



File Name: Pulsiv PSV-CCAD-250AH-BM Bill of Materials

Updated: 27th January 2023

Comment	Description	Designator	Quantity	MANUF PN#1	MANUF PN#2	MANUF PN#3
12V Supply, LDO	IC MCP1799T-3302H LDO 3.3V 80mA -40/+150	U3	1	MCP1799T-3302H		
12V Supply, LDO current limit resistor	RES 0603 TF 1R0 1% 0.25W -55/+155	Rlvld1	1	CRGP0603F1K0		
12V Supply, LDO decoupling capacitor	CAP 0603 X7R 100NF 50V 10% -55/+125	Clvd1	1	CGA3E2X7R1H104K080AA		
12V Supply, LDO decoupling capacitor	CAP 0805 X7R 4U7F 25V 10% -55/+125	Clvd3	1	CC0805KKX7R8BB475		
12V Supply, LDO decoupling capacitor	CAP 1206 X7R 10UF 25V 10% -55/+125	Clvd2	1	TMK316B7106K1-TD		
AC/DC Bridge, Diode	DIO RECTIFIER 600V 3A SMB	Db1, Db2	2	ES3JB-13-F	ES3JB R5G	
AC/DC Bridge, Half Active Bridge Current Sense Resistor	RES 0603 TF 0.025R 1% 0.33W -55/+155	Rcs1, Rcs2	2	ERJ-3BWFR025V		
AC/DC Bridge, Half Active Bridge MOSFET	TRN MOSFET N-CH 650V 18A TO220V -40/+150	Qb1, Qb2	2	IPAN60R180P75XKSA1		
AC/DC Bridge, Half Active Bridge MOSFET Driver	TRN MOSFET PWR DRIVE 2.6A NON-INV -40/+125	U4, U5	2	1ED44173N018XTSA1		
AC/DC Bridge, Half Active Bridge MOSFET Driver Decoupling Capacitor	CAP 0603 X7R 1N0F 50V 10% -55/+125	Cabc1, Cabc2, Cabc3	3	GRM188R71H102KA01D		
AC/DC Bridge, Half Active Bridge MOSFET Gate Resistor	RES 0603 TF 100R 1% 0.1W -55/+150, RES 0603 TF 10K 1% 0.1W -55/+150	Rabc1, Rabc2, Rabc3, Rabc4	4	RMCF0603FT100R, ERJ-3EKF1002V	CR0603-FX-1000ELF, [NoParam]	
AC/DC Bridge, Half Active Bridge, varistor avalanche protection	VAR TVS 10MM DISC 3.5KV 275VAC	Vdc	1	B72210S2271K101		
Holdup, capacitor discharge current limiting resistor	RES 0805 TF 750K 1% 0.25W -55/+155	Rhu2a, Rhu2b	2	SG73S2ATTD754G		
Holdup, charging current diode	General Purpose Rectifier, 400 V, 1 A, -55 to 175 degC, 2-Pin DO-204AL (DO-41), RoHS, Tape and Reel	Dhu1	1	1N4004G-T		
Holdup, charging current limiting resistor	RES 0603 TF 4K7 1% 0.1W -55/+155	Rhu3	1	RT0603FRE074K7L		
Holdup, discharge current limiting resistor	4R7 0.125W 5% 0805 (2012 Metric) SMD	Rhu1	1	ERJ-UP6J4R7V		
Holdup, discharge switching triac	Triac	Tr1	1	MAC4DLMT4G		
Holdup, discharge switching triac capacitor	CAP 0603 X7R 1N0F 50V 10% -55/+125, CAP 0603 COG 47pF 50V 5% -55/+125	Chu1, Chu2	2	GRM188R71H102KA01D, CC0603JRNPO98N470	[NoParam], 0603N470J500CT	
Holdup, discharge switching triac capacitor	CAP 0805 X7R 4u7 25V 10% -55/+125	Chu3	1	CC0805KKX7R8BB475	C2012X7R1E475K125AB	
Holdup, discharge switching triac resistor	RES 0603 TF 10K 1% 0.1W -55/+150, RES 0603 TF 15K 1% 0.1W -55/+155, RES 0603 TF 4K7 1% 0.1W -55/+155	Rhu4, Rhu5, Rhu6, Rhu7, Rhu8, Rhu9, Rhu10	7	ERJ-3EKF1002V, RC0603FR-0715KL, RT0603FRE074K7L		
