6 Schematic, PCB Layout, and Bill of Materials

This chapter provides the electrical schematic and physical PCB layout information for the PGA2505EVM. The Bill of Materials is included for component reference.

6.1 Schematic

The complete electrical schematic for the PGA2505EVM is shown in Figure 13. Refer to the Bill of Materials in Table 3 for descriptions of components shown in the schematic.

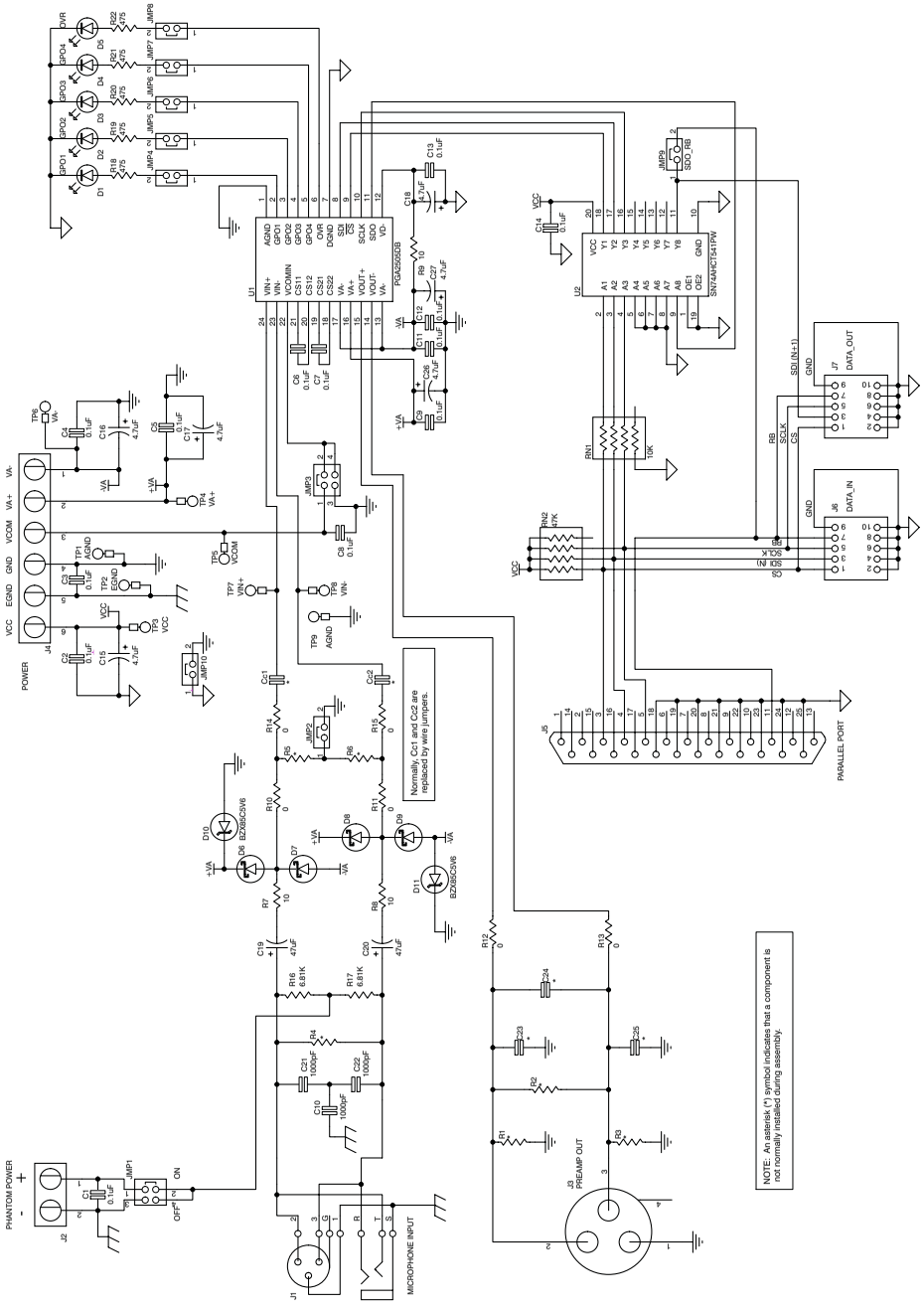

Figure 13. Schematic

6.3 Bill of Materials

Table 3. PGA2505EVM Bill of Materials

Item	Value	Reference Designator	Qty Per Board	Manufacturer	Mfg Part Number	Description
1	10	R7 – R9	3	Vishay Dale or Equivalent	CMF5510R000BEEK	1/4W .1% Metal Film Axial Resistor
2	475	R18 – R22	5	Panasonic or Equivalent	ERJ-6ENF4750V	1/10W 1% Chip Resistor
3	6.81k	R16, R17	2	Vishay Dale or Equivalent	CMF556K8100BEEK	1/4W .1% Metal Film Axial Resistor
4	10k	RN1	1	CTS	742C083103JPTR	1/16W 5% Isolated Resistor Array
5	47k	RN2	1	CTS	742C083473JPTR	1/16W 5% Isolated Resistor Array
6	0	R10 – R15, C_{C1}, C_{C2}	8	Yaego	ZOR-25-B-52	0Ω Jumper, 1/4W Carbon Film, Axial, ±100ppm/°C
7	1000pf	C10, C21, C22	3	TDK	C2012C0G1H102JT	50V Ceramic Chip Capacitor, ± 5%,NPO
8	0.1µF	C1 – C9, C11 – C14	13	TDK	C2012X7R2A104KT	100V Ceramic Chip Capacitor, ±10%, X7R
9	4.7µF	C15 – C18, C26, C27	6	Kemet	T494A475M025AT	25V Low ESR Tantalum Chip Capacitor, ±10%
