TOD-3291BcB-N20

Dual Digit Display LED

Part Number	Chip		Face Color	Segment Color
	Material	Source Color		
TOD-3291BcB-N20	InGaN	Blue	Gray	White

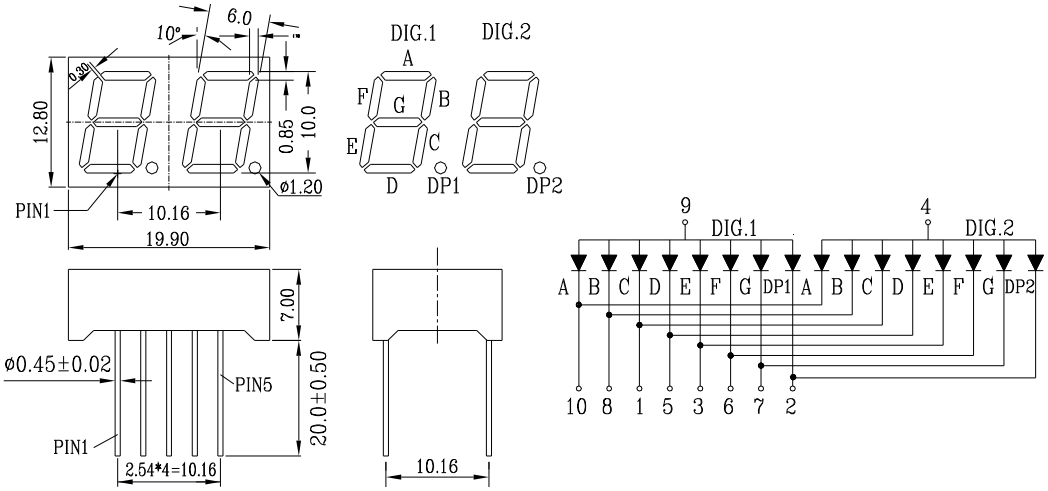
Features

- (0.39") 10.00mm digit height
- Common anode
- I.C. compatible
- Low power requirement
- RoHS compliant

Applications

- Audio equipment
- Instrument panels
- Digital read out display

Package Dimensions & Internal Circuit Diagram



Notes:
1. All dimensions are in millimeters, tolerance: ±0.25 ; Angle: ±0.1° unless otherwise noted.
2. Specifications are subject to change without notice.

Absolute Maximum Rating @ Ta=25°C

Parameter	Maximum Rating	Unit
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	80	mA
Power Dissipation	105	mW
Continuous Forward Current	20	mA
Recommend Operating Current	12	mA
Reverse Voltage	5	V
Operating Temperature Range	-25°C to +85°C	
Storage Temperature Range	-30°C to +85°C	
Lead-Free Solder Temperature (1/16 Inch Below Seating Plane)	260°C for 5 Sec	

Electrical / Optical Characteristic @ Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition	Grade
Luminous Intensity	Iv	39490	49362	59235	ucd	I_F=20mA	U
Luminous Intensity	Iv	59236	74045	88854	ucd	I_F=20mA	V
Luminous Intensity	Iv	88855	111069	133283	ucd	I_F=20mA	W
Dominant Wavelength	λ_d	---	465	---	nm	I_F=20mA	
Spectral Line Half-Width	△λ		26		nm	I_F=20mA	
Forward Voltage Per Dice	V_F	---	3.2	3.5	V	I_F=20mA	
Reverse Current Per Dice	I_R			10	μA	V_R=5V	
Luminous Intensity Matching Ratio	Iv-m			2.0:1		I_F=20mA	

The DISPLAY's should be kept at 30°C or less and 60%RH or less. The DISPLAY's should be used within one year

