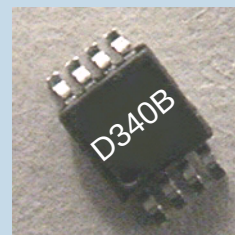


General Description:

The Durel® D340B Lamp Driver is part of a family of high-voltage switch-mode IC drivers intended to reduce cost, improve performance and simplify the design of EL backlighting systems. A D340B IC with a single inductor completes a low-cost circuit capable of driving up to 5 in² electroluminescent lamps.

Data Sheet D340B Electroluminescent Lamp Driver IC



MSOP-8

Features

- High Efficiency
- Minimum Number of External Components
- Small Package Size
- Regulated AC Output Voltage
- Low Standby Current

Applications

- Watches
- Pagers
- Cellular Phones
- Calculators

Lamp Driver Specifications:

(T_a = 25°C unless otherwise specified)

<i>Parameter</i>	<i>Symbol</i>	<i>Minimum</i>	<i>Typical</i>		<i>Maximum</i>	<i>Units</i>
Supply Voltage	V+	1.2	1.5	3.0	7.0	V
Supply Current	I		10	15	30	mA
Standby Current			5	6	1000	nA
Enable Current On			-5	-10	-25	µA
Enable Voltage On	E'	0			0.2	V
Off		(V+) -0.4			(V+)	V
Lamp Frequency	LF	60	200	300	1000	Hz
Lamp		0.5	1	2	5	in x in
		3	6	13	32	cm x cm
Output Voltage	VOU	110	140	144	160	V _{pp}

Absolute Maximum Ratings:

<i>Parameter</i>	<i>Symbol</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Unit</i>	<i>Comments</i>
Supply voltage	V+	-0.5	7.5	V	
Enable voltage	E'	-0.5	(V+) +0.5	V	
Operating temperature	T _j	-40	70	°C	
Storage temperature	T _s	-65	150	°C	
Solder Temperature			300	°C	10 second soak

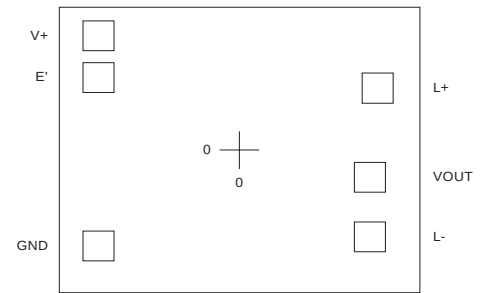
Note: The absolute maximum ratings are stress ratings only. Functional operation of the device at these ratings or any other conditions above those indicated in the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods of time may affect life of lamp or driver.

Physical Data:

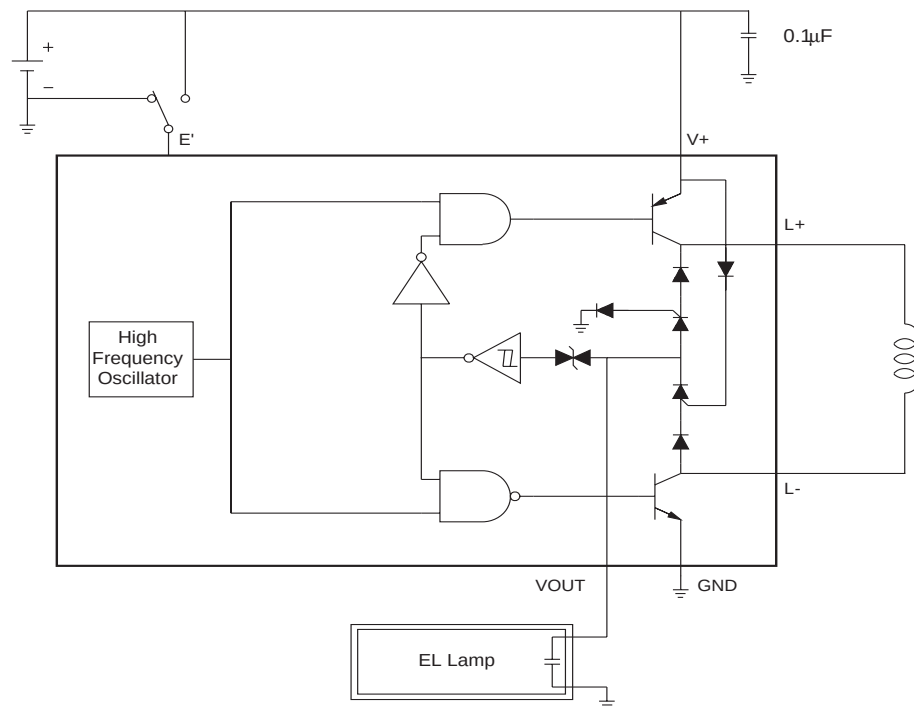
Pad Center Locations			Pin#	Function
Name	X_{um}	Y_{um}		
V+	-468	457	1	System power input
E'	-468	273	2	System enable (Power Down Control)
GND	-468	-457	3	Power ground
			4	No connection
			5	No connection
L-	460	-446	6	Negative power connection to inductor
VOUT	467	-229	7	Output voltage to EL lamp
L+	468	251	8	Positive power connection to inductor