10	47µF	C19, C20	2	Panasonic	EEE-FK1J470P	63V Aluminum Electrolytic Capacitor, ±20%
11		D1 – D5	5	Lumex	SML-LX1206IC-TR	Red LED, SMT
12		D6 – D9	4	ON Semiconductor	MBRA120ET3G	Schottky Power Rectifier Diode, SMT
13		D10, D11	2	Fairchild	BZX85C5V6	DIODE ZENER 1W 5.6V 5% DO-41
14		U1	1	Texas Instruments	PGA2505IDB	Digitally Controlled Microphone Preamplifier
15		U2	1	Texas Instruments	SN74AHCT541PW	Octal Buffer/Driver
16		J1	1	Neutrik	NCJ6FI-H	Combo Connector, Female XLR + TRS
17		J2	1	Weidmuller	1699670000	3.5mm, 2 Position Terminal Block
18		J3	1	ITT Cannon	XLB-3-32PCV-M01	XLB Male Connector, w/ Ground Lug
19		J4	1	Weidmuller	996772	3.5mm, 6 Position Terminal Block
20		J5	1	AMP/Tyco	5747842-6	DB25 RA Male Connector, w/ Boardlocks
21		J6, J7	2	Samtec	TSW-105-07-G-D	5x2 Header , 0 .1" spacing
22		JMP2, JMP9	2	Samtec	TSW-102-07-G-S	2 Position Jumper , 0 .1" spacing
23		JMP1, JMP3	2	Samtec	TSW-102-07-G-D	2x2 Header , 0 .1" spacing
24		TP7 – TP9	3	Keystone Electronics	5006	Compact Test Point Terminal
25			4	Samtec	SNT-100-BK-G-H	Shorting Jumper
26			4	3M Bumpon	SJ-5003	Rubber Feet, Adhesive Backed

6.2 PCB Layout

The PGA2505EVM is a two-layer printed circuit board using both through-hole and surface-mount components. The silkscreen, top, and bottom layer plots are shown in Figure 14 through Figure 16, respectively.

