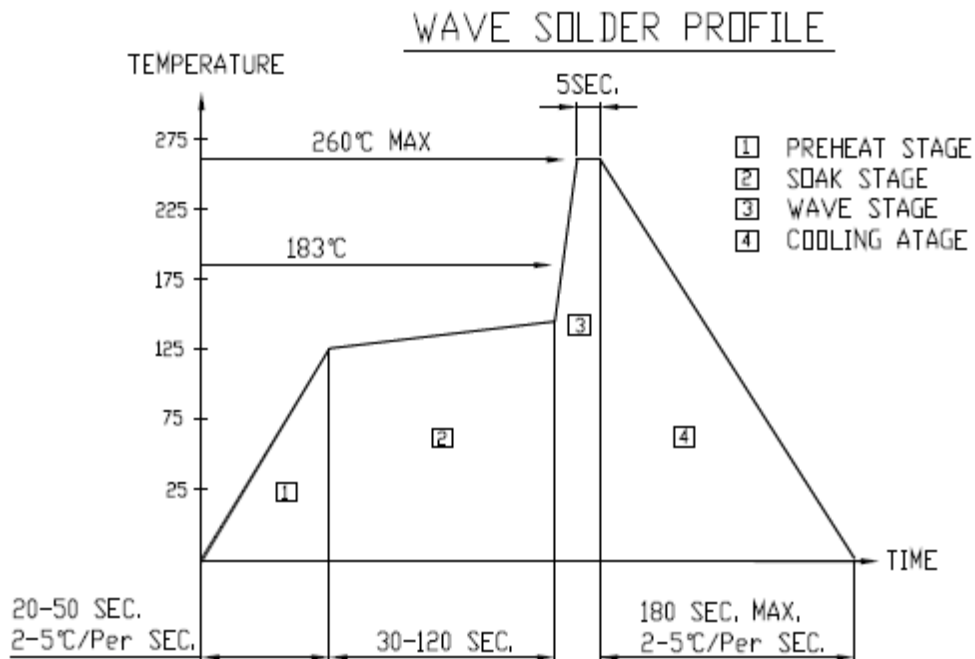
Inolux P/N:

I	N	N	D	-	T	D	5	6	X	X	X	-	X	X	X	X
Inolux	Display Type				Display Type		Dimension		Color	Polarity	Face Color		Customized Stamp-off			
	ND = Numeric Display				T: Through hole D: Dual		56 = 0.56" 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	08-03-2017

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