

24W Boost and Boost to Battery Solution for Automotive LED Lighting

Designator	Quantity	PartNumber	Manufacturer	Description
!PCB	1	LM3481_Headlighting	Any	Printed Circuit Board
.PGND, VOUT+	2	5001	Keystone	Test Point, Miniature, Black, TH
AGND, VDIM, VREF	3	1598-2	Keystone	Terminal, Turret, TH, Triple
B_LED-, LED+, LED_, PGND, VIN	5	575-4	Keystone	Standard Banana Jack, Uninsulated, 5.5mm
C1	1	GRM188R71H104KA93D	MuRata	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0603
C2	1	GRM2165C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0805
Cac	1	GRM188R71E182KA01D	MuRata	CAP, CERM, 1800 pF, 25 V, +/- 10%, X7R, 0603
Cc	1	GRM188R61C225KE15D	MuRata	CAP, CERM, 2.2 μ F, 16 V, +/- 10%, X5R, 0603
Cin1, Co3, Co3_B, Co4, Co4_B	5	EEE-FP1V331AP	Panasonic	CAP, AL, 330 μ F, 35 V, +/- 20%, 0.06 ohm, SMD
Cin2	1	GRM188R61H105KAALD	MuRata	CAP, CERM, 1 μ F, 50 V, +/- 10%, X5R, 0603
Cin3	1	GRM188R61E106MA73D	MuRata	CAP, CERM, 10 μ F, 25 V, +/- 20%, X5R, 0603
Cin4	1	GRM21BR61E226ME44L	MuRata	CAP, CERM, 22 μ F, 25 V, +/- 20%, X5R, 0805
Co1, Co1_B, Cvcc	3	GRM21BR71H105KA12L	MuRata	CAP, CERM, 1 μ F, 50 V, +/- 10%, X7R, 0805
Co2, Co2_B	2	GRM31CR61H106KA12L	MuRata	CAP, CERM, 10 μ F, 50 V, +/- 10%, X5R, 1206
Cref	1	GRM188R6YA475KE15D	MuRata	CAP, CERM, 4.7 μ F, 35 V, +/- 10%, X5R, 0603
Cvsl	1	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603
D1	1	PMEG045V150EPDAZ	NXP Semiconductor	Diode, Schottky, 45 V, 15 A, AEC-Q101, CFP15
D2	1	MMSZ4685T1G	ON Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123
D3	1	MMSZ5256B-7-F	Diodes Inc.	Diode, Zener, 30 V, 500 mW, SOD-123
FID1, FID2, FID3	3	N/A	N/A	Fiducial mark. There is nothing to buy or mount.
H1, H2, H3, H4	4	NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead
H5, H6, H7, H8	4	1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon
J1	1	PBC03SAAN	Sullins Connector Solutions	Header, 100mil, 3x1, Gold, TH
L1	1	7443551111	Würth Elektronik	Inductor, Shielded Drum Core, WE-Perm, 11.3 μ H, 9.5 A, 0.0091 ohm, SMD
LBL1	1	THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll
Q1	1	SQJ422EP-T1-GE3	Vishay-Siliconix	MOSFET, N-CH, 40 V, 75 A, PowerPAK_SO-8L
Q2	1	BC857C-7-F	Diodes Inc.	Transistor, PNP, 45 V, 0.1 A, SOT-23
Q3	1	BSR302NL6327HTSA1	Infineon Technologies	MOSFET, N-CH, 30 V, 3.7 A, AEC-Q101, SOT-23
R1	1	CRCW060340K2FKEA	Vishay-Dale	RES, 40.2 k, 1%, 0.1 W, 0603
R2	1	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603
R3, R4, Rref	3	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603
R5, R8, Rdw	3	RCG060310K0FKEA	Vishay Draloric	RES, 10.0 k, 1%, 0.1 W, 0603

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R6	1	CRCW06034K75FKEA	Vishay-Dale	RES, 4.75 k, 1%, 0.1 W, 0603
R7	1	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, 0603
R9	1	CRCW06031K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.1 W, 0603
Rac	1	CRCW0603200RFKEA	Vishay-Dale	RES, 200, 1%, 0.1 W, 0603
Rcs	1	CSRN2512FK50L0	Stackpole Electronics Inc	RES, 0.05, 1%, 2 W, 2512
Rdim	1	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, 0603
Rfa	1	CRCW060357K6FKEA	Vishay-Dale	RES, 57.6 k, 1%, 0.1 W, 0603
Rg	1	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603
Rsen, Rsen_p	2	ERJ-L14UF25MU	Panasonic	RES, 0.025, 1%, 0.33 W, 1210
Rt	1	RT0603DRE0749R9L	Yageo America	RES, 49.9, 0.5%, 0.1 W, 0603
Rvsl	1	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603
U1	1	LM3481QMM	Texas Instruments	High Efficiency Low-Side N-Channel Controller for Switching Regulators, 10-pin MSOP
U2	1	INA213AQDCKRQ1	Texas Instruments	Voltage Output, High or Low Side Measurement, Bi-Directional Zero-Drift Series Current-Shunt Monitor, DCK0006A
VTA, VTB	2	5000	Keystone	Test Point, Miniature, Red, TH

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