

PRODUCT PREVIEW

The image displays two different integrated circuit (IC) packages. On the left is a Minidip package, which is a small, black, rectangular component with four pins extending from one side. On the right is an SO16W package, which is a larger, black, rectangular component with 16 pins extending from one side. Both packages are shown from a top-down perspective.

The device automatically reduces the frequency from 100KHz to 25KHz under light load conditions improving the efficiency.

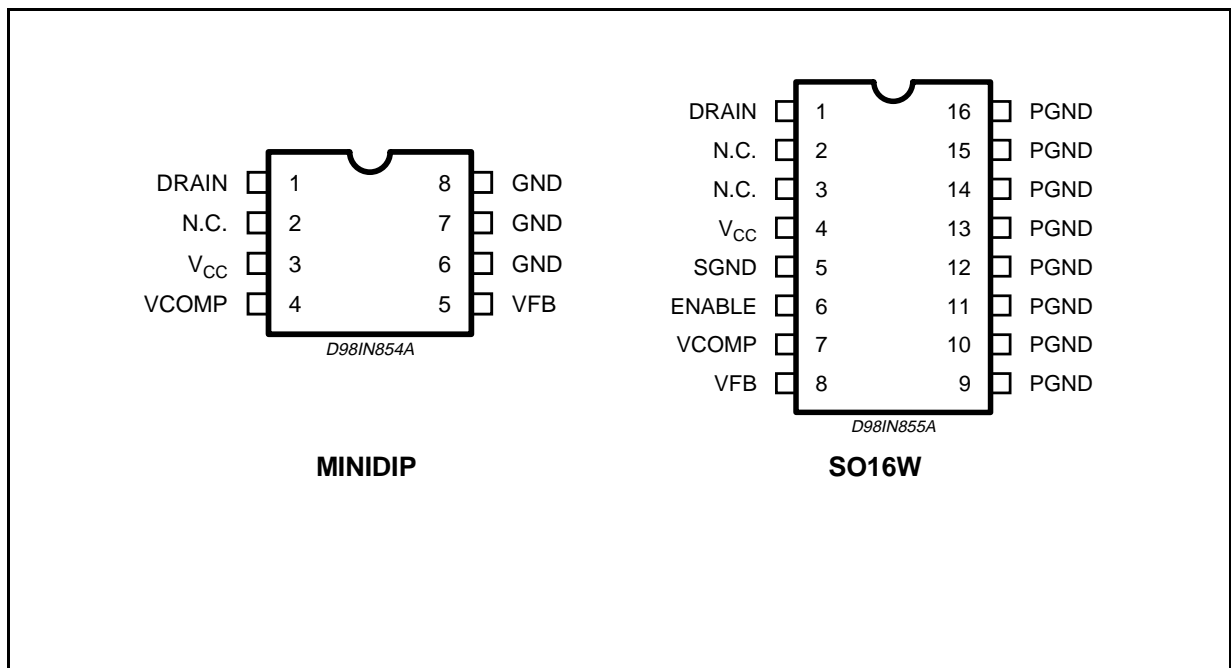
- WALL PLUG POWER SUPPLY UP TO 15W
- AC-DC ADAPTORS
- AUXILIARY POWER SUPPLY:
 - MONITORS (BLUE ANGEL)
 - DESKTOPS/SERVERS
 - FAX, TV, LASER PRINTERS
 - HOME APPLIANCES/LIGHTING
- LINE CARD, DC-DC CONVERTERS

[illegible]

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{ds}	Drain Source Voltage	700	V
I_d	Drain Current	0.7	A
V_{cc}	Supply Voltage	18	V
	Error Amplifier Output Sink Current	3	mA
P_{tot}	Power Dissipation at $T_{amb} < 50^{\circ}\text{C}$ (Minidip)	1	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-40 to 150	$^{\circ}\text{C}$

PINS CONNECTION (Top views)



THERMAL DATA

Symbol	Parameter	Minidip	SO16W	Unit
$R_{th\ j-amb}$	Thermal Resistance Junction to Ambient Free Air	60	-	$^{\circ}\text{C}/\text{W}$
$R_{th\ j-amb}$	Thermal Resistance Junction to Ambient (*)	35 to 60	35 to 60	$^{\circ}\text{C}/\text{W}$

(*) Value depending from PCB copper areas and thickness.

