

**Project:** Automotive\_HV\_Power\_Supply\_40W.PrjPcb

Source Data From: Automotive\_HV\_Power\_Supply\_40W.PrjPcb  
 Project: Automotive\_HV\_Power\_Supply\_40W.PrjPcb  
 Variant: standard\_board

Bill of Materials



Solution Engineering Center  
 Pestany

Report Date: 8/14/2020 10:45 PM  
 Print Date: 5/27/2021 11:57:12

#	Designator	Comment	Description	LibRef	SourceLibraryName	Manufacturer	Manufacturer Part Number	Supplier	Supplier Part Number	Supplier 2	Supplier Part Number 2	Quantity
1.	C2	470pF	MLC capacitor 470pF 1kV ±10% X7R Würth Elektronik	88534208017	capacitors.SVNDblib	Würth Elektronik	88534208017	Digi-Key	732-12097-1-ND	Mouser	710-88534221017	1
2.	C5	100 nF	Multilayer Ceramic Capacitors MLCC - SMD 1206 25 V 100 nF COG ± 1 % AEC-Q202 -55 - 125 °C	GRT31CSC1E104FA02	capacitors.SVNDblib	Murata	GRT31CSC1E104FA02	Digi-Key		Mouser	81-GRT31CSC1E104JA02D	1
3.	C6, C18	1000 uF	ALU electrolyte high current ripple 1000uF 25V 20% Nichicon	UBT1E102MHDT0	capacitors.SVNDblib	NICHICON	UBT1E102MHDT0	Digi-Key	493-4500-1-ND	Mouser	647-UBT1E102MHDT0	2
4.	C7	470 nF	Multilayer Ceramic Capacitors MLCC - SMD 0805 50 V 470 nF X7R ± 10 % AEC-Q202 -55 - 125 °C	GRT21BR71H474KE01	capacitors.SVNDblib	Murata	GRT21BR71H474KE01	Digi-Key		Mouser	81-GRT21BR71H474KE01D	1
5.	C8	4.7 uF	Multilayer Ceramic Capacitors MLCC - SMD 1210 50 V 4.7 uF X7R ± 10 % AEC-Q202 -55 - 125 °C	GRT2ER71H475KE01	capacitors.SVNDblib	Murata	GRT2ER71H475KE01	Digi-Key		Mouser	81-GRT2ER70H476KE13D	1
6.	C9	100 nF	Multilayer Ceramic Capacitors MLCC - SMD 1206 50 V 100 nF COG ± 5 % AEC-Q202 -55 - 125 °C	GRT31CSC1H104JA02	capacitors.SVNDblib	Murata	GRT31CSC1H104JA02	Digi-Key		Mouser	81-GRT31CSC1H104JA02D	1
7.	C10, C15	120 pF	Multilayer Ceramic Capacitors MLCC - SMD 0603 100 V 120 pF COG ± 5 % AEC-Q202 -55 - 125 °C	GRT1885CA121JA02	capacitors.SVNDblib	Murata	GRT1885CA121JA02	Digi-Key	490-GRT1885CA121JA02DTR-ND	Mouser	81-GRT1885CA121JA02D	2
8.	C12	150 nF	Multilayer Ceramic Capacitors MLCC - SMD 0603 25 V 150 nF X7R ± 10 % AEC-Q202 -55 - 125 °C	GRT188R71E154KE01	capacitors.SVNDblib	Murata	GRT188R71E154KE01	Digi-Key		Mouser	81-GRT188R71E154KE01D	1
9.	C13	1n8	Multilayer Ceramic Capacitors MLCC - SMD 0805 100 V 1n8 COG ± 5 % AEC-Q202 -55 - 125 °C	GRT2165CA182JA02	capacitors.SVNDblib	Murata	GRT2165CA182JA02	Digi-Key		Mouser	81-GRT2165CA182JA02D	1
