

TOD-329HBcB-N12-B-D

Dual Digit Display LED

Part Number	Chip		Shell Face Color	Segment Color
	Material	Source Color		
TOD-329HBcB-N12-B-D	InGaN	Hi-blue	Gray	White

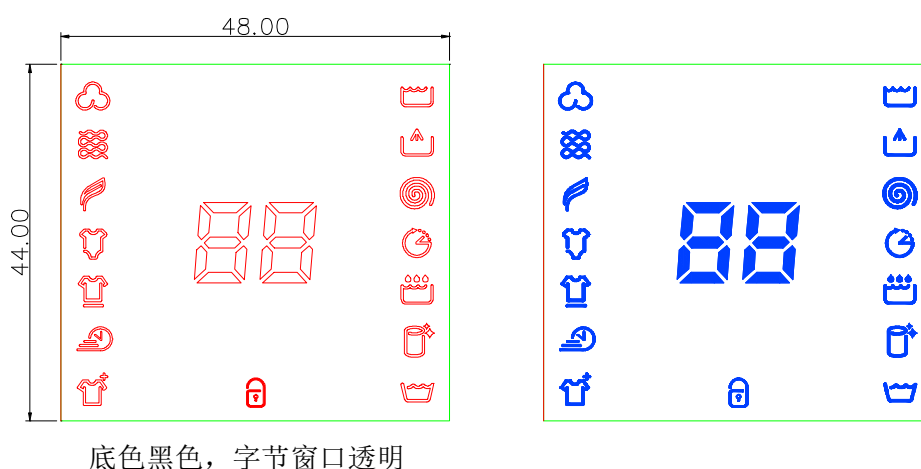
Features

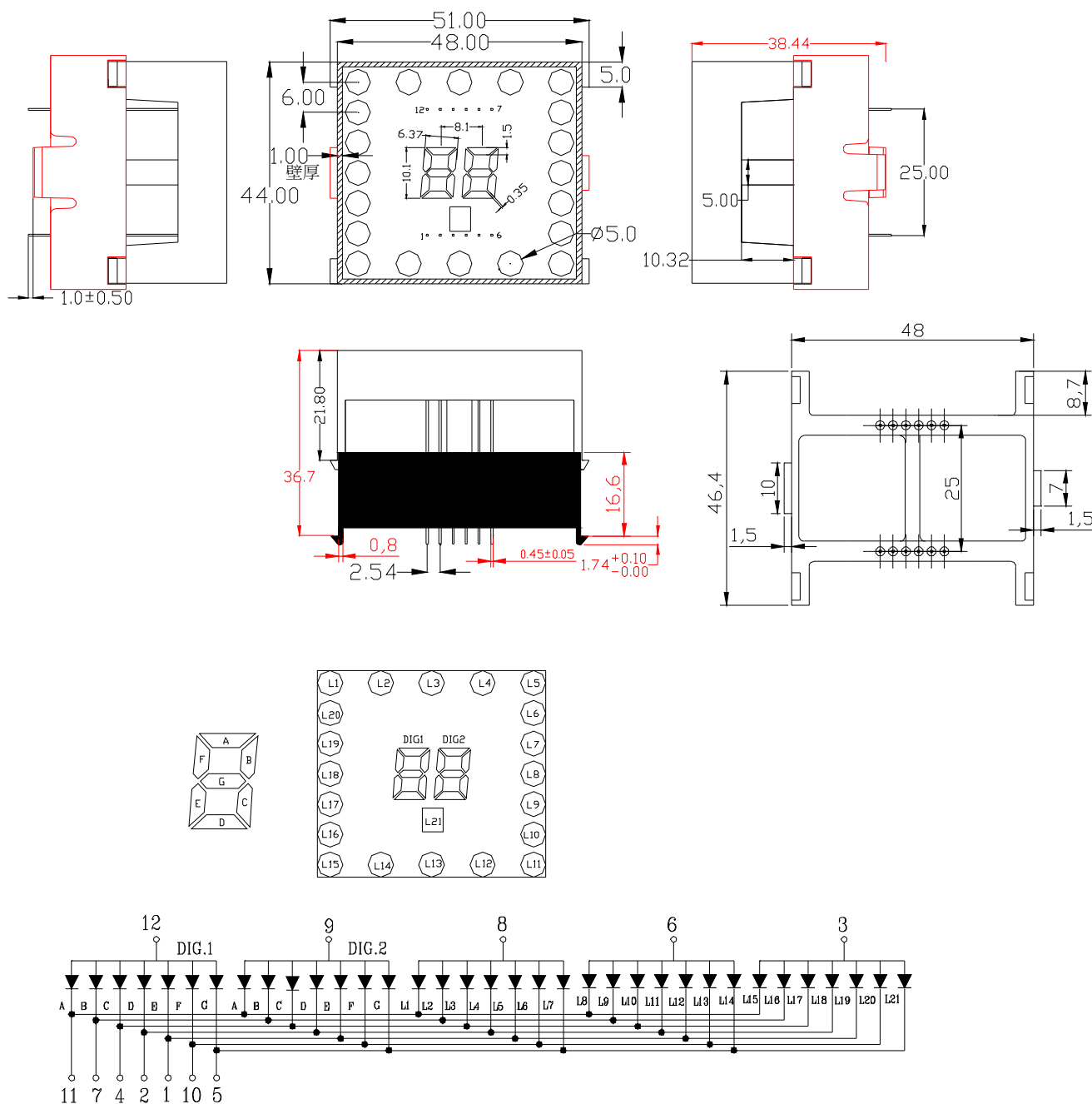
- (0.39") 10.10mm digit height
- Common anode
- I.C. compatible
- Low power requirement
- RoHS compliant