Notes:

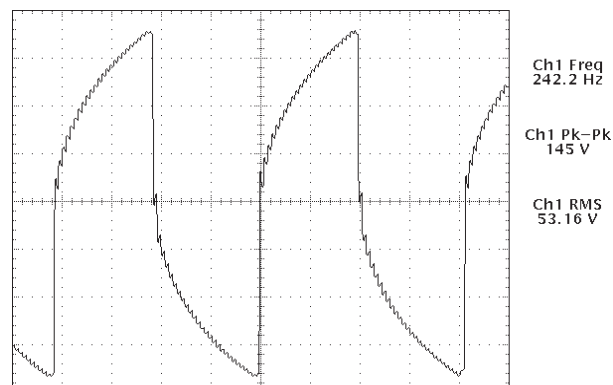
1. Dimensions are in microns, unless otherwise noted.
2. Bond pads are typically 100 x 100.
3. Die thickness is 330 +/- 25 (13 +/- 1 mil).
4. Pad center coordinates are relative to origin on center of die.
5. Die size is 1245 x 1270.
6. Base of die should be grounded.



Block Diagram of the Inverter Circuitry:



Typical Waveform:

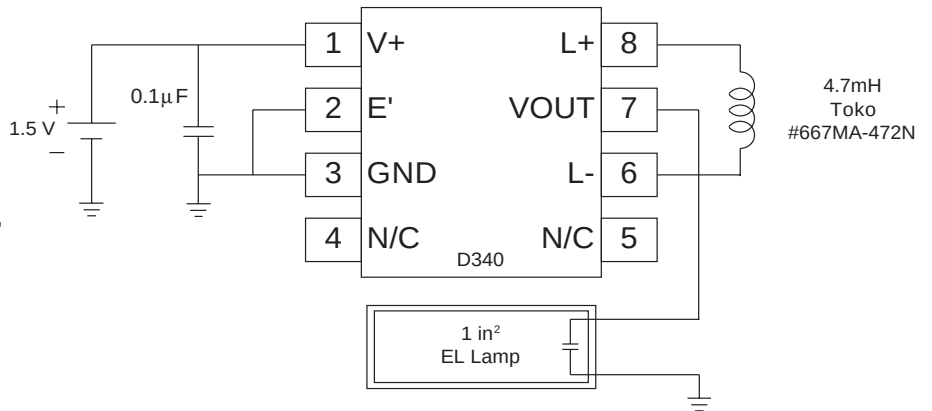


Typical D340B EL Driver Configuration:

1.5 V Analog Watch

Typical Output

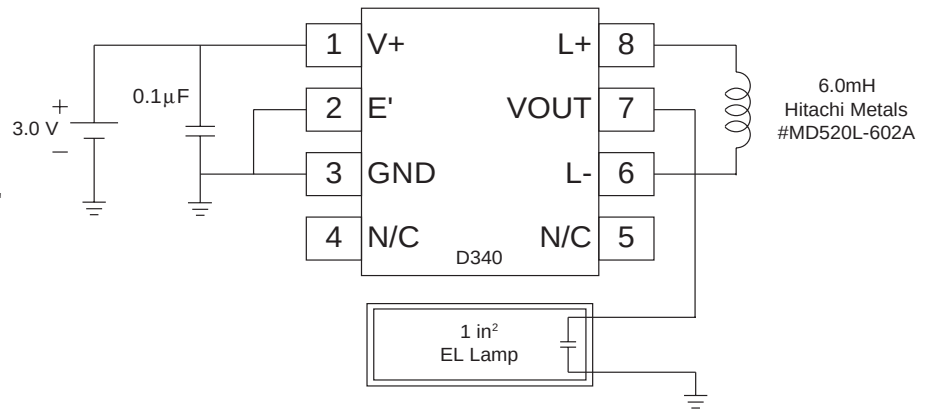
Brightness = 2.7 fL (9.2 Cd/m²)
Lamp Frequency = 300 Hz
Supply Current = 10mA
V_{pp} = 140
Load = 1in² Durel 3 Blue-green EL