#	C14	3n3	Multilayer Ceramic Capacitors MLCC - SMD 0805 100 V 3n3 COG ± 5 % AEC-Q202 -55 - 125 °C	GRT2165CA332JA02	capacitors.SVNDblib	Murata	GRT2165CA332JA02	Digi-Key		Mouser	81-GRT2165CA332JA02D	1
#	C17	4.7 pF	Multilayer Ceramic Capacitors MLCC - SMD 0603 100 V 4.7 pF COG ± 5 % AEC-Q200 -55 - 125 °C	GCM1885CA4R7CA6D	capacitors.SVNDblib	Murata	GCM1885CA4R7CA6D	Digi-Key	GCM1885CA4R7CA16D-ND	Mouser	81-GCM1885CA4R7CA6D	1
#	C19, C20	220 nF	MMKT film capacitor 220n 500Vac /1600Vdc TDK	B3048B1224000	capacitors.SVNDblib	TDK	B32648B1224J000	Digi-Key	495-B32648B1224J000-ND	Mouser	871-B32648B1224J000	2
#	CON1	RED	Banana Test Connector, 4mm, Receptacle, PCB Mount, 24 A, 1 kV, Gold Plated Contacts, Red	FCR7350R	connectors.SVNDblib	CLIFF Electronic Components	FCR7350R	Farnell	1854508			1
#	CON2	691 313 510 002	PCB right angle connector 2 pins 5.08 mm pitch Würth Elektronik	691313510002	connectors.SVNDblib	Würth Elektronik	691313510002	Farnell	1641993	Mouser	710-691313510002	1
#	CON3	BLACK	Banana Test Connector, 4mm, Receptacle, PCB Mount, 24 A, 1 kV, Gold Plated Contacts, Black	FCR7350B	connectors.SVNDblib	CLIFF Electronic Components	FCR7350B	Farnell	1854507			1
#	CON4	613 008 243 121	WR-PHD 2.54 mm Angled Dual Socket Header 2x4 pins	613008243121	connectors.SVNDblib	Würth Elektronik	613008243121	Würth Elektronik	613008243121			1
#	CON5	691 351 500 002	Cable connector series 351 2pins 5.08 mm Würth Elektronik	691351500002	connectors.SVNDblib	Würth Elektronik	691351500002	Würth Elektronik	691351500002			1
#	CY1	2x2	Disc ceramic capacitor 2x2 1500 VDC Y5U 10 % Vishay AEC-Q200	A1Y22MAY75U1C6310	capacitors.SVNDblib	VISHAY	A1Y22MAY75U1C6310	Digi-Key	RE5430-ND	Mouser	72-AY1222MAY75U1C6310	1
#	D1	FSP1065B-F085	Ultra fast Schottky SiC diode 650V 10A AEC-Q101 ON Semiconductor	FSP1065B-F085	diodes.SVNDblib	ON Semiconductor	FSP1065B-F085	Digi-Key	FSP1065B-F085-ND	Mouser	FSP1065B-F085	1
#	D3	SZ1SMA5931BT3G	TVS zener diode 18 V 83 mA SMA AEC-Q101 ON Semiconductor	SZ1SMA5931BT3G	diodes.SVNDblib	ON Semiconductor	SZ1SMA5931BT3G	Digi-Key	SZ1SMA5931BT3GOSTR-ND	Mouser	863-SZ1SMA5931BT3G	1
#	D4	NRVUS1MFA	Super Fast diode 1000V 1 A 75 nS SOD123FA AEC-Q101, ON Semiconductor	NRVUS1MFA	diodes.SVNDblib	ON Semiconductor	NRVUS1MFA	Mouser	863-NRVUS1MFA			1
#	D5	NSVBAS21AHT1G	Switching diode 250V 200mA SOD323 AEC-Q101 ON Semiconductor	NSVBAS21AHT1G	diodes.SVNDblib	ON Semiconductor	NSVBAS21AHT1G	Digi-Key	NSVBAS21AHT1GOST-ND	Mouser	863-NSVBAS21AHT1G	1
#	D6	SZMMS20T1G	Zener Single Diode, 18 V, 500 mW, SOD-123, 5 %, 2 Pins, 150 °C, AEC-Q101	SZMMS20T1G	diodes.SVNDblib	ON Semiconductor	SZMMS20T1G	Farnell	2728117	Mouser	863-SZMMS20T1G	1
#	D7	SKP160A	TVS 160V 5000W True hole unidirectional VISHAY AEC-Q101	SKP160A-E/354	diodes.SVNDblib	VISHAY	SKP160A-E/354	Digi-Key	SKP160A-E/354GTR-ND			1
#	D8	SZMMS20T1G	Zener Diodes 20V 500mW SOD123 AEC-Q101 ON Semiconductor	SZMMS20T1G	diodes.SVNDblib	ON Semiconductor	SZMMS20T1G	Mouser	863-SZMMS20T1G	Digi-Key	863-SZMMS20T1G-ND	1
#	D9	NRVBA30LT3G	Schottky diode 30 V 1 A SMA ON Semiconductor	NRVBA30LT3G	diodes.SVNDblib	ON Semiconductor	NRVBA30LT3G	Digi-Key	NRVBA30LT3GOSTR-ND	Mouser	