

Features

- 0.56" (14.20mm) 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-TS56 series is a 0.56" single digit display. It is a through hole type LED display which can be used in various applications.

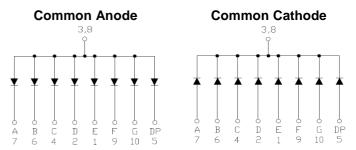
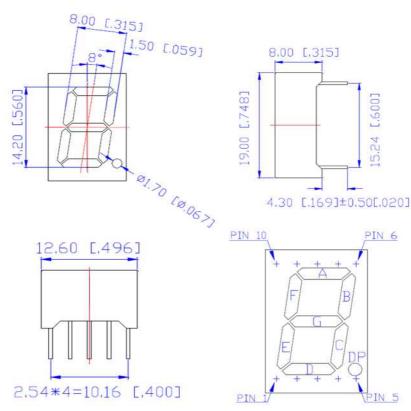


Figure 1. INND-TS56 series Internal Circuit Diagram



Package Dimensions





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)	Top (°C)	Ts⊤ (°C)
INND-TS56YGXX	Yellow Green	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS56YXX	Yellow	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS56AXX	Amber	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS56RXX	Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS56DRXX	Deep Red	AlGaInP	70	25	90	5	0.33	-35°C~+85°C	-35°C~+85°C
INND-TS56GXX	Green	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TS56BXX	Blue	InGaN	114	30	100	5	0.4	-35°C~+85°C	-35°C~+85°C
INND-TS56WXX	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 $T_A = 25$ C (Note 1)

		VF	(V)@20	mA	λ(nm)@	20mA	I*V(n	ncd)@1	0mA	IR(μA)@VR=5V	IV-M @IF =10mA
Product (Per Segment)	Emission Color	min	typ.	max	λD	λP	min	typ.	max	max	max
INND-TS56YGXX	Yellow Green	-	2.0	2.8	570	572	-	15	-	100	2:1
INND-TS56YXX	Yellow	-	2.0	2.8	590	592	-	50	-	100	2:1
INND-TS56AXX	Amber	-	2.0	2.8	605	612	-	70	-	100	2:1
INND-TS56RXX	Red	-	2.0	2.8	630	644	-	30	-	100	2:1
INND-TS56DRXX	Deep Red	-	2.0	2.8	645	660	-	25	-	100	2:1
INND-TS56GXX	Green	-	3.2	3.8	525	-	-	218	-	100	2:1
INND-TS56BXX	Blue	-	3.2	3.8	465	-	-	27	-	50	2:1
INND-TS56WXX	White	-	3.2	3.8	X: 0.27 Y: 0.25	-	-	130	-	50	2:1

Notes

1. Performance guaranteed only under conditions listed in above tables.

ESD Precaution

ATTENTION: Electrostatic Discharge (ESD) protection

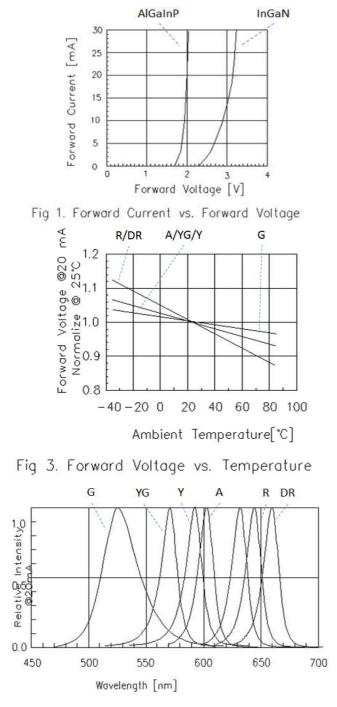


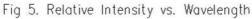
The symbol above denotes that ESD precaution is needed. ESD protection for GaP and AlGaAs based chips is necessary even though they are relatively safe in the presence of low static-electric discharge. Parts built with AlInGaP, GaN, or/and InGaN based chips are STATIC SENSITIVE devices. ESD precaution 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.

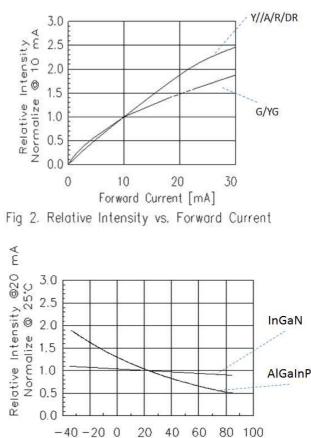
Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).