Holdup, discharge voltage setting resistor	RES 0603 TF 240K 1% 0.1W -55/+155	Rhu11	1	RC0603FR-07240KL		CRCW0603240KFKEA
Holdup, discharge voltage setting resistor	RES 0805 TF 2M2 1% 0.125W -55/+155	Rhu12a, Rhu12b, Rhu12c	3	RC0805FR-072M2L		CRCW08052M20FKEAC
Holdup, energy storage capacitor	WCAP-AT1H Aluminum Electrolytic Capacitor, Radial THT, D13xH20mm, 22uF, 400V	Chu	1	860241378003		
Holdup, switching transistor	TRN PNP 45V 500MA SOT23 -55/+150, TRN NPN 45V 100MA SOT23 -55/+150	Qhu1, Qhu2, Qhu3	3	BC807-25, 215, BC847, 215		
Line Filter, Common Mode Choke	IND CHOKE 10mH@ 10kHz 1.4A 300V -40/+100	Lc	1	RN218-1-4-02-10M		
Line Filter, Differential Mode Capacitor	CAP 1812 X7R 100NF 1KV 10% -55/+125	Chvdc	1	C1812X104KDRACU		
Line Filter, Differential Mode Choke	IND FER 68uH 2A 20% -40/+105	Ld	1	7447033		
Line Filter, Fuse	FUS PTH MINI 3.15A 250V	Fuse	1	0697A3150-01		
Line Filter, Varistor, AC	VAR TVS 10MM DISC 3.5KV 275VAC	Vac	1	B72210S2271K101		
Line Filter, X Capacitor	CAP PTH PP 0.68uF 305VAC 10% -40/+110	Cx	1	B32922C3684K189		
Line Filter, Y Capacitor	CAP PTH CER XY 1nF 250VAC 20% -20/+125	Cyl, Cyn	2	C901U102MYVDBA7317		
PSV-AD-250, controller	PSV-AD-250 PFC CONTROLLER QFN-24	U1	1	PSV-AD-250-Q241		
PSV-AD-250, controller decoupling capacitor	CAP 0402 X7R 100NF 16V 10% -55/+125	Cpsvd1	1	GCM155R71C104KA55D		
PSV-AD-250, controller decoupling capacitor	CAP 0805 X7R 4U7F 25V 10% -55/+125	Cpsvd2	1	CC0805KKX7R8BB475		
PSV-AD-250, decoupling capacitor	CAP 0402 X7R 10NF 16V 10% -55/+125	Cadcl, Cadcn, Clind, Cnind, Cvcap	5	EMF105B7103KVHF		
PSV-AD-250, PFC charging current limiting inductor (Further info on datasheet)	To calculate this component value, please use the Design Calculator .	Lch	1	Based on value determined by design calculator		
PSV-AD-250, PFC charging current limiting resistor (Further info on datasheet)	To calculate this component value, please use the Design Calculator .	Rch	1	Based on value determined by design calculator		
PSV-AD-250, PFC charging diode	DIO RECTIFIER 600V 1A SOD-123FL	Dch	1	US11FA		
PSV-AD-250, PFC discharge diode	DIO RECTIFIER 600V 1A SOD-123FL	Dd	1	US11FA		
PSV-AD-250, PFC freewheel diode	DIO RECTIFIER 600V 1A SOD-123FL	Df	1	US11FA		
PSV-AD-250, PFC MOSFET gate drive resistor	RES 0402 TF 10K 1% 0.062W -55/+155	Rhvd2	1	CRCW040210K0FKEDC	CRGCQ0402F10K	
PSV-AD-250, PFC MOSFET gate drive resistor	RES 0603 TF 100R 1% 0.1W -55/+150	Rhvd1	1	RMCF0603FT100R	CR0603-FX-1000ELF	
PSV-AD-250, PFC MOSFET	TRN MOSFET N-CH 600V OR18 TO252-3 -40/+150	Qch	1	IPD60R180P75AUMA1		
PSV-AD-250, PFC PWM resistor	RES 0402 TF 10K 1% 0.062W -55/+155	Rpfc	1	CRCW040210K0FKEDC	CRGCQ0402F10K	
