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ACD-2353

10.4" XGA LED BACKLIT TFT DISPLAY WITH NVIS CLASS B CAPABILITY

Sunlight Readability/1000:1 dimming/Cool operation

3/18/2014

GENERAL DESCRIPTION

The ACD-2353 consists of the NEC NL10276BC20-18/18C/18F XGA TFT display modified with a high performance LED backlight capable of Day and NVIS Full Color Operation.

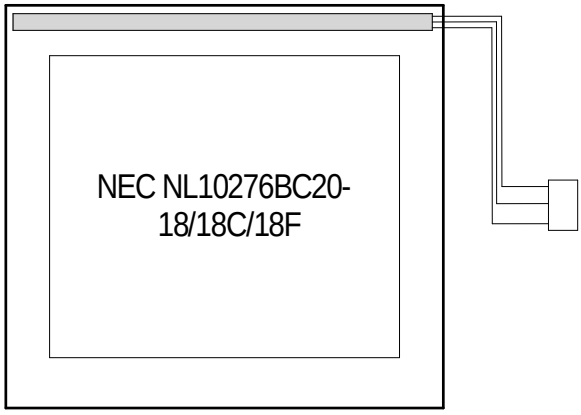
Customer Consigned Panel

Performance at given brightness levels

1500 cd/m^2 with 14.9 watts LED power (Day)
5.0 cd/m^2 with 2.4 watts LED power (NVIS)

Display outline identical to standard LED equipped panel

For many applications, satisfies sunlight readability goals



LCD PANEL HIGHLIGHTS

10.4" TFT Active Matrix Color

210.432 (H) mm x 157.824 (V) mm viewable area

XGA 1024 x 768 pixels, 16.7 M colors

900:1 typical contrast ratio

40% color gamut (NTSC color space)

For complete LCD specification (standard panel), refer to the NEC NL10276BC20-18/18C/18F datasheet

LED BACKLIGHT FEATURES

White and NVIS LED edge-light rail

Three wire connection (Typically 11 inches long), allows simple interconnect with LED driver[1]

Projected lifetime > 75,000 hours

50,000:1 or better dimming ratio (Day)[1]

Minimum NVIS intensity equal to 0.003 cd/m^2 or less[1]

[1] For best power transfer and control, use one ACI-2354 Dual Mode Driver.

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MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
Top	Operating temperature of display (center of panel surface)	-30 to +80	Deg-C
Tled	Operating temperature of LED edge light (light rail contact)	-30 to +85	Deg-C
Tstg	Display storage temperature	-30 to +80	Deg-C
Ifwd	LED forward current (Day)	105	mA
Ifwd	LED forward current (NVIS)	36	mA

*Maximum Ratings are those values beyond which damage may occur

PANEL/BACKLIGHT OPTICAL CHARACTERISTICS

Ifwd(Day) = 87.5mA per bank, 2 banks per rail, 1 rail per display, Ifwd(NVIS) = 30mA per bank, 1 bank per rail, 1 rail per display, LED rails: ACR-2377, Ta = +25 Deg-C, LCD unpowered

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Bpd	Panel Brightness (Day)		1350	1500	1650	cd/m^2
Bpn	Panel Brightness (NVIS)		3.7	4.6	5.5	cd/m^2
Xd	White X coordinate (Day mode)			0.259		-
Yd	White Y coordinate (Day mode)			0.288		-
XN	White X coordinate (NVIS)			0.272		-
YN	White Y coordinate (NVIS)			0.475		-

LED EDGE-LIGHT ELECTRICAL CHARACTERISTICS

Ifwd(Day) = 87.5mA, Ifwd(NVIS) = 30mA, Top = +25Deg-C

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
Vfwd	LED rail forward voltage drop (Day mode)		76	85	94	Vdc
Vfwd	LED rail forward voltage drop (NVIS)		72	80	88	Vdc

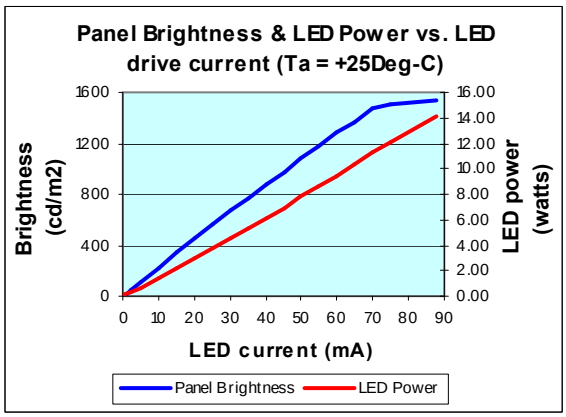
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ACD-2353

TYPICAL LCD/LED BACKLIGHT PERFORMANCE GRAPHS

3/18/2014

Day mode



NVIS