Typical Electrical / Optical Character Curves

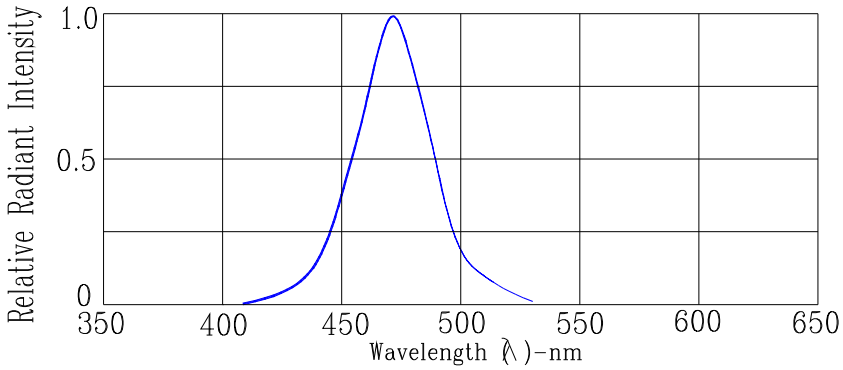


Fig1.RELATIVE INTENSITY VS. WAVELENGTH

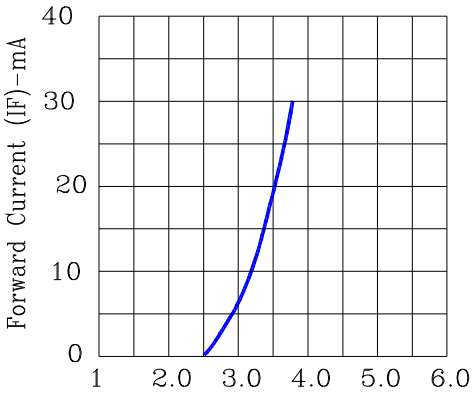


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

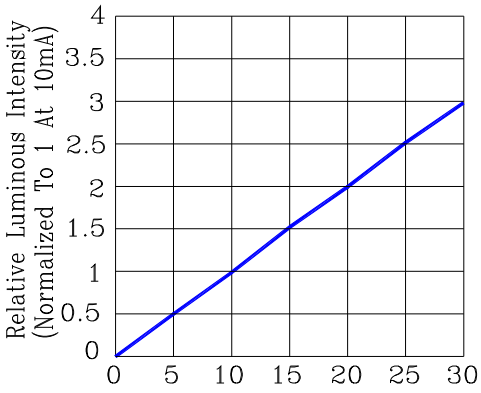


Fig3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

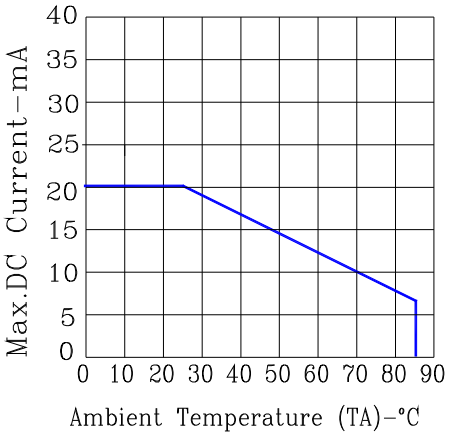


Fig4 MAX. ALLOWABLE DC CURRENT VS.AMBIENT TEMPERATURE.

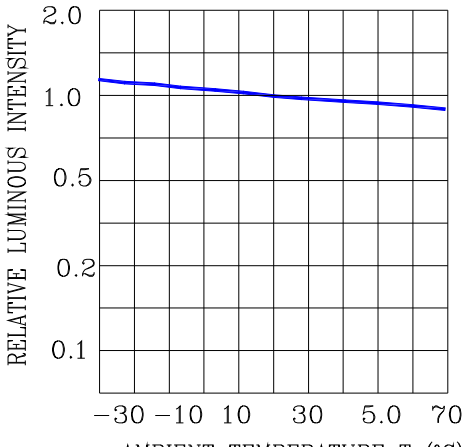


Fig4. LUMINOUS INTENSITY VS AMBIENT TEMPERATURE

Earlier Quality Guarantees Decision

IQC Check : According to MIL-STD-105E checking accept or reject.

IPQC Check : On the basis of "QC ENGINEER TABLE" to inspect one times per two hours.

