



**DESCRIPTION**

**Features:**

In a COG display, a bare IC called “gold bump” or “flip chip” is connected to transparent traces on the LCD glass (no PCB needed).

**Compact:**

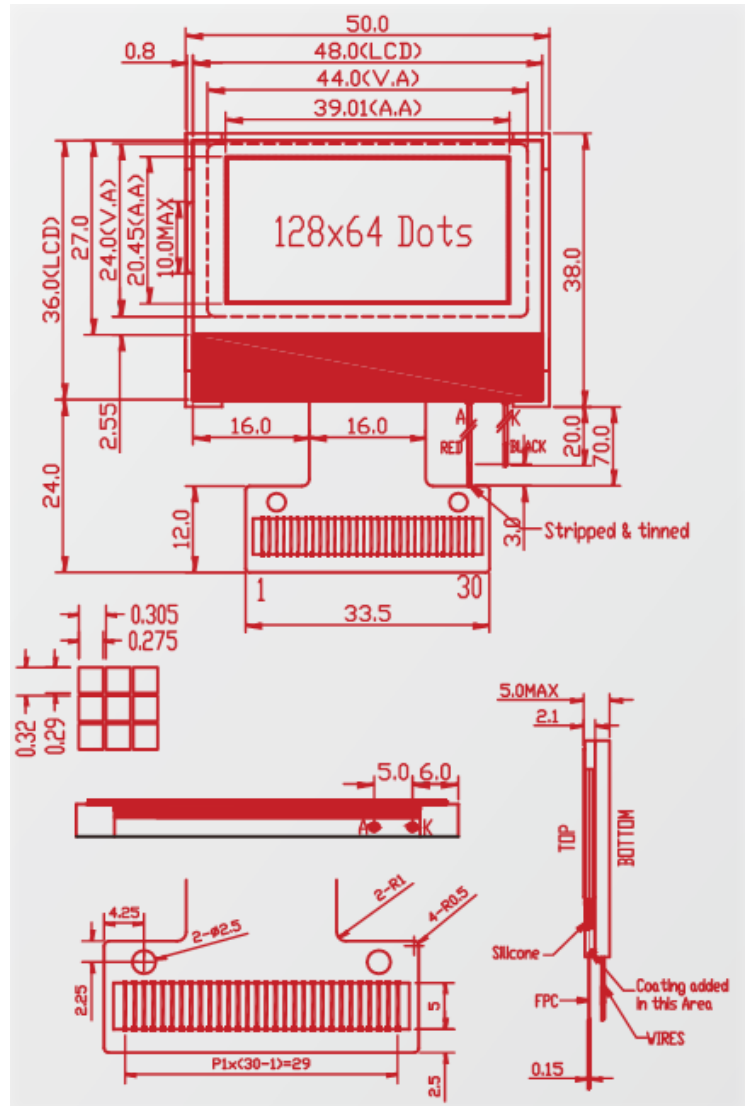
Space economical, modules can be as thin as 2 mm without backlight or 7mm with backlight.

**Inexpensive:**

Cost effective over PCB &SMT modules, especially for graphic LCD’s, because less IC’s required and no PCB’s used.

**Reliable:**

More durable than TAB and COF (chip-on-flex) modules because of the weakness in the bond area of TAB and COF.



PIN No.	Symbol	PIN No.	Symbol	Pin No.	Symbol
1	PS	11	C1-	21	DB3
2	C68	12	C3+	22	DB2
3	V0	13	C4+	23	DB1
4	V4	14	VOUT	24	DB0
5	V3	15	VSS	25	RD
6	V2	16	VDD	26	WR
7	V1	17	DB7	27	RS
8	C2-	18	DB6	28	RES
9	C2+	19	DB5	29	CS2
10	C1+	20	DB4	30	CS1B