ELECTRICAL CHARACTERISTICS ($T_j = 0$ to 105°C , $V_{CC} = 10\text{V}$)**Power Section**

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
BV_{dss}	Drain Source Voltage	$I_d = 500\mu\text{A}$	700			V
I_{dss}	Off State Drain Current	$V_{ds} = 560\text{V}$			500	μA
R_{dson}	Drain Source on state Resistance	$I_d = 25\text{mA}$		15	20	Ω
t_r	Rise Time			100		ns
t_f	Fall Time			100		ns

Error Amp Section

V_{fb}	Input Voltage	$T_j = 125^\circ\text{C}$	2.45 2.43	2.5 2.5	2.55 2.57	V V
I_b	Input Bias Current			-0.3	-1	μA
	Avol		60			dB
B	Unity Gain Bandwidth		0.7	1		MHz
SVR	Supply Voltage Rejection			70		dB
I_{osink}	Output Sink Current			1		mA
I_{source}	Output Source Current			500		μA
V_{oh}	V_{out} High	$I_{source} = 0.5\text{mA}$ $V_{fb} = 2\text{V}$			4	V
V_{ol}	V_{out} Low	$I_{sink} = 0.25\text{mA}$ $V_{fb} = 3\text{V}$	1			V

Oscillator Section

F_{osc}	Oscillator Frequency		90	100	110	KHz
F_{osc}/DT	Frequency Change with temperature			± 5		%

PWM Section

Dmax	Max Duty Cycle			70		%
t_d	Propagation Delay			150		ns
t_m	Internal Masking Time		70	120	170	ns
I_{op}	Operating Supply Current			6	8	mA
I_{psc}	Peak Start up Current	$V_{CC} = 0\text{V}$	5	10	15	mA
V_z	Zener Voltage		17	17.5	18	V
V_{ddon}	Start Threshold Voltage		14	14.5	15	V
V_{ddoff}	Min Operating Voltage After Turn on		7	7.5	8	V

Soft Start

V_{ccss}	Soft Start Threshold Voltage		12	12.5	13	V
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Circuit Protections

I_{lim}	Pulse by Pulse Current Limit		300	425	550	mA
OVP	Over Voltage Protection		15	15.5	16	V

Stand by Section

$I_{pk sb}$	Current Threshold for Stand-By Operation	Transition from 100KHz to 25KHz		70		mA
F_{stb}	Stand by Frequency			25		KHz
$I_{pk nor}$	Current Threshold for Normal Operation	Transition from 25KHz to 100KHz		170		mA
OVP	Over Voltage Protection		15	15.5	16	V

APPLICATION EXAMPLES

Figure 1. AC-DC Adaptor, Auxiliary P.S. (Isolated bias winding feedback)

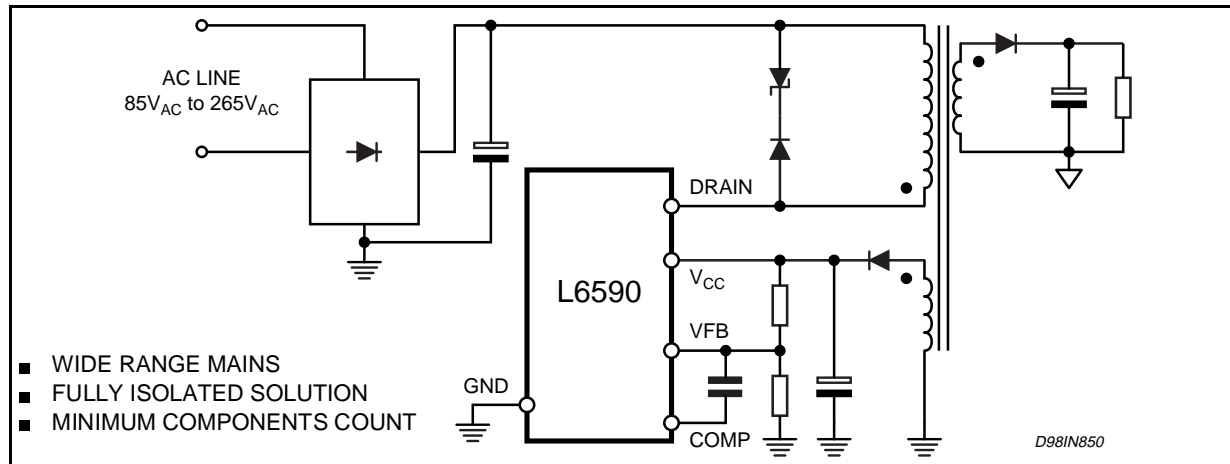


Figure 2. High Performance AC-DC Converter. (Secondary referenced optocoupler feedback)

