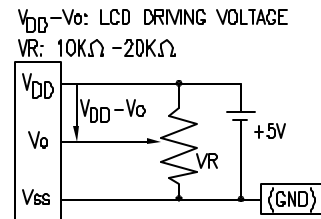


SA/BC

LCM-S12232GSF/E-1W

PRELIMINARY IN P/N DIR

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V _{SS}	-	POWER SUPPLY	GND (0V)
2	V _{DD}	-		5V
3	V _o	-		FOR LCD DRIVE
4	A _o	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
5	CS1	H,H->L	CHIP SELECT SIGNAL FOR IC1	
6	CS2	H,H->L	CHIP SELECT SIGNAL FOR IC2	
7	CL	H/L	CLOCK INPUT (2kHz)	
8	E	H/L	ENABLE SIGNAL (NO PULL-UP RESISTOR)	
9	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)	
10~17	DB0~DB7	H/L	DATA BIT 0-7	
18	RST	L	RESET SIGNAL	
19	A	-	ANODE	LED BACKLIGHT
20	K	-	CATHODE	LED BACKLIGHT



READ/WRITE TIMING FOR 68 PORT MPU

PARAMETER	SIGNAL	SYMBOL	MIN	MAX	UNIT
ADDRESS HOLD TIME	CS	t _{AH6}	10	-	ns
ADDRESS SETUP TIME	R/W	t _{AS6}	20	-	ns
SYSTEM CYCLE TIME	A _o	t _{CYC6}	1000	-	ns
DATA SETUP TIME	D0~D7	t _{DS6}	80	-	ns
DATA HOLD TIME		t _{DH6}	10	-	ns
OUTPUT DISABLE TIME		t _{OH6}	10	50	ns
ACCESS TIME		t _{ACC6}	-	90	ns
ENABLE PULSE WIDTH	(READ)	E	t _{EW}	100	-
	(WRITE)			80	-

ELECTRICAL CHARACTERISTICS		V _{DD} =4.5V to 5.5V, T _A =25°C				
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	-	5.0	-	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	-	3.0	mA
INPUT VOLTAGE*	HIGH	V _{IH}	0.2	-	V _{DD}	V
	LOW	V _{IL}	0	-	0.8	V
OUTPUT VOLTAGE**	HIGH	V _{OH}	I _{OH} =-3mA	2.4	-	V
	LOW	V _{OL}	I _{OL} =3mA	-	0.4	V
WHITE LED BACKLIGHT	VOLTAGE	V _F	-	3.7	-	V
	CURRENT	I _F	-	240	-	mA
	POWER CONSUMPTION	P _D	-	888	-	mW
	LUMINOUS	L	I _F =240mA	TBA	-	cd/m ²
	COLOR	-	-	550	-	nm

*APPLIED TO TERMINALS DB0~DB7

**APPLIED TO TERMINALS E, A_o, DB0~DB7

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.75	5.25	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _o	-	4.00±0.05	5.20±0.05	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
		LCM-H	-20	70	°C
		LCM-S	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	85	°C

LCM-S12232GSF/E-1W

122 x 32 GRAPHIC LCD MODULE, STN, TOP VIEW,
TRANSFLECTIVE, WHITE LED BACKLIGHT.

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RELIABILITY NOTE

OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.



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