**COG MODULE LIST**

Format	Module Number	Outline Dimension	Viewing Área	Dot Size	Dot Pitch	Ic
8x2	ACM0802F-RN-YBH-C	3.42x23.5x1.75mm	35.0x14.5mm	30.4x11.49mm	3.20x5.50mm	ST7032I-0D
16x2	ACM1602AC-RN-YBS	66.0x27.8x19.0mm	61.0x15.8mm	56.20x11.50mm	2.95x5.55mm	NT7651
16x2	ACM1602Z-RN-GBW-C	44.2x47.5x2.1mm	38.2x17.0mm	36.2x14.0mm	1.86x4.56mm	ST7032I
128x64	AQM1264B-FLT-FTS	54.6x42.2x4.6mm	50.6x31mm	0.349x0.418mm	0.364x0.433mm	SIDI0605D04B
128x64	AQM1264C-FL-YBW-C	93.7x52.6x6.8mm	70.7x38.8mm	0.5x0.5mm	0.52x0.52mm	NT7538H
128x64	AQM1264D-MLG-YBS	93.0x57.0x10.5mm	65.5x38.0mm	0.45x0.49mm	0.475x0.512mm	ST7565P
128x64	AQM1264FA-FL-YBW	64.0x48.6x5.1mm	59.0x36.3mm	0.38mmx0.38mm	0.42x0.42mm	SPLC501C
132x64	AQM1364A-MLB-FTW	82.0x37.0x28.0mm	79.0x25.5mm	0.427x0.308mm	0.447X0328mm	SPLC501C
160x160	ABM1616A-FLW-FTS	70.5x71.5mm	60.1x60.0mm	0.335x0.33m	0.35x0.35mm	NT7701
240x128	AQM2412F-FLW-FBW	81.5x68.3x16.5mm	60.0x32.0mm	0.22x0.21mm	0.24x0.23mm	UC1608xGBE

**CHARACTER MODULE LIST**

Format	Module Number	Outline Dimension	Viewing Área	Dot Size	Dot Pitch	Ic
8x1	ACM0801B	54.0x37.0x13.0mm	32.1x16.0mm	28.1x7.6mm	2.90x7.60mm	SPLC780D
8x2	ACM0802C	58.0x32.0x12.8/8.6mm	38.0x16.0mm	27.81x11.5mm	2.96x5.56mm	SPLC780D
12X2	ACM1202K	54.4x35.3x7.0mm	45.0x16.0mm	41.5x11.5mm	3.0x5.55mm	SPLC783A-001
16x1	ACM1601C	80.0x36.0x9.5/13.5mm	64.5x14.0mm	59.62x6.56mm	3.07x6.56mm	SPLC780D
16x1	ACM1601D	53.0x20.0x8.0mm	36.0x10.0mm	34.1x3.15mm	1.85x3.15mm	SPLC780D
16x1	ACM1601H	122.0x33.0x9.5/14.5mm	99.0x13.0mm	94.84x9.22mm	4.84x9.22mm	SPLC780D
16x2	ACM1602B	84.0x44.0x9.5/13.5mm	64.5x16.4mm	55.73x10.98mm	3.0x5.23mm	SPLC780D
16x2	ACM1602E	85.0x36.0x9.5/13.5mm	63.0x16.4mm	55.73x10.98mm	3.0x5.23mm	SPLC780D
16x2	ACM1602F	53.0x20.0x8.0mm	36.0x10.0mm	34.1x7.4mm	1.85x3.15mm	SPLC783A-001
16x2	ACM1602K	80.0x36.0x9.5/13.5mm	64.5x16.4mm	55.73x10.98mm	3.0x5.23mm	SPLC780D
16x2	ACM1602N	85.0x29.5x9.5/13.5mm	64.5x16.4mm	94.84x20.0mm	3.0x5.23mm	SPLC780D
16x2	ACM1602S	122.0x44.0x9.5/13.5mm	99.0x24.0mm	55.5x10.98mm	3.0x5.23mm	SPLC780D
16x4	ACM1604D	87.0x60.0x9.5/13.5mm	61.8x25.2mm	56.2x20.8mm	2.95x4.74mm	SPLC780D
20x2	ACM2002E	116.0x37.0x9.5/13.5mm	83.0x18.6mm	73.5x11.5mm	3.20x5.55mm	SPLC780D
20x2	ACM2002R	180.0x40.0x9.5/14.5mm	149.0x23.0mm	142.8x20.06mm	6.0x9.66mm	SPLC780D
20x2	ACM2002I	146.0x43.0x13.7mm	123.0x23.0mm	118.84x18.97mm	4.84x9.22mm	SPLC780D-001
20x4	ACM2004D1	98.0x60.0x9.5/14.0mm	76.0x25.2mm	70.4x20.8mm	2.95x4.75mm	SPLC780D
20x4	ACM2004F	146x62.5x8.5/13.5mm	131.0x51.0mm	119.04x38.51mm	4.84x9.22mm	SPLC780D
24x2	ACM2402C	118.0x36.0x9.5/14.0mm	94.5x18.0mm	88.3x11.5mm	3.20x5.55mm	SPLC780D
24x2	ACM2402F	190.0x42.0x9.5/14.5mm	159.3x23.0mm	152.6x18.9mm	5.40x8.70mm	SPLC780D
40x2	ACM4002E	182.0x33.5x9.5/14.5mm	154.1x16.5mm	147.5x11.5mm	3.20x5.55mm	SPLC780D
40x2	ACM4002H	190.0x54.0x9.5/14.5mm	140.45x23.16mm	136.0x20.0mm	2.78x4.98mm	SPLC780D

