2.7" (Color) Front Light Panel

FLEx

Overview

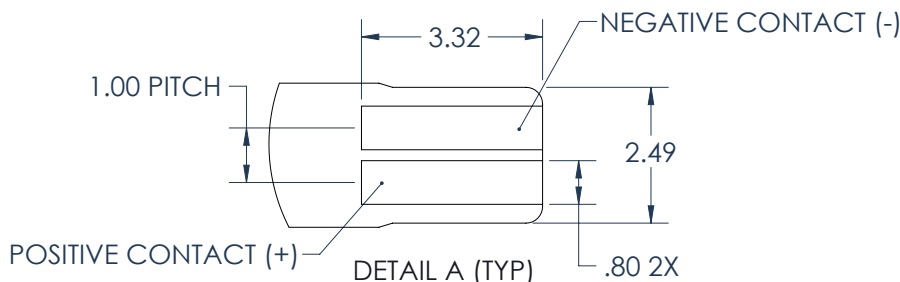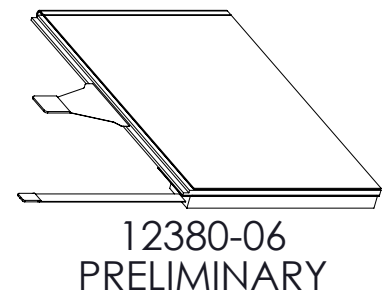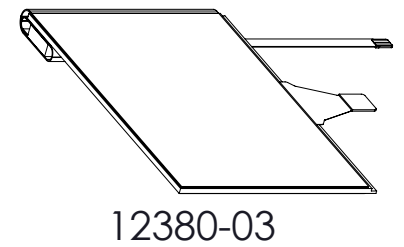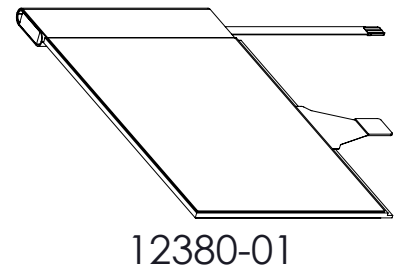The **FLEx Front Light Panel** optical film is designed to laminate to the front surface of **JDI reflective display (LPM027M128B)** to provide high quality on-demand display lighting. This thin plastic panel incorporates only a single LED which enables product designers to develop ultra-thin devices and minimize battery use.

- One **low-power** LED (included in Front Light)
- Over **80x less power** compared to traditional backlighting
- 0.05 mm thick FLEx film is over **5x thinner** than alternative lightguides

Mechanical

38.10 TYP
33.0
10.9
3.1
72.7
A (TYP)
3.21
1.26
1.62

All dimensions in mm
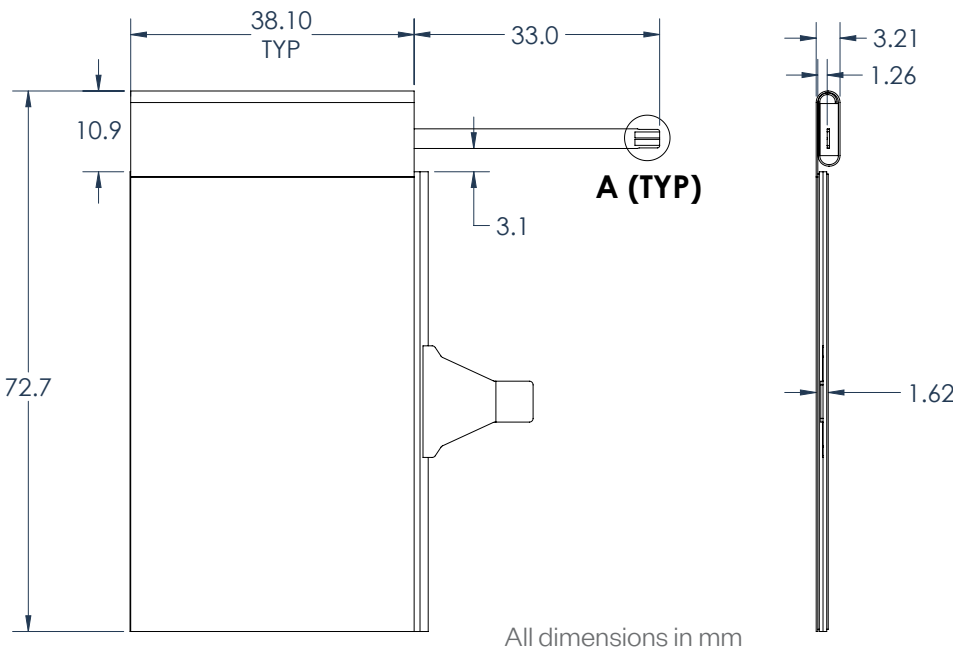
Flexible film allows for different placement options for the light source (examples below)

