PROM Programmer and Editor

Instruction Manual & Functional Description

Contents

1 Introduction

This card has been designed to allow the programming and editing of 32 x 8 PROM's.

Manufacturer	**Part Number**
National	74S188
Fujitsu	7111
Signetics	82S23
AMD	827S1
MMI	6330
TI	18SA30
Harris	7602

2 Components

Reference	Value	Footprint	Qty	Part No.
C1	600pF	C_Disc_D9.0mm_W2.5mm_P5.00mm	1	
C2	330uF	CP_Radial_D8.0mm_P3.50mm	1	
C3	100uF	CP_Radial_D5.0mm_P2.50mm	1	
C4	10nf	C_Disc_D6.0mm_W4.4mm_P5.00mm	1	
C5	100nF	CP_Radial_D5.0mm_P2.50mm	1	
C11	10nF	C_Disc_D6.0mm_W4.4mm_P5.00mm	1	
C12	1nF	C_Disc_D6.0mm_W4.4mm_P5.00mm	1	
C13	1uF	CP_Radial_D4.0mm_P2.00mm	1	
C14	8n2	C_Disc_D6.0mm_W4.4mm_P5.00mm	1	
D1,D2,D3,D4, D5,D6,D7,D8	LED	LED_D3.0mm	8	
D10	1N5819	D_DO-41_SOD81_P12.70mm_Horizontal	1	
D13	10V	D_DO-41_SOD81_P12.70mm_Horizontal	1	
D14	1N4148	D_DO-41_SOD81_P12.70mm_Horizontal	1	
J1	Control / Program Select Switch	Push_Button_4PDT_2x06_P2.50mm_Vertical	1	
J2	USB_C Receptacle Power Only 6P	USB_C_Receptacle_GCT_USB4125-xx-x-0190_6P_TopMnt_Horizontal	1	
J3	Conn_01x02	Molex_KK-254_AE-6410-02A_1x02_P2.54mm_Vertical	1	
J4	USB_A	USB_A_Kycon_KUSBX-AS1N-B_Horizontal	1	
J5	Barrel Jack	BarrelJack_Wuerth_6941xx301002	1	
L1	50uH	L_Radial_D7.8mm_P5.00mm_Fastron_07HCP	1	
Q2,Q3,Q5,Q6	BC108	TO-18-3	4	
Q4	BD139	TO-126-3_Horizontal_TabDown	1	

Reference	Value	Footprint	Qty	Part No.
R1	1K1	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R2	13K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R3	0.25	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R4	180	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R5	5K6	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R6,R7	5.1K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	2	
R8	220	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R12	4K7	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R21	470K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R22	560K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R23,R24,R25,R26,R28,R30	10K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	6	
R29	680	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R32	6K	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
R33	47	R_Axial_DIN0309_L9.0mm_D3.2mm_P12.70mm_Horizontal	1	
RN1	1.5K	R_Array_SIP9	1	
RV1	25K	Potentiometer_Vishay_43_Horizontal	1	

Reference	Value	Footprint	Qty	Part No.
SW1,SW2,SW3,SW4, SW5,SW6,SW8	SW_SPDT		7	
SW11,SW12,SW13,SW14,SW15,SW16,SW17,SW18	SW_Push_SPDT	SW_NKK_GW12LJP	8	
TP1	10KHz	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP2	+16V	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP3	+5V	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP4	PULSE	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP5	PRG_PWR 10V	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP6	PROM_ENABLE	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP8	X1	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP9	X2	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP10	X3	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
TP11	X4	TestPoint_THTPad_2.0x2.0mm_Drill1.0mm	1	
U1	74S188	DIP-16_W7.62mm_wide_TPH	1	
U2	MC34063AP	DIP-8_W7.62mm	1	
U6	4043	DIP-16_W7.62mm_Socket	1	
U7	4017	DIP-16_W7.62mm_Socket	1	
U8	HEF4093B	DIP-14_W7.62mm_Socket	1	
U9	TL431LP	Package_TO_SOT_THT:TO-92	1	

3 Construction

3.1 Before you start construction

Inspect the PCB for any visible signs of damage

Select your components:

- Turned pin sockets are recommended due to robustness and reliability
- Tantalum capacitors can be temperamental. Make sure they are inserted with the correct polarity, are of good quality and are overrated voltage wise.

U15, U20 & U21 are static sensitive. Handling precautions need to be observed.

3.2 Order of construction

The recommended order of construction is:

- Resistors
- Sockets
- Decoupling capacitors
- Tantalum capacitors
- Switches
- LED
- Wire header
- Insert IC’s

4 Functionality

5 Usage of the Programmer

6 Notes on Components

All the components used have been selected at time of design to be readily available via commercial component suppliers.

7 Errata

7.1 Version 1.1

8 Reference Images

8.1 PCB

8.2 Built