**CHARACTER MODULE LIST**

Format	Module Number	Outline Dimension	Viewing Área	Dot Size	Dot Pitch	Ic
128x64	AGM1264F	93.0x70.0x9.5/14.0mm	70.7x38.8mm	0.48x0.48mm	0.52x0.52mm	PT6607
122x32	AGM1232G	84.0x44.0x9.0/13.0mm	60.0x18.0mm	0.40x0.45mm	0.44x0.49mm	PT6520
128x64	AGM1264K	78.0x70.0x9.5/13.5mm	62.0x44.0mm	0.39x0.55mm	0.44x0.60mm	S6B0108
122x32	AGM1232T	97.5x32.6x8.4mm	57.0x20.0mm	0.40x0.45mm	0.44x0.49mm	PT6520
128x128	AGM1212H	88.4x88.4x9.5mm	69.0x69.0mm	0.46x0.46mm	0.50x0.50mm	T6963C
128x128	AGM1212I	92.0x106.0x14.5mm	73.0x73.0mm	0.5x0.5mm	0.55x0.55mm	T6963C
160x32	AGM16032A	85.0x29.5x13.5	64.5x16.4mm	0.33x0.33mm	0.37x0.37mm	ST7920
192x64	AGM1964A	100.0x60.0x13.0mm	84.0x31.0mm	0.36x0.36mm	0.41x0.41mm	S6B0108
192X64	AGM1964D	120.0x62.0x13.0mm	104.0x39.0mm	0.458x0.458mm	0.508x0.508mm	S6B0108
240x64	AGM2464B	180.0x65.0x15.5/10.5mm	133.0x39.0mm	0.49x0.49mm	0.53x0.53mm	T6963C
240x128	AGM2412A	144.0x104.0x12.5mm	144.0x64.0mm	0.40x0.40mm	0.45x0.45mm	T6963C
160x128	AGM1612B	129.0x102.0x16.5mm	101.0x82.0mm	0.54x0.54mm	0.58x0.58mm	T6963C

ACM - 1602M - N L W - B B H - D  
 1        2 3        4 5 6        7 8 9        10

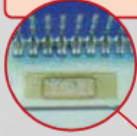
1	Character Module
2, 3	Base Model Number
4	Transmissive Negative
5	LED Backlight
6	White
7	Blue mode STN
8	Bottom View (6 o'clock)
9	Dual Power, Wide temperature range
10	Special Requires