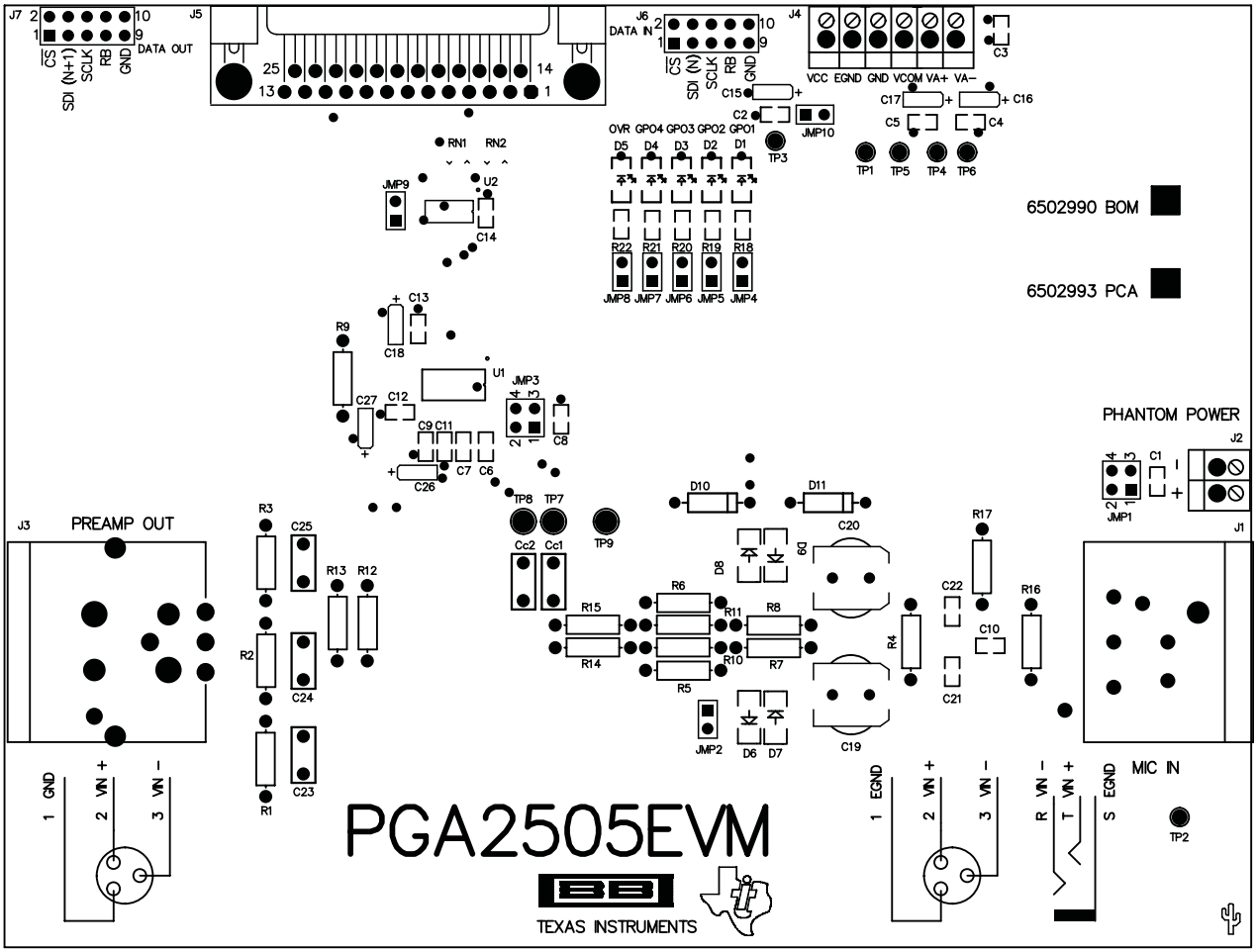

Figure 14. PGA2505EVM PCB Silkscreen