Applications

- Audio equipment
- Instrument panels
- Digital read out display

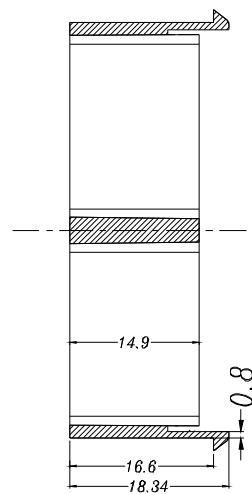
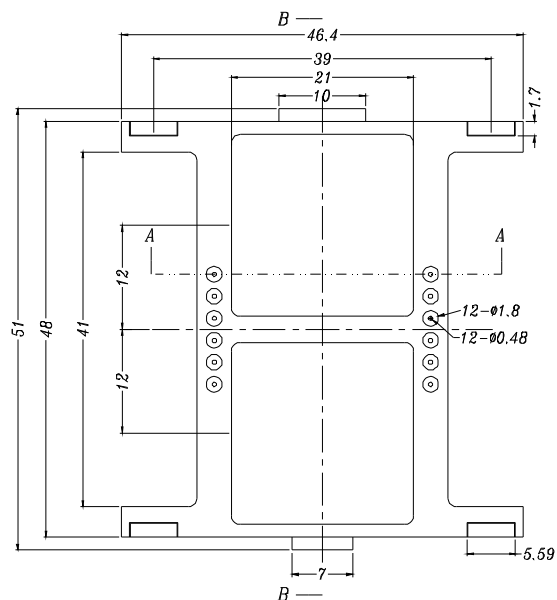
Package Dimensions & Internal Circuit Diagram



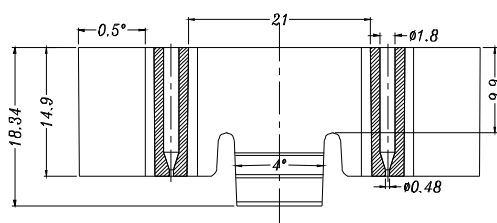


Notes:

