

**Texas Instruments**  
**UCC38500 BILL OF MATERIALS**

Ref Des	Qty	Part Number	Description	MFG
C12, C20, C29	3	ECQ-V1H105JL	1uf, 50V, Polypropylene	Panasonic
C13	1	ECU-S2A470JCA	47pf, 100V, Ceramic Capacitor	Panasonic
C7, C16, C14	2	ECU-S1H103JCB	10nf, 50V, Ceramic Capacitor	Panasonic
C19	2	ECU-S1H222JCB	2.2nf, 50V, Ceramic Capacitor	Panasonic
C2	1	ECQ-E4474KZ	470nf, 400V, Polypropylene	Panasonic
C21	1	ECU-S1H681JCB	680pf, 50V, Ceramic Capacitor	Panasonic
C22	1	ECU-S1H391JCA	390pF, 50V, Ceramic Capacitor	Panasonic
C24	1	ECU-S1H101JCA	100pf, 50V, Ceramic Capacitor	Panasonic
C25	1	ECU-S1H151JCA	150nf, 50V, Ceramic Capacitor	Panasonic
C26	1	ECQ-E6473KF	47nf, 630V, Polypropylene	Panasonic
C17, R38	2	ECU-S1H101JCA	100pf, 50V, Ceramic Capacitor	Panasonic
C27, C18	2	ECU-S1H105KBB	1uf, 50V, Ceramic Capacitor	Panasonic
C28, C23	2	ECU-S1H225MEB	2.2uF, 50V, Ceramic Capacitor	Panasonic
C3	1	ECO-S2WB101BA	100uF, 450V, Electrolytic Capacitor	Panasonic
C30	1	ECA-1EFQ182	1800uf, 25V, Electrolytic Capacitor	Panasonic
C4, C5, C8	3	ECU-S1H104KBB	0.1uf, 50V, Ceramic Capacitor	Panasonic
C6	1	EEU-FC1E101S	100uf, 25V, Electrolytic Capacitor	Panasonic
D1	1	GI756CT	6A, 600V, Diode	General Instruments
D11	1	PB66	6A, 600V, Bridge Rectifier	Diodes Inc
D12	1	SR103CT	1A, 40V, Shottky Diode	
D13	1	TL431CLP	TL431, Programmable Reference	Texas Instruments
D14	1	1N4740	10V, 1W, Zener Diode	
D15, D2	2	1N4746	18V, 1W, Zener Diode	
D3	1	HFA08TB60	6A, 600V, Ultra Fast Diode	International Rectifier
D4, D6	2	BYV26C	1A, 600V, Fast Recovery Diode	Philips
D5, D7, D9, D10, D16	5	1N5819	1A, 40V, Shottky Diode	
D8	1	MBR2045	6A, 600V, Full Wave Rectifier	International Rectifier
F1	1		6A, 250V, 3AG Glass Fast Acting *Cartridge Type, 1.25"x.25"	
FH1, FH2	2		3AG Fuse Clip, for 1.25"x.25" fuse	
HS3	1	513201	Heat Sink for Q3	Aavid
HS4, HS5	2	579302 B 0 00 00	Heat Sink for D3 and D8	Aavid