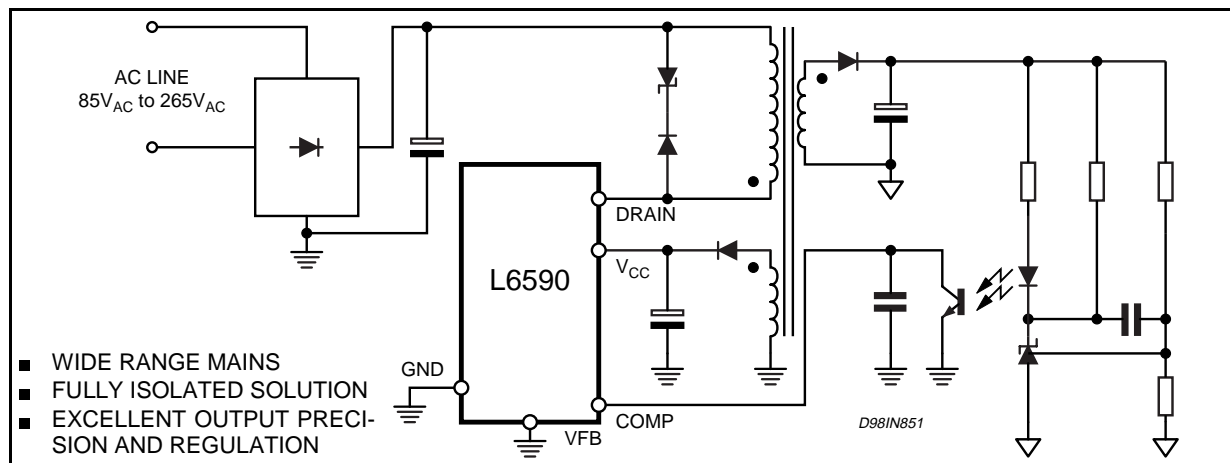
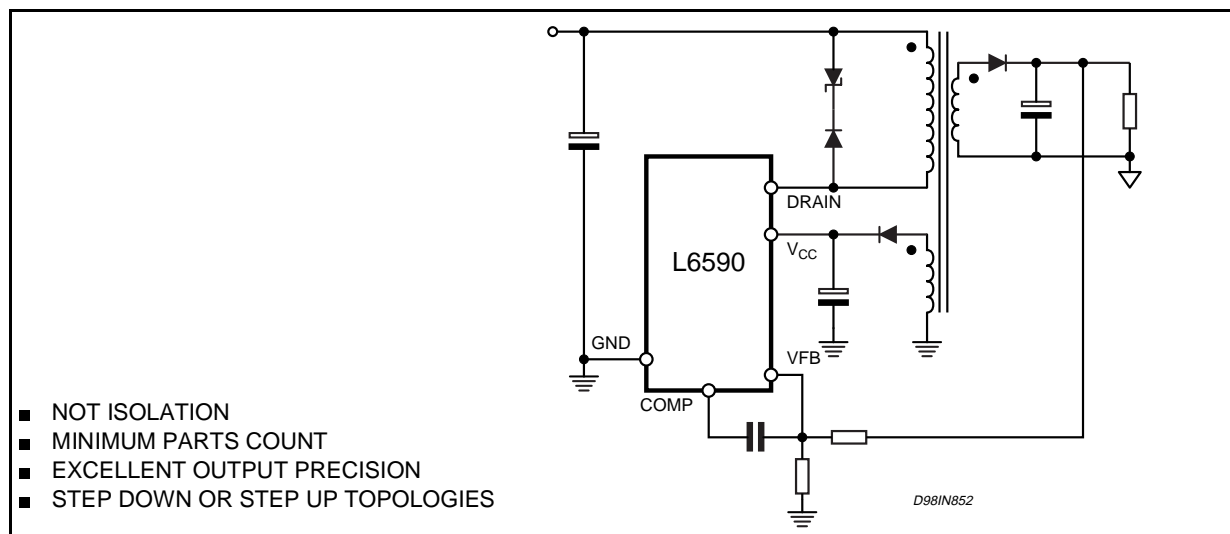
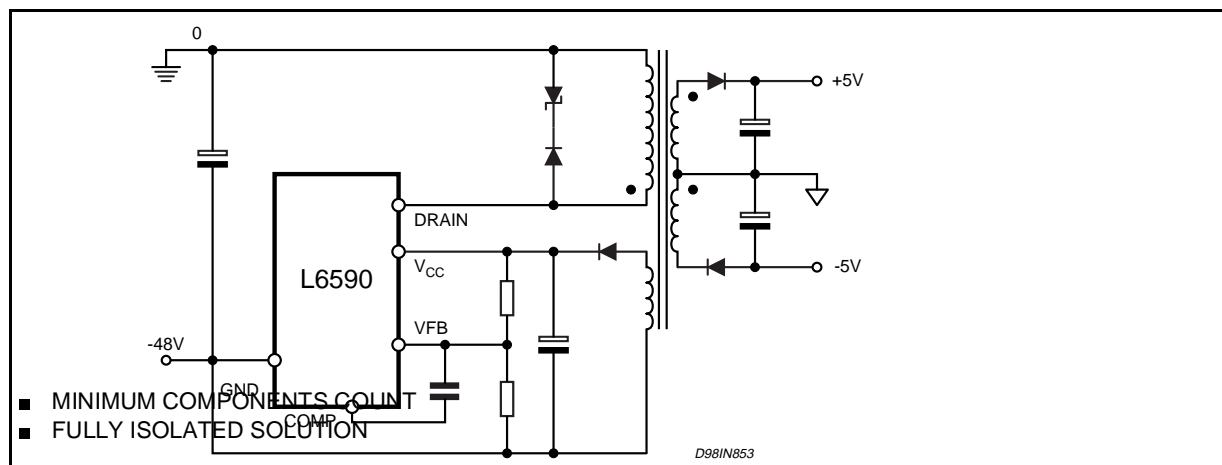