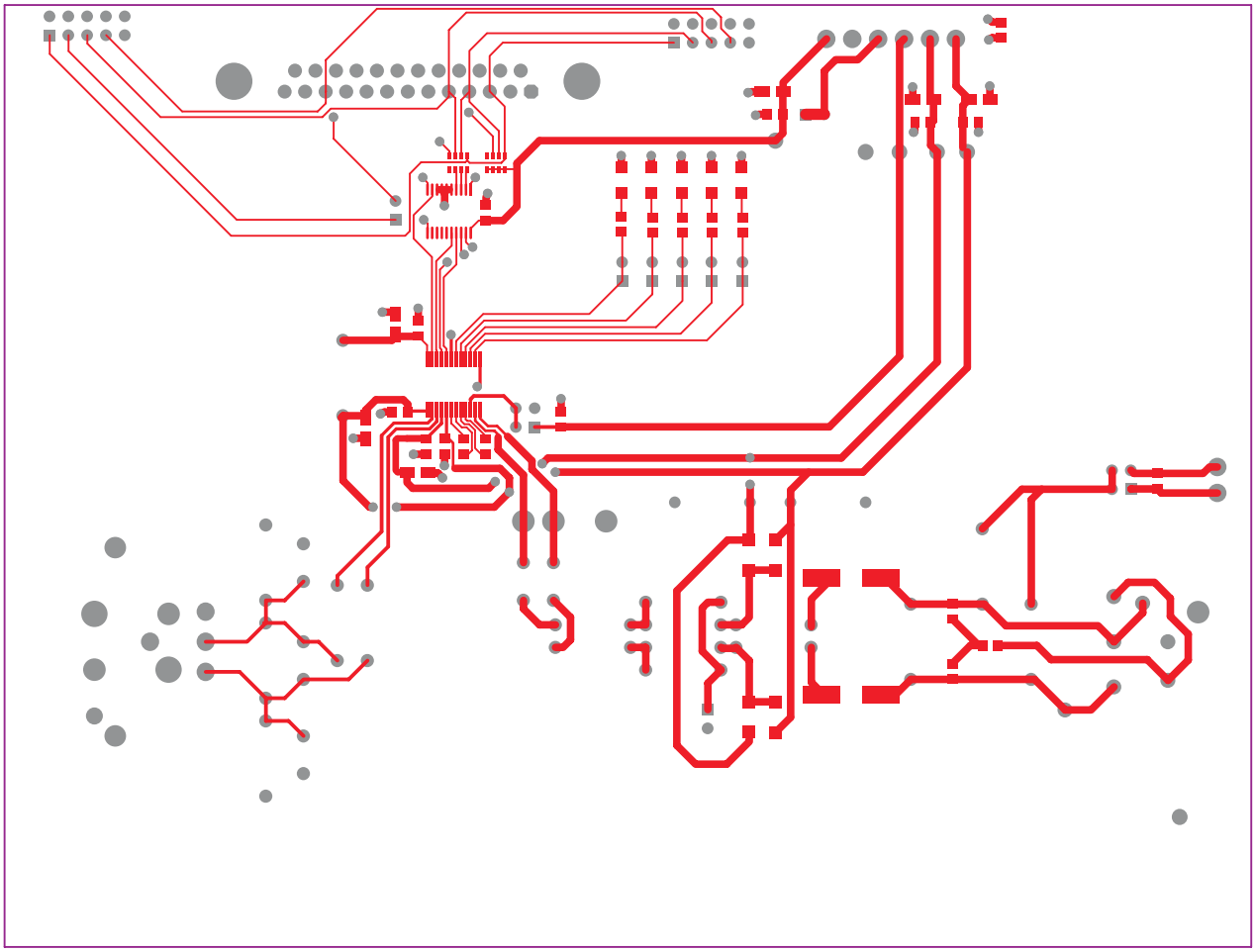

Figure 15. PGA2505EVM PCB Top Layer (Component Side)