Module Part Numbering System

1	Module Type	AMD=Digital Module AGN=Graphic Module ACM=Character Module ABM=TAB Module AQM=COG Module		
2	Module Format	1602=16x2 1232=122x32	2004=20x4 1264=128x64	4002=40x2
3	Design Version	A to ZZ design Version Note:AE to ZE is special version for low-temp LCD modules		
4	Polarizer Type	R=Reflective M=Transmissive, Positive N=Transmissive, Negative F=Transflective, Positive *B=Transflective, Negative		
5	*Backlight Type	N=None L=LED Backlight E=EL C=CCFL		
6	*Backlight Color	A=Amber G=Green R=Red	B=Blue W=White T=Tricolor	Y=Yellow O=Orange Q=Other Colors
7	Fluid Type	*The LED backlight is Yellow-Green unless otherwise specify by a letter T=TN B=Blue mode STN G=Gray mode STN F=FSTN(Film-compensated STN [B/W]) Y=Yellow mode STN *D=Black mode IN		
8	Viewing Direction	B=Bottom View(6 o'clock) T=top View (12 o'clock) *L=Left View (9 o'clock) *R=Right View (3 o'clock)		
9	Temperature Range	S=Single Power, Standard temperature range D=Dual Power, Standard temperature range W=Single Power, Wide temperature range H=Dual Power, Wide temperature range *E=Single Power, Super Wide temperature *Z=Dual Power, Super Wide temperature		
10		*Special Requires		



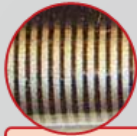
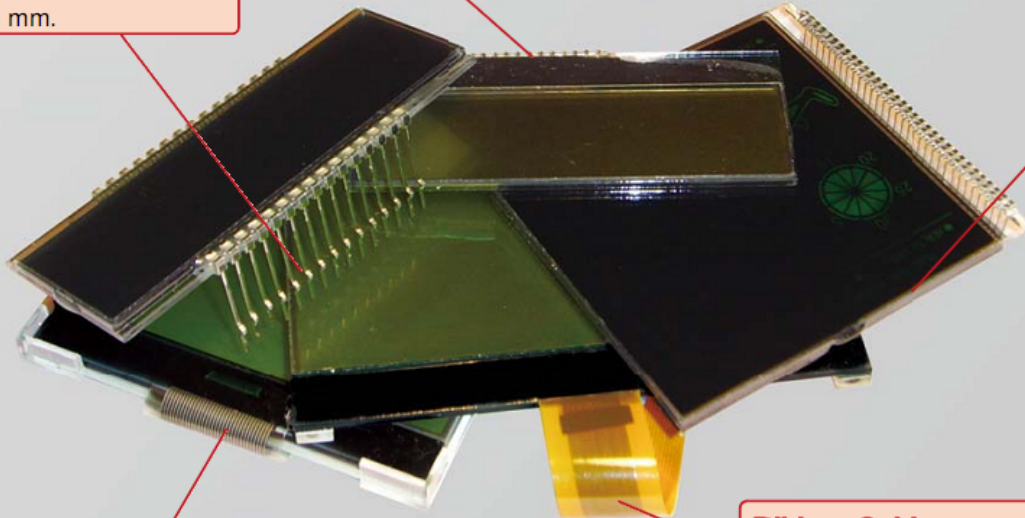
**Pins** –For direct drive and low MUX applications, RELM can offer any number of pin configurations in different lengths with a minimum pin pitch of 1.8 mm.



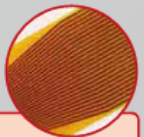
**COG** -COG- chip on glass. RELM offers standard chip on glass and has an entire department dedicated to making full custom COG Displays to fit your exact display needs.

**Polarizer Options**

– On all custom LCDs (glass, graphic, character and COG),RELM offers three types of polarizers. The three types are transfective, transmissive and reflective. Additionally, each polarizer can be requested with or without a backlight giving more backlighting options.



**Heat Seal Connector**  
– RELM is able to make a variety of types and sizes of heat seal connectors to fit any mounting situation.



**Ribbon Cable**

– We offer a variety of ribbon cables in varying lengths, which can be easily matched to any of the most popular connectors.