Figure 3. High Voltage DC-DC Converter.



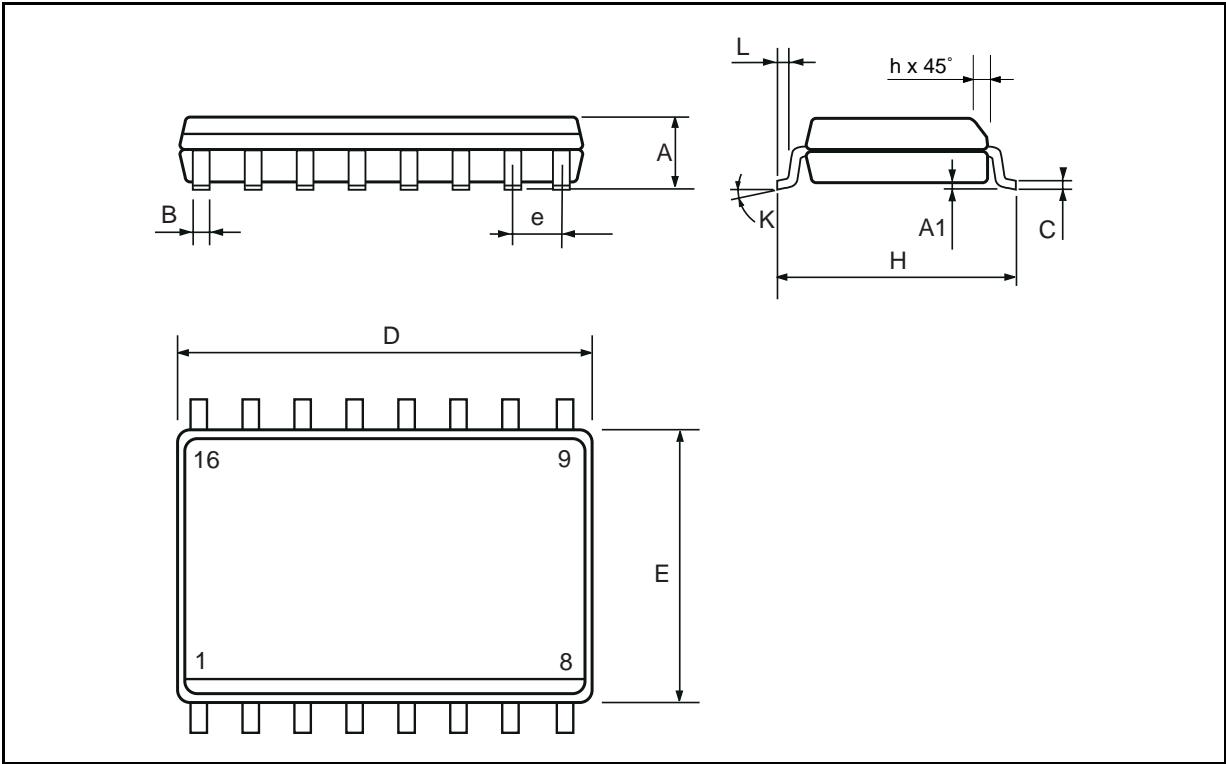
APPLICATION EXAMPLE (continued)