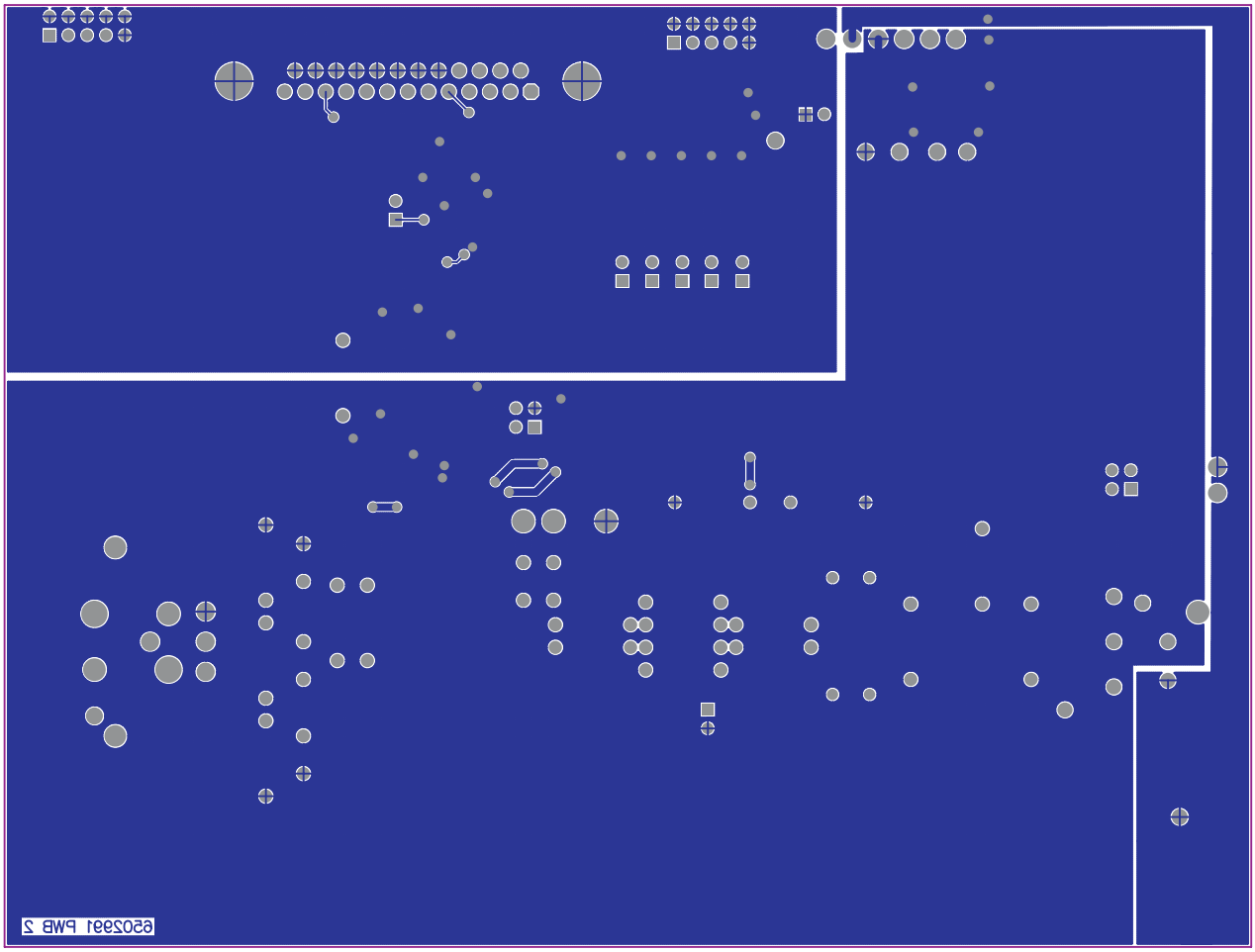

Figure 16. PGA2505EVM PCB Bottom Layer (Solder Side)