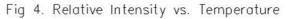
Characteristic Curves for YG, Y, A, R, DR, G

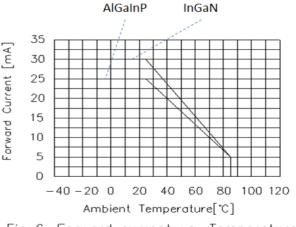


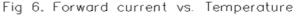




Ambient Temperature[°C]









INND-TS56 Series 0.56" Through Hole Single Digit Display

Characteristic Curves for B

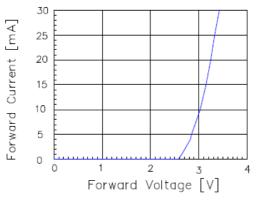


Fig 1. Forward Current vs. Forward Voltage

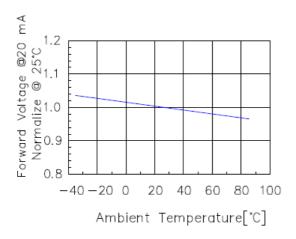


Fig 3. Forward Voltage vs. Temperature

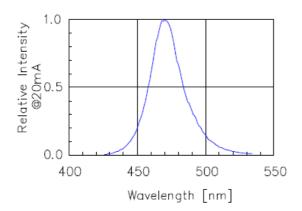


Fig 5. Relative Intensity vs. Wavelength

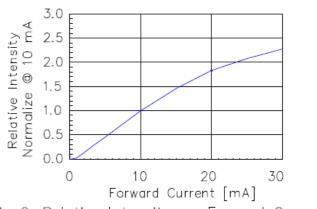


Fig 2. Relative Intensity vs. Forward Current

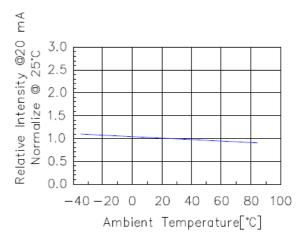
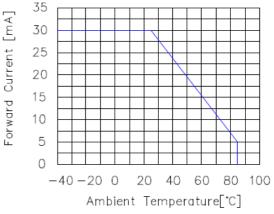


Fig 4. Relative Intensity vs. Temperature







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Characteristic Curves for W

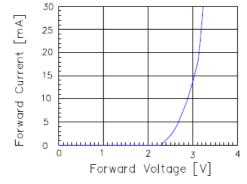
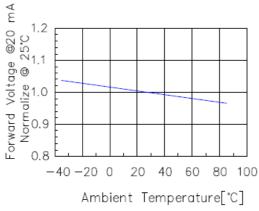
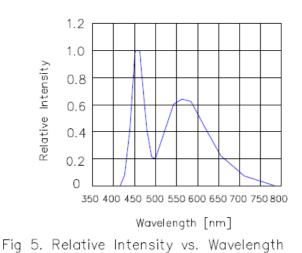
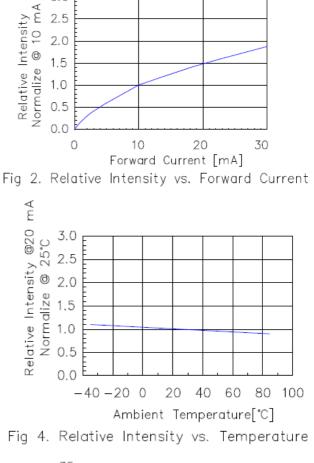


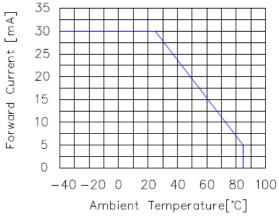
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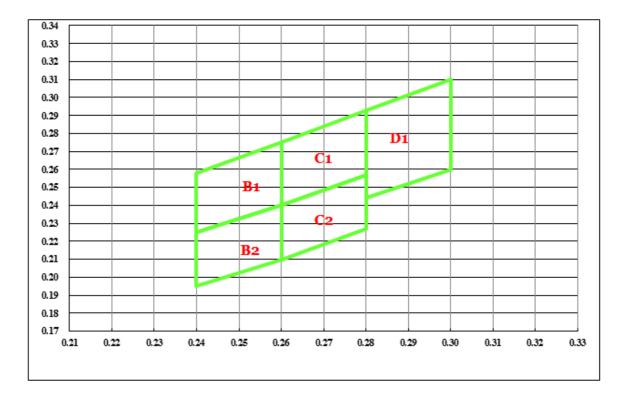








Chromaticity Bin (for White only)