HS1, HS2	2	593002 B 0 34 00	Heat Sink for Q1and Q2	Aavid
L1	1	CTX08-14730	1.7mH, 2.5A, Coupled Inductor	Cooper Electronic Technologies
L2	1	CTX08-14729	35uH, 8.3A, Inductor	Cooper Electronic Technologies
Q1, Q2	2	IRF840	8A, 500V, N Channel FET	International Rectifier
Q3	1	IRFP450	14A, 500V, N Channel FET	International Rectifier
Q4, R8, R9, C9, C15, C10	6		Not Used	
Q5	1	MJE13005	NPN Transistor	
R1, R12	2		Short	
R10, R36	2		200 ohm, 1/4W Resistor	
R25, R29, R27	3		10K ohm, 1/4W Resistor	
R13	1		2K ohm, 1/4W Resistor	
R14	1		1.5K ohm, 1/4W Resistor	
R15, R19	2		3.92K ohm, 1/4W Resistor	
R16	1		750 ohm, 1/4W Resistor	
R17	1		7.5K ohm, 1/4W Resistor	
R18, R24	2		392K ohm, 1/4W Resistor	
R2, R11	2		1K ohm, 1/4W Resistor	
R20	1		22.1K ohm, 1/4W Resistor	
R21	1		8.25K ohm, 1/4W Resistor	
R22, R33	2		562K ohm, 1/4W Resistor	
R23	1		200K ohm, 1/4W Resistor	
R26	1		100 ohm, 1/4W Resistor	
R28	1		100K ohm, 1W Resistor	
R30	1		30.1K ohm, 1/4W Resistor	
R31	1		33.2K ohm, 1/4W Resistor	
R32	1		4.75K ohm, 1/4W Resistor	
R34	1		220K ohm, 1/4W Resistor	
R35	1		16.2K ohm, 1/4W Resistor	
R39	1		1K ohm, 1W Resistor	
R4	1		1 ohm, 1W Resistor	
R5	1		0.33 ohm, 3W Resistor	
R6	1		10 ohm, 1/4W Resistor	
R7	1		20 ohm, 1/4W Resistor	
R3	1		51K ohm, 2W, 400V Resistor	
T1	1	CTX08-14226	8mH, 10A, 10.8:1 Transformer	Cooper Electronic Technologies

T2	1	CTX08-14225	560-990uH, 1:1 Gate Drive Transformer	Cooper Electronic Technologies
U4	1	UCC38500N	PWM	Texas Instruments
U3	1	H11AV1	Opto Isolator	
X1 @ Q1, Q2, D8	3		Thermal Pad TO220	
X2 @ Q3	1		Thermal Pad TO247	
X3 @ Q1, Q2, Q3, D8	4		Screw Pan Head #4-40 X 7/16	
X4 @ Q1, Q2, Q3, D8	4		Nut #4X40	
X5 @ Q1, Q2, D8	3		Nylon Shoulder Washer #4	
X6 @ Q3	1		Bevel Washer #4	
PCB	1	UCC38500 Bare Bd		

Notes:

- 1) The values of these components are to be determined by the user in accordance with the application requirements.
- 2) All resistors have tolerances of +/- 1%









## IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

<b>Products</b>		<b>Applications</b>	
Amplifiers	<a href="http://amplifier.ti.com">amplifier.ti.com</a>	Audio	<a href="http://www.ti.com/audio">www.ti.com/audio</a>
Data Converters	<a href="http://dataconverter.ti.com">dataconverter.ti.com</a>	Automotive	<a href="http://www.ti.com/automotive">www.ti.com/automotive</a>
DSP	<a href="http://dsp.ti.com">dsp.ti.com</a>	Broadband	<a href="http://www.ti.com/broadband">www.ti.com/broadband</a>
Interface	<a href="http://interface.ti.com">interface.ti.com</a>	Digital Control	<a href="http://www.ti.com/digitalcontrol">www.ti.com/digitalcontrol</a>
Logic	<a href="http://logic.ti.com">logic.ti.com</a>	Military	<a href="http://www.ti.com/military">www.ti.com/military</a>
Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>	Optical Networking	<a href="http://www.ti.com/opticalnetwork">www.ti.com/opticalnetwork</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>	Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
		Telephony	<a href="http://www.ti.com/telephony">www.ti.com/telephony</a>
		Video & Imaging	<a href="http://www.ti.com/video">www.ti.com/video</a>
		Wireless	<a href="http://www.ti.com/wireless">www.ti.com/wireless</a>

Mailing Address: Texas Instruments  
Post Office Box 655303 Dallas, Texas 75265

Copyright © 2003, Texas Instruments Incorporated