Figure 4. Line Card Application. (Isolated bias winding feedback)



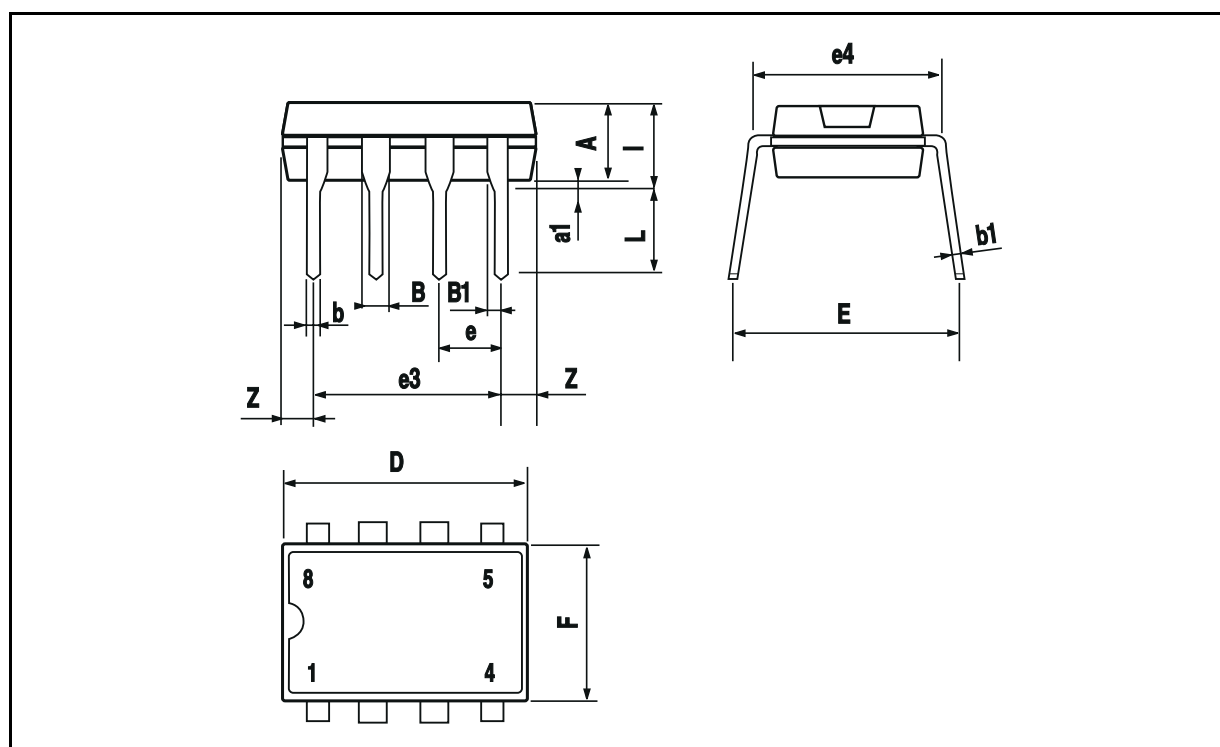
SO16 WIDE PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.35		2.65	0.093		0.104
A1	0.1		0.3	0.004		0.012
B	0.33		0.51	0.013		0.020
C	0.23		0.32	0.009		0.013
D	10.1		10.5	0.398		0.413
E	7.4		7.6	0.291		0.299
e		1.27			0.050	
H	10		10.65	0.394		0.419
h	0.25		0.75	0.010		0.030
L	0.4		1.27	0.016		0.050
K	0 (min.)8 (max.)					



MINIDIP PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
I			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060



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