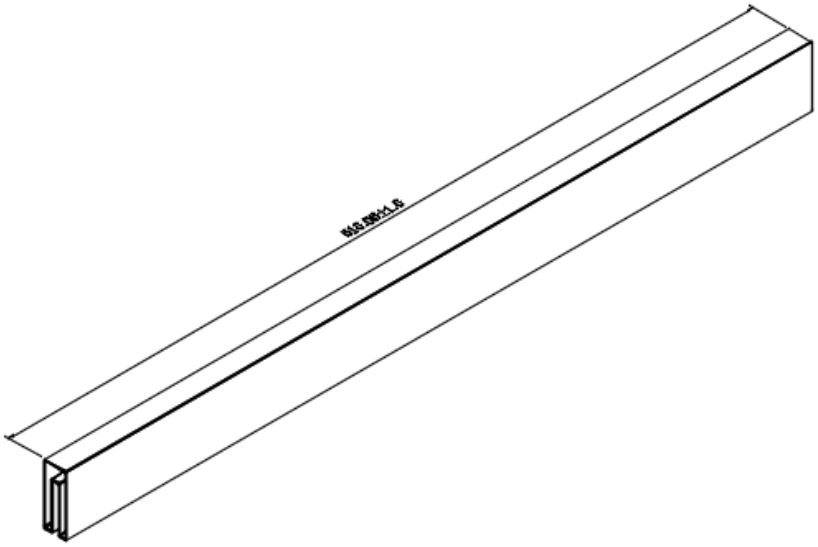
FQC Check : FQC standard commonly for MIL-STD-105E GB2828-87(Ⅱ) check level, show below :

Item	AQL(%)
Electrical / Optical	0.25
Package Dimensions	0.65
Appearance	2.50

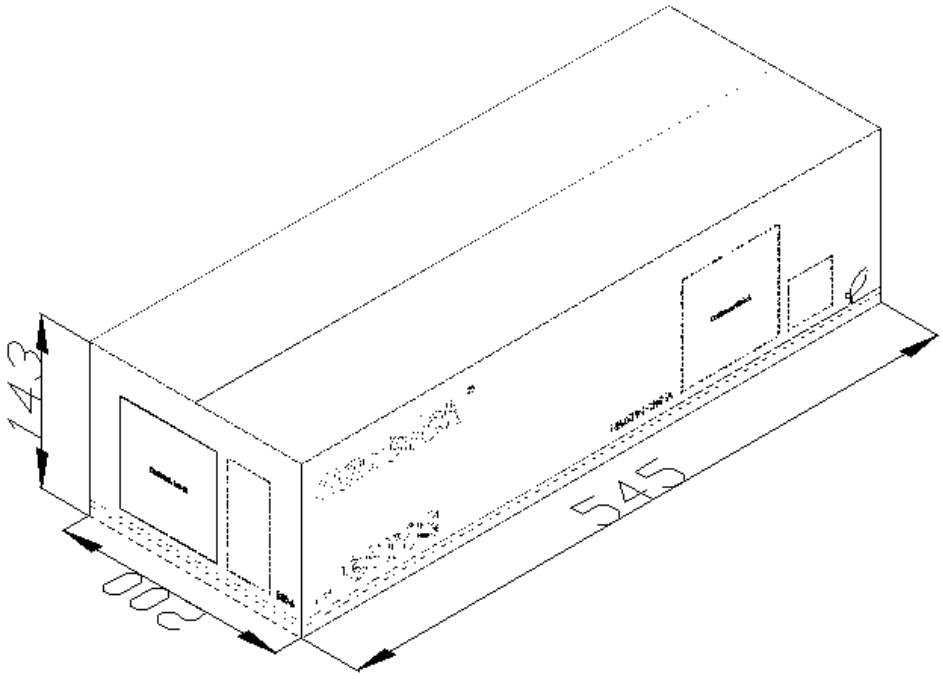
Reliability Test

Test Item	Test Condition	Result	Judgment Criteria
Consecutive Operating Life Test	I_F=30mA,T=25°C,t=24h	0/30	Forward voltage VF(V)=upper limit*1.2 Reverse leakage current IR(uA)=upper limit*2.0 Luminous intensity IV(mcd)=lower limit*0.7
High Temperature Storage Life Test	T=85°C,t=24h	0/12	
Lower Temperature Storage Life Test	T=-40°C,t=24h	0/12	
High Temperature & High Humidity Storage Life Test	T=85+5°C,RH=90%+5%,t=24h	0/12	
Temperature Cycle Test	-35 ℃ *30min~25 ℃ *10min~85 ℃ *30min~25℃*10min 20 times	0/12	
Thermal Shock Test	85°C30min~-40°C30min 50 times	0/12	
Solderability Test	T=265+5°C t=3s	0/12	Steeped part≥95%
Salt spray Test	emperature 35±2℃，5% NaCl Solution spray continously，PH of Solution willtest within 6.5～7.2 at 24hr， Corrosion area of not more than 30%	0/12	

Package Description



25pcs/管



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