



+12V PoE Application Kit

Bill of Materials

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Description	Manufacturer references	Quantity	Design references
Header, TSM, 1x6pin, 90°, SMT, RM2.54, P+P, h=3.05mm	Samtec : TSM-106-04-L-SH-A-P-TR	1	P2
Header, TSM, 1x4pin, 90°, SMT, RM2.54, P+P, h=3.05mm,	Samtec : TSM-104-04-L-SH-A-P-TR	1	P1
PoE PD Transformer, IEEE 802.3af, 13W, 250kHz switch freq, 12V@1.08A, -40-+85°	Würth : 750 310 377	1	T1
Inductor 4.7μH, 0.09R, 2.6A, 4.5x4.0mm, -25-+105°	Bourns : SDR0403-4R7ML Vishay : IDCP1813ER4R7M	1	L1
Inductor 27μH, 0.52R, 1A, 4.5x4.0mm, -25-+105°	Bourns : SDR0403-270KL Vishay : IDCP1813-27UH20	1	L6
Capacitor 10μF, 1210, 16V, X5R, 10%, -55-+85°	Murata : GRM32DR61C106KA01L TDK : C3225X5R1C106KT Yageo : CC1210KRX5R7BB106	3	C14,C15,C17
Capacitor 100nF, 0805, 50V, X7R, 10%, -55-+125°	AVX : 08055C104KAT2A KEMET : C0805C104K5RAC	1	C19
Capacitor 10nF, 0603, 50V, X7R, 10%, -55-+125°	AVX : 06035C103KAT2A KEMET : C0603C103K5RAC	2	C22, C222
Capacitor 220pF, 0603, 50V, COG, 5%, -55-+125°	AVX : 06035A221JAT2A Kemet : C0603C221J5GAC Yageo : CC0603JRNPO9BB221	2	C13, C232

Description	Manufacturer references	Quantity	Design references
Capacitor Al 330μF, SMD 10x10.2mm, 35V, 20%, low ESR, -55-+105°	Panasonic : EEEFK1V331P	1	C16
Capacitor 2.2μF, 1812, 100V, X7R, 15%, -55-+125°	TDK : C4532X7R2A225K	3	C1, C2, C3
Capacitor 1μF, 100V, 1210, X7R, 20%, -55-+125°	AVX : 12101C105MAT2A TDK : C3225X7R2A105MT Murata : GRM32ER72A105MA01L	3	C9, C21, C233
Capacitor 220nF, 1210, 100V, X7R, 10%, -55-+125°	AVX : 12101C224KAT2A Vishay : VJ1210Y224KXBT	1	C5
Capacitor 3.3nF, 1812, 2000V, X7R, 10%, -55-+125°	AVX : 1812GC332KAT1A Phycomp : 18122R332KFBB0D Phycomp : 225002415629	1	C23
Capacitor 1nF, 0805, 50V, COG, 5%, -55-+125°	AVX : 08055A102JATMA Kemet : C0805C102J5GAC Nic : NMC0805NPO102J50TRPF	2	C10, C118
Capacitor 100nF, 0603, 100V, X7R, 10%, -55-+125°	Murata : GRM188R72A104KA35D	5	C4, C6, C7, C20, C30
Capacitor 22nF, 0805, 50V, X7R, 10%, -55-+125°	AVX : 08055C223KAT2A Kemet : C0805C223K5RAC	1	C239
Diode Double BAV99 SOT23, 100V, 150mA, -55-+150°	Philips : BAV99	1	D4

Description	Manufacturer references	Quantity	Design references
	Vishay : BAV99-V-GS08E3		
Diode Schottky SS26, 60V, 2A, DO214AA	Fairchild : SS26NL	1	D5
	ON Semi : SS26T3G		
	Vishay : SS26-E3/61T		
Diode LL4148 SOD80, 100V, 150mA, -65-+175°, MiniMelf	Vishay : LL4148-GS08 Lead Free	1	D3
	Philips : PMLL4148LT/R		
TVS, SMAJ60A, 60V, 400W, -55-+150°	Diodes Inc. : SMAJ60A-13-F	1	DZ1
LED red, 20mA, 1208, SMT, -30-+85°	DIALIGHT : 597-3021-507F	1	CR201
Z-Diode, 12V, SOD323, 200mW	ON Semi : MM3Z12VST1G	1	D214
Z-Diode, 56V, SOD123, 500mW	ON Semi : MMSZ5263BT1G	1	DZ2
	Vishay : MMSZ5263-GS08		
HD02 Bridge Rectifier, 200V - 0.8A, SOIC4, -55-+150°	Diodes Inc.: HD02-T	2	D1, D2
Resistor 0R, 0603, 1A, -55-+125°	Panasonic : ERJ6ENF33R0V	1	R213
	Vishay : D12/CRCW0805 200 33R 1% ET1 E3		
	Yageo : RC0603FR-07ORL		
Resistor 33R, 0805, 5%, 100mW, -55-+125°	Panasonic : ERJ3GEOR003V	1	R115
	Vishay : D11/CRCW0603 0R ET1 E3		
	Yageo : RC0805FR-0733RL		