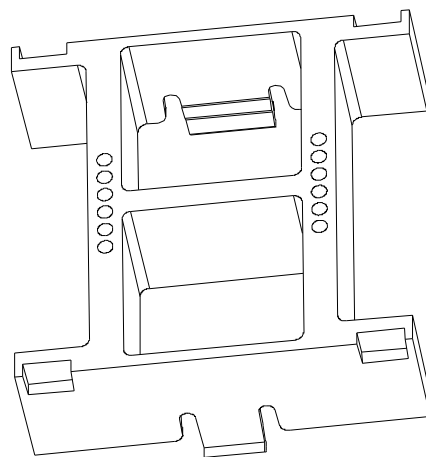
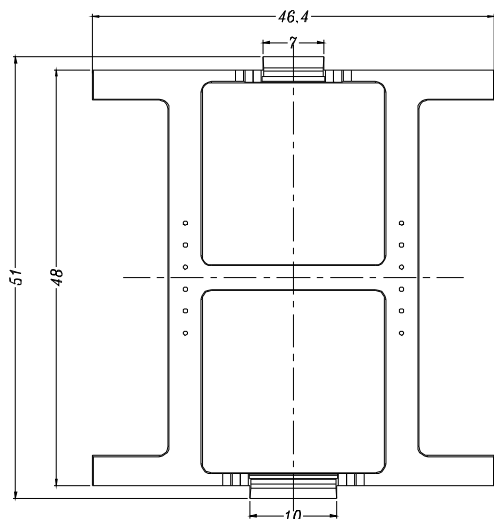
1. All dimensions are in millimeters, tolerance: ± 0.25 ; Angle: $\pm 0.1^\circ$ unless otherwise noted.
2. Specifications are subject to change without notice.



SECTION B-B



SECTION A-A



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 Per Segment	IV	13.4	18.6	---	mcd	I _F =20mA	
Dominant Wavelength	λ_d	460	---	475	nm	I _F =20mA	
Spectral Line Half-Width	$\Delta\lambda$		26		nm	I _F =20mA	
Forward Voltage	V _F	--	2.8	3.2	V	I _F =20mA	
Reverse Current	I _R			20	μA	V _R =5V	
Luminous Intensity Matching Rate	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 with in a year

Reliability Test Project

Test Item	Test Condition	Result	Judgment Criteria
Consecutive Operating Life Test	$I_F=30\text{mA}$, $T=25\pm5^\circ\text{C}$, $t=24\text{h}$	0/30	Forward voltage $V_F(\text{V})=\text{upper limit}\times1.2$ Reverse leakage current $I_R(\mu\text{A})=\text{upper limit}\times2.0$ Luminous intensity $I_V(\text{mcd})=\text{lower limit}\times0.7$
High Temperature Storage Life Test	$T=85\pm5^\circ\text{C}$, $t=24\text{h}$	0/12	
Lower Temperature Storage Life Test	$T=-40\pm5^\circ\text{C}$, $t=24\text{h}$	0/12	
High Temperature & High Humidity Storage Life Test	$T=85\pm5^\circ\text{C}$, $\text{RH}=90\%\pm5\%$, $t=24\text{h}$	0/12	
Temperature Cycle Test	$-35\pm5^\circ\text{C}\times30\text{min}\sim25\pm5^\circ\text{C}\times10\text{min}$ $\sim85\pm5^\circ\text{C}\times30\text{min}\sim25\pm5^\circ\text{C}\times10\text{min}$ 20 times	0/12	
Thermal Shock Test	$85\pm5^\circ\text{C}30\text{min}\sim-40\pm5^\circ\text{C}30\text{min}$ 50 times	0/12	
Solderability Test	$T=265\pm5^\circ\text{C}$ $t=3\text{s}$	0/12	Steeped part $\geq 95\%$
Salt Spray Test	$T_a=35\pm5^\circ\text{C}$ $\text{NaCl}=5\%$ $\text{PH}=6.5\sim7.2$ $h=1-2\text{L}$ 48H	0/12	The end is 2mm rusty