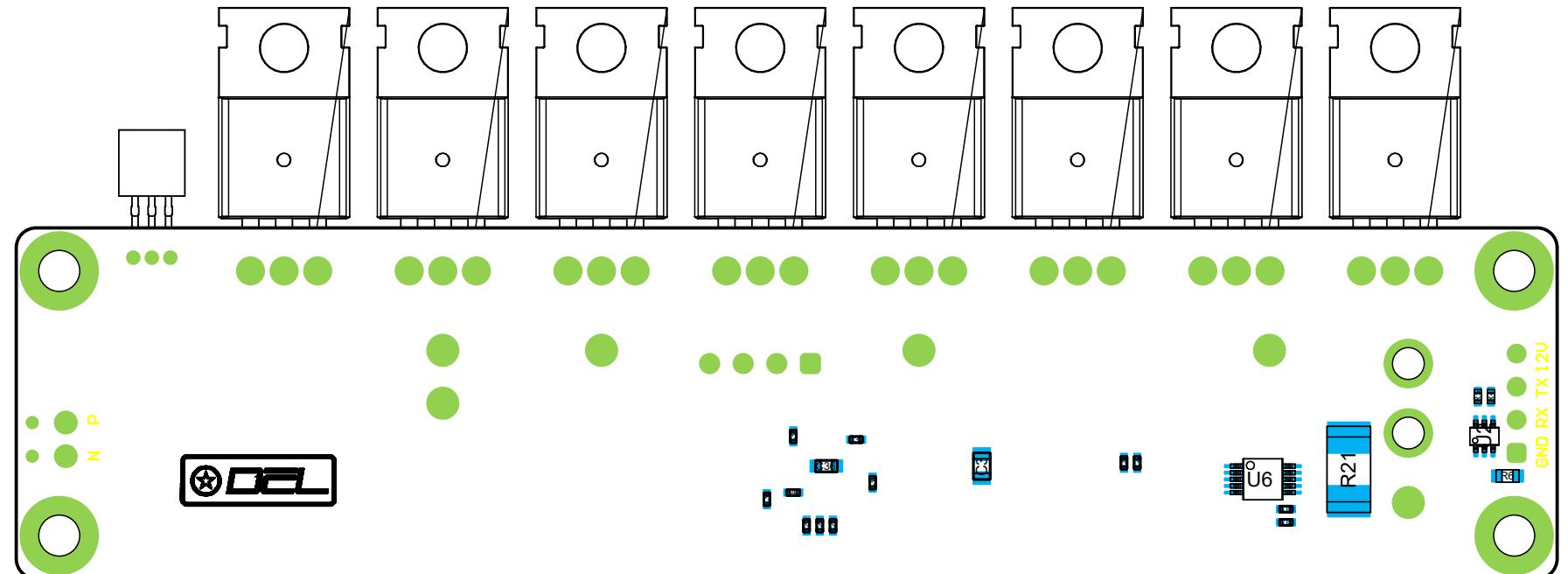
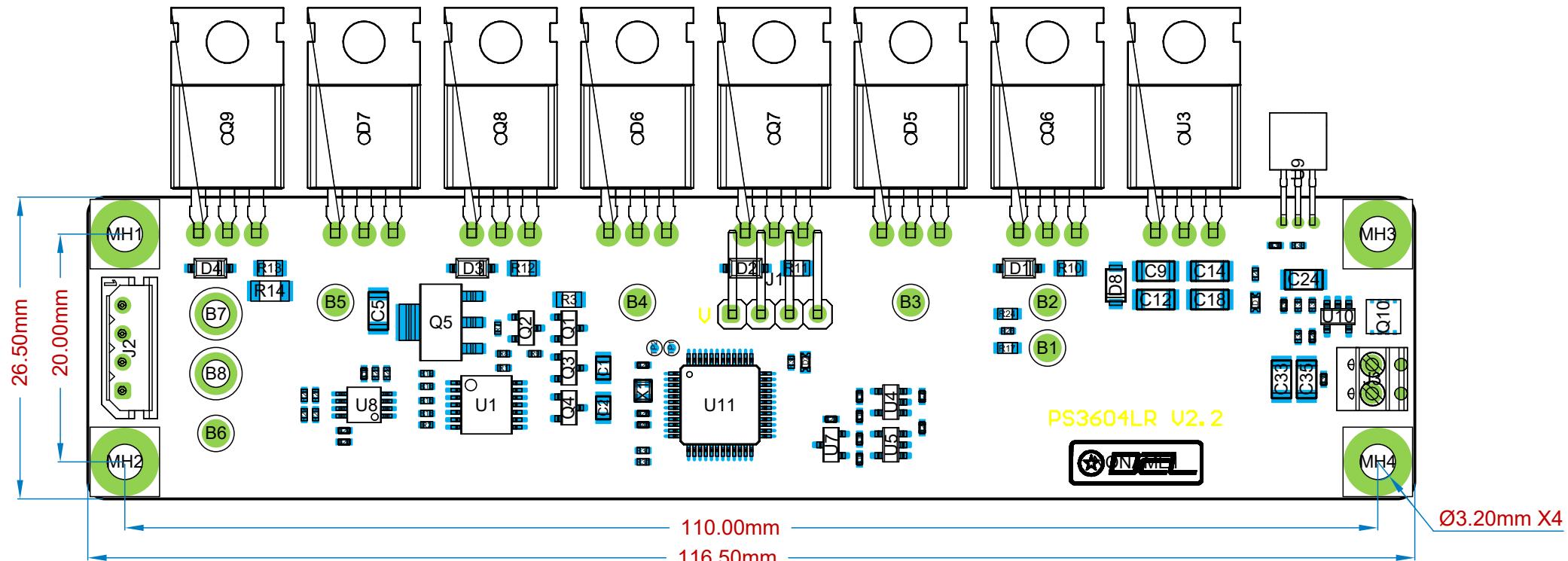