		B1		
Х	0.240	0.240	0.260	0.260
Y	0.225	0.258	0.275	0.240

58	0.275	0.240	Y	0.195	0.225
					C2
20	0.000	0.000	V	0.000	0.000

		C1		
Х	0.260	0.260	0.280	0.280
Y	0.240	0.275	0.293	0.257

		D1		
Х	0.280	0.280	0.300	0.300
Y	0.244	0.293	0.310	0.260

		B2		
Х	0.240	0.240	0.260	0.260
Y	0.195	0.225	0.240	0.210

		C2		
Х	0.260	0.260	0.280	0.280
Y	0.210	0.240	0.257	0.227



Ordering Information

Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
					Common Anode	Black	INND-TS56YGAB
			45	2.0	Common Cathode	Black	INND-TS56YGCB
INND-TS56YGXX	Yellow Green	AlGaInP	15	2.0	Common Anode	Grey	INND-TS56YGAG
					Common Cathode	Grey	INND-TS56YGCG
					Common Anode	Black	INND-TS56YAB
	Yellow	AlGaInP	50	2.0	Common Cathode	Black	INND-TS56YCB
INND-TS56YXX			50		Common Anode	Grey	INND-TS56YAG
					Common Cathode	Grey	INND-TS56YCG
					Common Anode	Black	INND-TS56AAB
	A sub a s				Common Cathode	Black	INND-TS56ACB
INND-TS56AXX	Amber	AlGaInP	70	2.0	Common Anode	Grey	INND-TS56AAG
					Common Cathode	Grey	INND-TS56ACG
					Common Anode	Black	INND-TS56RAB
				0.0	Common Cathode	Black	INND-TS56RCB
INND-TS56RXX	Red	AlGaInP	30	2.0	Common Anode	Grey	INND-TS56RAG
					Common Cathode	Grey	INND-TS56RCG



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Product	Emission Color	Technology	I*V(mcd) @10mA	VF(V) @20mA	Polarity	Face Color	Orderable Part Number
					Common Anode	Black	INND-TS56DRAB
INND-TS56DRXX	Deep Red	AlGaInP	25	2.0	Common Cathode	Black	INND-TS56DRCB
ININD-1330DRXX	Deep Red	AlGainr	25	2.0	Common Anode	Grey	INND-TS56DRAG
					Common Cathode	Grey	INND-TS56DRCG
					Common Anode	Black	INND-TS56GAB
	Green	InGaN	218	3.2	Common Cathode	Black	INND-TS56GCB
INND-TS56GXX			210		Common Anode	Grey	INND-TS56GAG
					Common Cathode	Grey	INND-TS56GCG
					Common Anode	Black	INND-TS56BAB
	Dhua				Common Cathode	Black	INND-TS56BCB
INND-TS56BXX	Blue	InGaN	27	3.2	Common Anode	Grey	INND-TS56BAG
					Common Cathode	Grey	INND-TS56BCG
					Common Anode	Black	INND-TS56WAB
	\A/bita	InCoN	120	2.0	Common Cathode	Black	INND-TS56WCB
INND-TS56WXX	White	InGaN	130	3.2	Common Anode	Grey	INND-TS56WAG
					Common Cathode	Grey	INND-TS56WCG



Label Specifications



Inolux P/N:

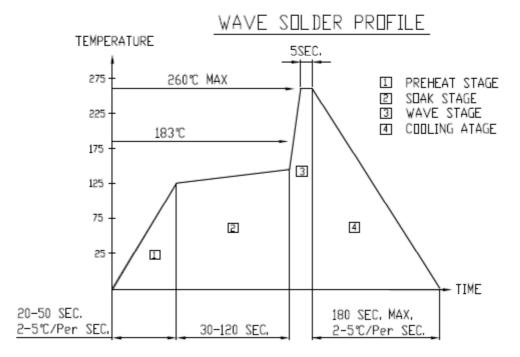
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			olay pe		Displa	у Туре	Dime	nsion	Color	Polarity	Face Color			ustoi Stam		
Inc	blux	Nun	D = neric olay		T: Throu S: Si	-	56 = Display	0.56″ Height	YG: 570 nm Y: 590 nm A: 605 nm R: 630 nm DR: 660 nm G: 525 nm B: 465 nm W: X: 0.27 Y: 0.25	A = Common Anode C=Common Cathode	B = Black G = Grey					

Lot No.:

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



Reflow Soldering



Soldering Iron

Basic Spec is \leq 4 sec. when 260°C (+10°C \rightarrow -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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