863-NRVBA30LT3G	1
#	H51	SK 526 30 mm black anodized	Heatsink Fischer Elektronik SK 526 30 mm black anodized	SK526_30_3T	mechanical.SVNDblib	Fischer Elektronik	SK52630ST	Fischer Elektronik	SK 526 30 ST			1
#	H52	SK 525 20 mm black anodized	Heatsink Fischer Elektronik SK 525 20 mm black anodized	SK525_20_3T	mechanical.SVNDblib	Fischer Elektronik	SK52520ST	Fischer Elektronik	SK 525 20 ST			1
#	IC1	NCV1362BA	Automotive Primary Side Flyback Controller	NCV1362BA02G	ics.SVNDblib	ON Semiconductor	NCV1362BA02G	ON Semiconductor	NCV1362BA02G			1
#	I1	2.2 mH	Fixed Inductors RFB 1010 Lead Rad 2.2mH 0.41A @ 100m	RFB1010-22L	inductors.SVNDblib	Coilcraft	RFB1010-22L	Farnell	2457819	Mouser	994-RFB1010-22L	1
#	I2	470 uH	Fixed inductors RFB 1010 Lead Rad 470uH 0.9A @ 0.810m	RFB1010-47L	inductors.SVNDblib	Coilcraft	RFB1010-47L	Farnell	2457811	Mouser	994-RFB1010-47L	1
#	Q1	NSVBC817-40W	General purpose NPN transistor 45V 500mA ON Semiconductor	NVH160N120SC1	transistors.SVNDblib	ON Semiconductor	NSVBC817-40W1TG	Digi-Key	NSVBC817-40W1TGOSTR-ND	Mouser	863-NSVBC817-40W1TG	1
#	Q3	NVH160N120SC1	SiC NMOS 1200V 17A 160mOhm ON Semiconductor	NVH160N120SC1	transistors.SVNDblib	ON Semiconductor	NVH160N120SC1	ON Semiconductor	NVH160N120SC1			1
#	R1	68R	SMD thick film resistor 68R 1206 1% 660 mW Panasonic	ERJ6BF680V	resistors.SVNDblib	Panasonic	ERJ6BF680V	Digi-Key	ERI-P08F680V-ND	Mouser	667-ERI-P08F680V	1
#	R3	6M8	High Ohmic / High Voltage Metal Glaze Leaded Resistors 0207 6M8 5% 250mW Vishay	VR25000006804A500	resistors.SVNDblib	Vishay	VR25000006804A500	Mouser	594-VR25000006804A5			1
#	R4	10M	High Ohmic / High Voltage Metal Glaze Leaded Resistors 0207 10M 5% 250mW Vishay	VR25000001005A100	resistors.SVNDblib	Vishay	VR25000001005A100	Mouser	594-50430M10M00J			1
#	RS, R6, R9	100k	SMD Chip Resistor, 100 kohm, MCWR Series, 200 V, Thick Film, 1206 [3216 Metric], 250 mW Multicomp	MCWR12X1003FTL	resistors.SVNDblib	Multicomp	MCWR12X1003FTL	Farnell	2447453			3
#	R10, R19	0R	SMD Chip Resistor, 0 ohm, ERJ8G Series, 200 V, Thick Film, 1206 [3216 Metric], 250 mW Panasonic	ERJ8G0R00V	resistors.SVNDblib	Panasonic	ERJ8G0R00V	Digi-Key	P0.0ECT-ND	Mouser	667-ERI-8GEY0R00V	2
#	R13	4k7	SMD thick film resistor 4k7 0603 1% 100 mW Panasonic	ERA3AE4703V	resistors.SVNDblib	Panasonic	ERA3AE4703V	Mouser	667-ERA-3AE4703V			1
#	R17	154k	SMD thick film resistor 154k 0805 1% 125 mW Panasonic	ERA6AE1543V	resistors.SVNDblib	Panasonic	ERA6AE1543V	Mouser	667-ERA-6AE1543V			1
#	R24	270k	SMD thick film resistor 270k 0603 1% 100 mW Panasonic	ERA3AE2703V	resistors.SVNDblib	Panasonic	ERA3AE2703V	Mouser	667-ERA-3AE2703V			1
#	R25	10k	SMD thick film resistor 10k 0805 1% 125 mW Panasonic	ERA6AE10002V	resistors.SVNDblib	Panasonic	ERA6AE10002V	Mouser	