Designator	Comment	Footprint	Part Number	Part Description	Quantity
B1, B2, B3, B4, B5, B6	VG, V4, V3, V2, V1, GND	C250h130	PLATED_HOLE1_3_PAD2.5	Plated Through Hole: Hole Dia.=1.3mm Pad Dia.=2.5mm	6
B7, B8	POS, NEG	c375h250	PLATED_HOLE2.5_PAD3.75	Plated Through Hole: Hole Dia.=1.3mm Pad Dia.=3.75mm	2
C1, C2, C3	270p	CAPC2012X135N	CC0805_270pF_50V_5%_NPO	SMD Multilayer Chip Ceramic Capacitor	3
C4, C7, C8, C13, C16, C17, C21, C23, C25, C30	1u	CAPC1005X55N	CC0402_1uF_10V_20%_X5R	SMD Multilayer Chip Ceramic Capacitor	10
C5	1u	CAPC3216X140N	CC1206_1uF_100V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	1
C6, C15, C19, C22, C23, C24, C37, C38, C39, C40, C41	100n	CAPC1005X55N	CC0402_100nF_50V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	11
C9, C12	4.7u	CAPC3216X140N	CC1206_4.7uF_50V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	2
C10, C11	10n	CAPC1005X55N	CC0402_10nF_50V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	2
C14, C18	10u	CAPC3216X140N	CC1206_10uF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	2
C20	22n	CAPC1005X55N	CC0402_22nF_16V_10%_X7R	SMD Multilayer Chip Ceramic Capacitor	1
C24, C33, C35	22u	CAPC3216X100N	CC1206_22uF_16V_20%_X5R	SMD Multilayer Chip Ceramic Capacitor	3
C26, C29	220p	CAPC1005X55N	CC0402_220pF_50V_5%_NPO	SMD Multilayer Chip Ceramic Capacitor	2
C27, C28	6.8p	CAPC1005X55N	CC0402_6.8pF_50V_0.5pF_NPO	SMD Multilayer Chip Ceramic Capacitor	2
C31	1n	CAPC1005X55N	CC0402_1nF_50V_5%_NPO	SMD Multilayer Chip Ceramic Capacitor	1
C36	4.7u	CAPC1608X87N	CC0603_4.7uF_10V_10%_X5R	SMD Multilayer Chip Ceramic Capacitor	1
D1, D2, D3, D4	1N4148W	SOD2715X145N	1N4148W	Small Signal Diode	4
D5, D6, D7	MBRF2060	TO-220-H-OUTSIDE	MBRF2060CTG_h_outside	Switch-mode Schottky Power Rectifier (Common Cathode)	3
D8	MBR1405FT1G	SOD-123L	MBR1405FT1G	Schottky Power Rectifier	1
J1	Header 4	3M_029550-0104-EU	3M_029550-0104-EU	10 Contacts - Horizontal Contacts Straight Strip Header Pitch 2.54 2.54mm Pitch, 100mm Long-to-Board Header, Vertical, Shrouded, 4 Circuits, Tin (Sn) Plating	1