PSV-AD-250, PFC PWM, High Side Driver	IC FAN73611 PWR MAN GATE DRIVER 20V SOP-8	U2	1	FAN73611MX	IR21271SPBF	ON SEMI
PSV-AD-250, PFC PWM, High Side Driver, bootstrap capacitor	CAP 0805 X7R 1U0F 25V 10% -55/+125	Cb	1	C0805C105K3RECAUTO		
PSV-AD-250, PFC PWM, High Side Driver, bootstrap capacitor initialising circuit 12V reference	DIO ZENER 12V 200mW SOD323FL	Dz1	1	MM3Z12VC		
PSV-AD-250, PFC PWM, High Side Driver, bootstrap capacitor initialising circuit resistor	RES 0402 TF 10K 1% 0.062W -55/+155	Rhvd4	1	CRCW040210K0FKEDC	CRGCQ0402F10K	
PSV-AD-250, PFC PWM, High Side Driver, bootstrap capacitor initialising circuit resistor	RES 0805 TF 750K 1% 0.25W -55/+155	Rhvd5a, Rhvd5b	2	SG73S2ATTD754G		
PSV-AD-250, PFC PWM, High Side Driver, bootstrap capacitor initialising circuit switch	TRN PNP 500V 150MA SOT23 -55/+150	Qhvd1	1	PBHV9050T,215		
PSV-AD-250, PFC PWM, High Side Driver, bootstrap current limit resistor	RES 0603 TF 100R 1% 0.1W -55/+150	Rhvd3	1	RMCF0603FT100R	CR0603-FX-1000ELF	
PSV-AD-250, PFC PWM, High Side Driver, bootstrap diode	DIO RECTIFIER 600V 1A SOD-123FL	Dhvd1	1	US11FA		
PSV-AD-250, PFC PWM, High Side Driver, decoupling capacitor	CAP 0805 X7R 1U0F 25V 10% -55/+125	Chvd1	1	C0805C105K3RECAUTO		
PSV-AD-250, PFC storage capacitor (Further info on datasheet)	To calculate this component value, please use the Design Calculator .	Cch	1	Based on value determined by design calculator		
PSV-AD-250, Qch over current protection capacitor	CAP 0402 X7R 2.2NF 50V 10% -55/+125, CAP 0402 COG 150PF 50V 5% -55/+125	Cocp1, Cocp2	2	0402B222K500CT, C0402C151J5GACTU	GRM155R71H222JA01D, 0402B151K500CT	
PSV-AD-250, Qch over current protection gate turn off diode	DIO GEN PURP 100V 2A SOD323-2 +150	Docp2	1	BA516W5-E3-08		
PSV-AD-250, Qch over current protection gate turn off latching diode	DIO GEN PURP 100V 2A SOD323-2 +150	Docp1	1	BA516W5-E3-08		
PSV-AD-250, Qch over current protection resistor	RES 0402 TF 1K0 1% 0.062W -55/+155	Rocp1, Rocp2, Rocp3, Rocp4	4	SFR01MZPF1001	WF04P1001FTL	
PSV-AD-250, Qch over current protection switching transistor	TRN NPN/PNP GEN PURP X2 45V 0.1A SOT23-6	Qocp	1	BC847BPN,115	BC847BPN,125	
PSV-AD-250, sense resistor	RES 0402 TF 10K 1% 0.062W -55/+155, RES 0402 TF 1M0 1% 0.062W -55/+155	R2, R4, Rlin1, Rlin2, Rnin1, Rnin2, Rvcap2	7	CRCW040210K0FKEDC, CRCW04021M00FKEDC	CRGCQ0402F10K, [NoParam]	
PSV-AD-250, sense resistor	RES 0805 TF 750K 1% 0.25W -55/+155, RES 0805 TF 1.5M 1% 0.25W -55/+155	R1a, R1b, R3a, R3b, Rvcap1	5	SG73S2ATTD754G, RK73H2ATTD1504F		

Useful links:

[Design Calculator](#)

(This link will automatically download the excel design calculator)

[Datasheet](#)

(This link will automatically download the PDF microcontroller datasheet)