Description	Manufacturer references	Quantity	Design references
Resistor 100R, 0805, 5%, 100mW, -55-+125°	Panasonic : ERJ6ENF1000V Vishay : D12/CRCW0805 200 100R 1% ET1 E3 Yageo : RC0805FR-07100RL	1	R107
Resistor 1K, 1206, 1%, 125mW, -55-+125°, 100ppm	Vishay : D25 100 1K 1% P5 DAL : CRCW12061K00FKEA	1	R227
Resistor 100K, 0805, 1%, 100mW, -55-+125°	Panasonic : ERJ6ENF1003V Vishay : D12/CRCW0805 200 100K 1% ET1 E3 Yageo : RC0805FR-07100KL	1	R110
Resistor 15K, 0805, 1%, 125mW, -55-+125°, 100ppm	Panasonic : ERJ6ENF1502V Vishay : D12/CRCW0805 100 15K 1% ET1 E3 Yageo : RC0805FR-0715KL	1	R14
Resistor 47R, 0805, 5%, 125mW, -55-+125°, 100ppm	Vishay : D12 100 47R 5% P5 Vishay : DALE CRCW080547R0JNEAE3 KOA : RK73H2ATTD47RF	1	R209
Resistor 1K, 0603, 1%, 63mW, -55-+125°	Panasonic : ERJ3EKF1001V Vishay : D11/CRCW0603 200 1K 1% ET1 E3 Yageo : RC0603FR-071KL	5	R1,R16,R19, R23, R221
Resistor 4K7, 0603, 1%, 63mW, -55-+125°	Panasonic : ERJ3EKF4701V Vishay : D11/CRCW0603 200 4K7 1% ET1 E3 Yageo : RC0603FR-074K7L	1	R17

Description	Manufacturer references	Quantity	Design references
Resistor 3k3, 0603, 1%, 63mW, -55-+125°	Panasonic : ERJ3EKF3301V Vishay : D11/CRCW0603 200 3K3 1% ET1 E3 Yageo : RC0603FR-073K3L	1	R217
Resistor 330R, 0603, 1%, 63mW,-55-+125°	Panasonic : ERJ3EKF3300V Vishay : D11/CRCW0603 200 330R 1% ET1 E3 Yageo : RC0603FR-073300L	1	R218
Resistor 18R, 0603, 1%, 63mW, -55-+125°, 100ppm	Panasonic : ERJ3EKF18R0V Vishay : D11 100 18R 1% P5 Yageo : RC0603FR-0718RL	1	R13
Resistor 1K8, 0603, 1%, 63mW, -55-+125°	Panasonic : ERJ3EKF1801V Vishay : D11/CRCW0603 200 1K8 1% ET1 E3 Yageo : RC0603FR-071K8L	1	R18
Resistor 53R6, 1206, 1%, 250mW, -55-+125°, 100ppm	Vishay : D25 100 53R6 1% P5 KOA : RK73HZBTTD53R6F NIC : NRC12F53R6TRF	1	R6
Resistor 24K9, 0805, 1%, 125mW, -55-+125°, 100ppm	Vishay : D12/CRCW0805 100 24K9 1% ET1 E3 KOA : RK73H2ATTD2492F	1	R5
Resistor 33K2, 0805, 1%, 125mW, -55-+125°, 100ppm	Vishay : D12/CRCW0805 100 33K2 1% ET1 E3 KOA : RK73H2ATTD3322F	1	R3

Description	Manufacturer references	Quantity	Design references
Resistor 590K, 0805, 1%, 125mW, -55-+125°, 100ppm	Vishay : D12 100 590K 1% P5	1	R2
	Vishay : CRCW08055903FKEDE3		
Resistor 0.2R, 1210, 1%, 250mW, -55-+125°	KOA : SR732ETTD200F	2	R8, R208
	Panasonic : ERJ14RQFR202U		
LM5070, PoE PD Interface, 13W, $V_{in}=20-80V$, -40-+125°, LLP16, 50% duty cycle	National : LM5070SD-50/NOPB	1	U1
Optically Isolated Error Amp. FOD2741, -25-+85°, SMDIP	Fairchild : FOD2741ASDV	1	U2
N-FET FDC2512, 150V, 1.4A, 0.425@10V, SSOT6, -55-+150°	Fairchild : FDC2512_NL	1	Q1