J2	SPOX	MOLEX_22-03-5045	MOLEX_22-03-5045		1
J3		PHOENIX_1725656	PHOENIX_1725656	6A, 65V, Terminal Block, Pitch 2.54mm, 2 Positions, Screw Connection	1
L01	Red	LEDC1608X80N_RED	LED_OF-SMD1608R	Surface Mount Red LED (0603 Case)	1
L02	Blue	LEDC1608X80N_BLUE	LED_OF-SMD1608B	Surface Mount Red LED (0603 Case)	1
M1, M2, M3, M4H	Non Plated Hole	MTG600H320V8P	NON-PLATED_HOLE3.2_PAD6.0_8p	Through Hole, Pitch = 3.2mm Pad Length = 6.0mm, Via Dia.=0.8mm	4
O1, O3, O4	MMBT5551	SOT95P240X130-3N	MMBT5551L	140V 60mA NPN General Purpose Amplifier	3
Q2	BSS139	SOT95P240X110-3N	BSS139	250V 1A N-Channel MOSFET Depletion-mode	1
Q5	BCP56	SOT230P700X180-4N	BCP56	80V NPN Medium Power Transistor	1
Q6, Q7, Q8, Q9	IRF3710	TO-220-H-OUTSIDE	IRF3710_h_outside	100V 0.022 Ohm N-Channel Power MOSFET	4
O10	IRFHFM9331	9N	IRFHFM931TRpRF	25V 1A 0.014 Ohm P-Channel MOSFET	1
R1, R2, R9	2k2	RESC1005X40N	R0402_2K2_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	3
R3	100k	RESC2012X60N	R0805_100K_1%_0.125W_100PPM	General Purpose Thick Film Chip Resistor	1
R4, R5, R8, R30, R31	100	RESC1005X40N	R0402_100R_1%_0.0625W_100PP	General Purpose Thick Film Chip Resistor	5
R6, R17	10	RESC1608X55N	R0603_10R_1%_0.1W_200PPM	General Purpose Thick Film Chip Resistor	2
R7, R20, R25, R33, R34, R36	1k	RESC1005X40N	R0402_1K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	6
R10, R11, R12,	2k2	RESC2012X60N	R0805_2K2_1%_0.125W_100PPM	General Purpose Thick Film Chip Resistor	4
R14	4k7	RESC3216X65N	R1206_4K7_1%_0.25W_100PPM	General Purpose Thick Film Chip Resistor	1
R15, R16	120k	RESC1005X40N	R0402_120K_1%_0.0625W_100PP	General Purpose Thick Film Chip Resistor	2
R18, R19, R22, R26, R27, R32	10k	RESC1005X40N	R0402_10K_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	6
R21	0.082	RESC6331X80N	R2512_0R082_1%_2W_50PPM	Metal plate chip type low resistance resistors	1