12380-01

12380-03

12380-06 PRELIMINARY

12380-01 IN PLANE

3.32
1.00 PITCH
NEGATIVE CONTACT (-)
2.49
POSITIVE CONTACT (+)
DETAIL A (TYP)
.80 2X

Electrical

Item	Symbol	Typical	Absolute Max	Unit
Forward Current	I_F	5	25	mA
Pulse Forward Current	I_{FP}	--	80	mA
Reverse Voltage	V_R	--	5	V

Example ZIF Connectors:
- Molex 503480-0400
- Molex 52745-0497
- Molex 54550-0471
- Molex 54548-0471 (bottom)
- Molex 505110-0492

順電流 Forward Current(mA) vs 順電圧 Forward Voltage(V)

許容順電流 Allowable Forward Current(mA) vs デューティー比 Duty Ratio(%)
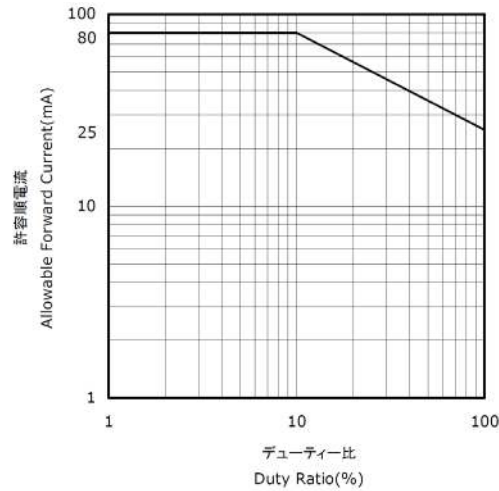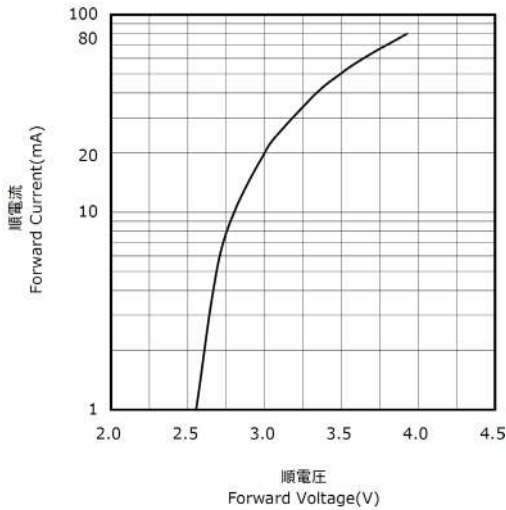
Optical

2.7" JDI + Front Light (12380-01)				
Item	Symbol	TYP.	Unit	Remark
Viewing Angle CR >2	V	Θ 11 / Θ 12	65 / 65	° (Degree)	[Remark 1]
	H	Θ 21 / Θ 22	30 / 40	° (Degree)	
Contrast Ratio	Front light ON	CR	14	--	[Remark 2]

Brightness vs. Power

Brightness (Nits, typical) vs Current (mA)
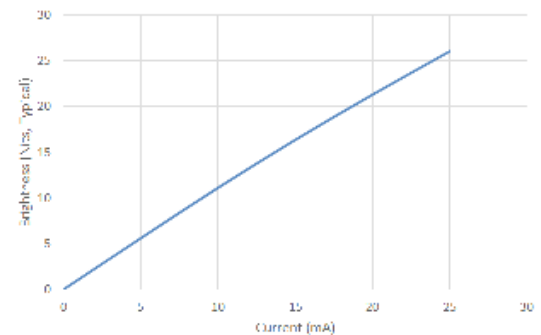
Remark 1: Viewing Angle
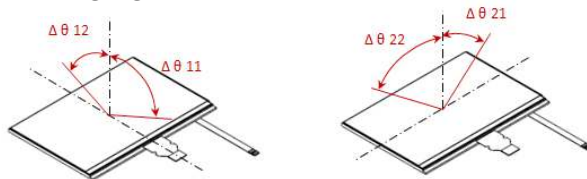
Remark 2: Definition of Contrast Ratio

$$\text{Contrast Ratio (CR)} = \frac{\text{Reflection intensity in white display}}{\text{Reflection intensity in black display}}$$

Measurements taken with a Minolta Chroma Meter CS-100 at a 17" view distance