3.0 V Pager/Digital Watch

Typical Output

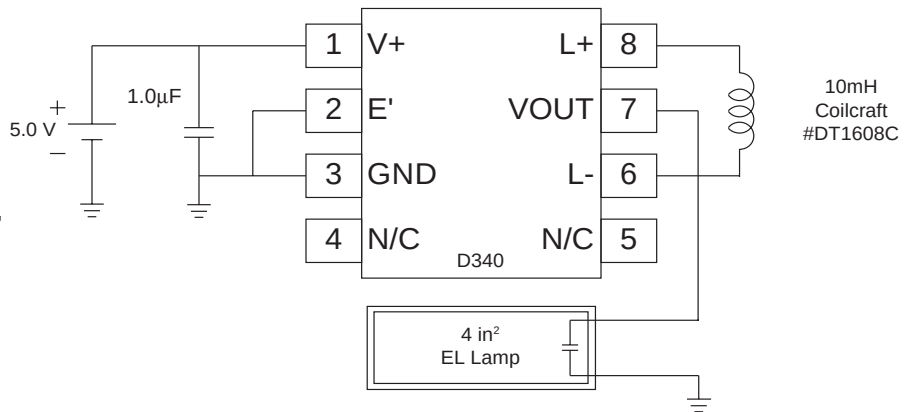
Brightness = 4.7 fL (16.1 Cd/m²)
Lamp Frequency = 600 Hz
Supply Current = 11mA
V_{pp} = 140
Load = 1in² Durel 3 Blue-green EL



5.0 V Cellular Phone

Typical Output

Brightness = 4.0fL (13.7 Cd/m²)
Lamp Frequency = 440 Hz
Supply Current = 16mA
V_{pp} = 145
Load = 4in² Durel 3 Blue-green EL

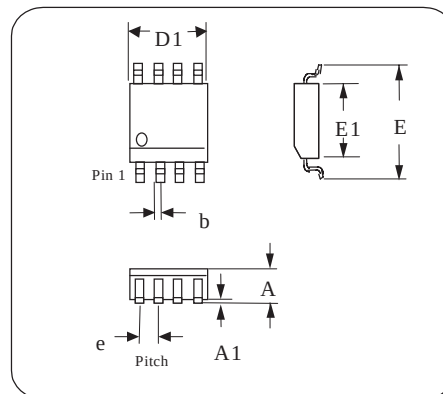


Ordering Information:

The D340B inverter is available as bare die in probed wafer form or in die trays, and in a standard MSOP-8 plastic package per tube or per tape and reel. A Durel D340B Designer's Kit is available for evaluating and identifying the optimum component values for your application.

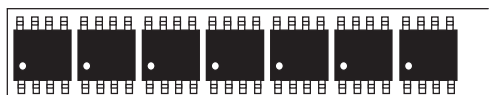
Description	MSOP-8					
	Min.		Typical		Max.	
	mm.	in.	mm.	in.	mm.	in.
A	0.94	0.037	1.02	0.040	1.09	0.043
A1	0.05	0.002	0.10	0.004	0.15	0.006
b	0.20	0.008	0.33	0.013	0.46	0.018
D1	2.84	0.112	3.00	0.118	3.15	0.124
e			0.65	0.026		
E	4.70	0.185	4.90	0.193	5.11	0.201
E1	2.84	0.112	3.00	0.118	3.25	0.128

MSOPs are marked with direct logo part number (340B) and wafer lot number. Marking orientation is bottom closest to pin 1 side.



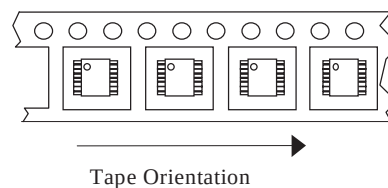
MSOPs in Tubes: 1DDD340BB-M01

Tube-length = 320 mm (12.6 in). 100 units per tube.

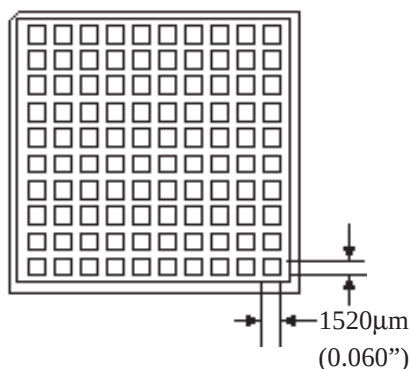


MSOPs in Tape & Reel: 1DDD340BB-M02

Embossed tape on 360 mm diameter reel per EIA-481-2. 2500 units per reel. Quantity marked on reel label.



Die in Trays: 1DDD340BB-B02



- Die tray size: 2 inch square
- Total number of die/tray: 400
- Molded from low shrinkage anti-static plastic
- Die orientation with Pad 1 closest to angled corner

ISO 9001 Certified

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