R23	62	RESC1005X40N	R0402_62R_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
R24	47k	RESC1608X55N	R0603_47K_1%_0.1W_100PPM	General Purpose Thick Film Chip Resistor	1
R28, R29	100k	RESC1005X40N	R0402_100K_1%_0.0625W_100PP	General Purpose Thick Film Chip Resistor	2
R35	3k3	RESC1005X40N	R0402_3K3_1%_0.0625W_100PPM	General Purpose Thick Film Chip Resistor	1
TP1, TP2	Test Point	TP_SMD_800	TP_SMD_0.8MM	0.8mm round SMD Pad	2
U1	AD8608	SOP6SP640X110-141	AD8608ARUZ-REEL	Precision, Low Noise, CMOS, Rail-to- Rail, Input/Output Operational Amplifiers	1
U2	NUP4202	SOT65P220X110-6N	NUP4202W1	ESD Protection Diode, Low Clamping Voltage	1
U3	KIA7812	TO-220-H-OUTSIDE	KIA7812APL_h_outside	3-terminal 12V TA Positive Voltage Regulator	1
U4	LP2985A-33DBV	SOT95P280X145-5N	LP2985A-33DBV	3.3V, 150mA Low-Noise Low- Dropout Regulator With Shutdown	1
U5	LP2985A-50DBV	SOT95P280X145-5N	LP2985A-50DBV	5V, 150mA Low-Noise Low-Dropout Regulator With Shutdown	1
U6	INA229	SOP5DP490X110-10N	INA229ADGS	85-V, 3-A, 8-Bit, Ultra-Precise Power Energy/Charge Monitor With SPI Interface	1
U7	REF3333AIDBZR	SOT95P237X112-3N	REF3333AIDBZR	3.3V, 30ppm/C Drift, 3.9uA Voltage- Reference	1
U8	AD8606	SOP6SP490X110-8B8	AD8664ARMZ-REEL	Precision, Low Noise, CMOS, Rail-to- Rail, Input/Output Operational Amplifiers	1
U9	DS18820	TO-92-H-OUTSIDE	DS18820_h_outside	Programmable Resolution 1-Wire Digital Thermometer	1
U10	LMC7101	SOT95P280X145-5N	LMC7101AIM5X/NOPB	2.7-5.5V, Rail-to-Rail I/O Amplifier 48MHz+Corner+-4.325 MHz-FIR 1-p to 254 Flash-32KB SRAM, timers, 4 ADCs (16-bit Sig Delta / 12-bit SAR), 3 DACs, 2 comp., 2.0-3.6 V	1
U11	STM32F373CCT6	SOP50P900X900X160-48N	STM32F373CCT6	±30ppm at (25±3°C), -30°C to +85°C, 48pF, Ceramic SMD Crystal, Type HCR2016	1
X1	24MHz	OSC160X200X65-4N	24MHz_XRCGB24M00F3M00R0		1

A B C D E
View from Top side (Scale 2:1)



A B C D E
View from Bottom side (Scale 2:1)

A

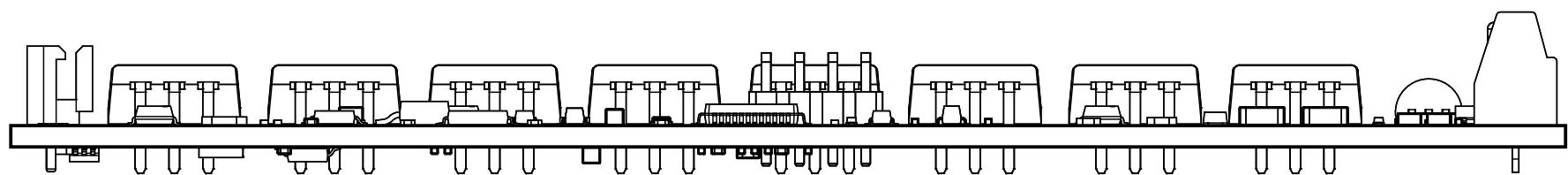
B

C

D

E

View from Front side (Scale 2:1)



A

B

C

D

E