667-ERA-6AE10002V			1
#	R26	8R2	SMD thick film resistor 8 Ohm 1206 1% 500 mW Panasonic	ERJ8BF8R2V	resistors.SVNDblib	Panasonic	ERJ8BF8R2V	Digi-Key	P17622CT-ND	Mouser	667-ERI-8BF8R2V	1
#	R28	1k	SMD thick film resistor 1k 1206 1% 250 mW Panasonic	ERA6AE1001V	resistors.SVNDblib	Panasonic	ERA6AE1001V	Mouser	667-ERA-6AE1001V			1
#	R29	100k	SMD Thermistor, 100 kohm, NTCG-S Series, 0805 [2012 Metric], 200 mW TDK	NTCG204CH104T1	resistors.SVNDblib	TDK	NTCG204CH104T1	Digi-Key	445-175466-1-ND	Mouser	810-NTCG204CH104T1	1
#	R30	34k8	SMD thick film resistor 34k8 0603 1% 100 mW Panasonic	ERA3AE3482V	resistors.SVNDblib	Panasonic	ERA3AE3482V	Mouser	667-ERA-3AE3482V			1
#	R31, R32	0R56	SMD thick film resistor 0.56Ohm 1206 1% 500 mW Panasonic	ERJ8BF0R56V	resistors.SVNDblib	Panasonic	ERJ8BF0R56V	Digi-Key	P17251TR-ND	Mouser	667-ERI-8BF0R56V	2
#	R33	511k	SMD thick film resistor 511k 0603 1% 100 mW Panasonic	ERA3AE5112V	resistors.SVNDblib	Panasonic	ERA3AE5112V	Mouser	667-ERA-3AE5112V			1
#	R34	44k2	SMD thick film resistor 44k2 0603 1% 100 mW Panasonic	ERA3AE4422V	resistors.SVNDblib	Panasonic	ERA3AE4422V	Mouser	667-ERA-3AE4422V			1
#	S81, S82, S83, S84	Plastic spacer M3 M/F 8/5 HEX6	Plastic spacer internal/external M3x8 thread, 5mm Würth Elektronik	971050365	mechanical.SVNDblib	Würth Elektronik	971050365	Digi-Key	732-13041-ND	Mouser	710-971050365	4
#	S71, S72, S73, S74	Plastic spacer M3 F/F 10/40 HEX6	Plastic spacer internal/external M3x6 thread, 40mm Würth Elektronik	97040365	mechanical.SVNDblib	Würth Elektronik	97040365	Digi-Key	732-13035-ND	Mouser	710-97040365	4
#	T1	750319105	Transformer for DC-DC (NCV1362 flyback 250V-900VDC@40W) converter from Würth Elektronik	TR_WE_750319105	transformers.SVNDblib	Würth Elektronik	TR_WE_750319105	Würth Elektronik	750319105			1
#	TP1	ORANGE	PTH testpoint eyelet 3.2mm orange Keystone Electronics	5008	connectors.SVNDblib	Keystone Electronics	5008	Digi-Key	36-5008-ND	Mouser	534-5008	1
#	TP2, TP5	RED	PTH testpoint eyelet 3.2mm red Keystone Electronics	5005	connectors.SVNDblib	Keystone Electronics	5005	Digi-Key	36-5005-ND	Mouser	534-5005	2
#	TP3	BROWN	PTH testpoint eyelet 3.2mm brown Keystone Electronics	5009	connectors.SVNDblib	Keystone Electronics	5009	Digi-Key	36-5120-ND	Mouser	534-5120	1
#	TP4	BLUE	PTH testpoint eyelet 3.2mm blue Keystone Electronics	5022	connectors.SVNDblib	Keystone Electronics	5022	Digi-Key	36-5122-ND	Mouser	534-5122	1
#	TP6	BLACK	PTH testpoint eyelet 3.2mm black Keystone Electronics	5006	connectors.SVNDblib	Keystone Electronics	5006	Digi-Key	36-5006-ND	Mouser	534-5006	1
#	W1	AOS247 23x20x1	Ceramic insulation washer without hole for TO247 1mm Fischer Elektronik	AOS247	mechanical.SVNDblib	Fischer Elektronik	AOS247	Distrelec	175-59-975	Arrow	AOS247	1