



Darlington Lamp Driver

Description

This integrated circuit is a flip chip lamp driver for use in an automotive alternator system. The circuit drives an indicator lamp located on the dash-

board. Reverse battery protection is provided with internal diode, D1, and external resistors on B, C1 and C2.

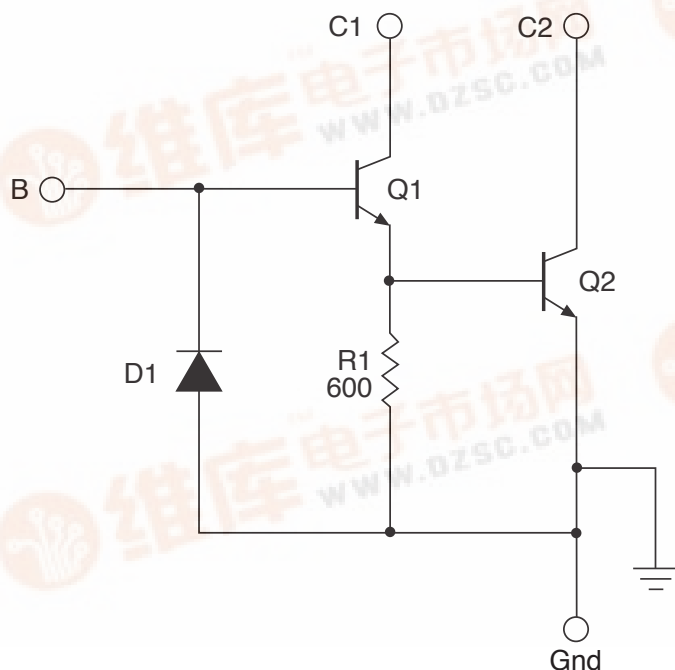
Features

- DC Current Gain 1000
- 80V Breakdown Voltage
- Reverse Battery protection

Absolute Maximum Ratings

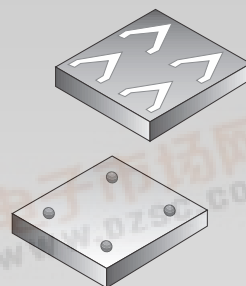
Storage Temperature-65°C ~ 150°C
Ambient Operating Temperature.....-40°C ~ 140°C
Collector Breakdown Voltage80V

Block Diagram



Package Option

Flip Chip



Cherry Semiconductor

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Electrical Characteristics: $T_A = 25^\circ\text{C}$, unless otherwise specified.

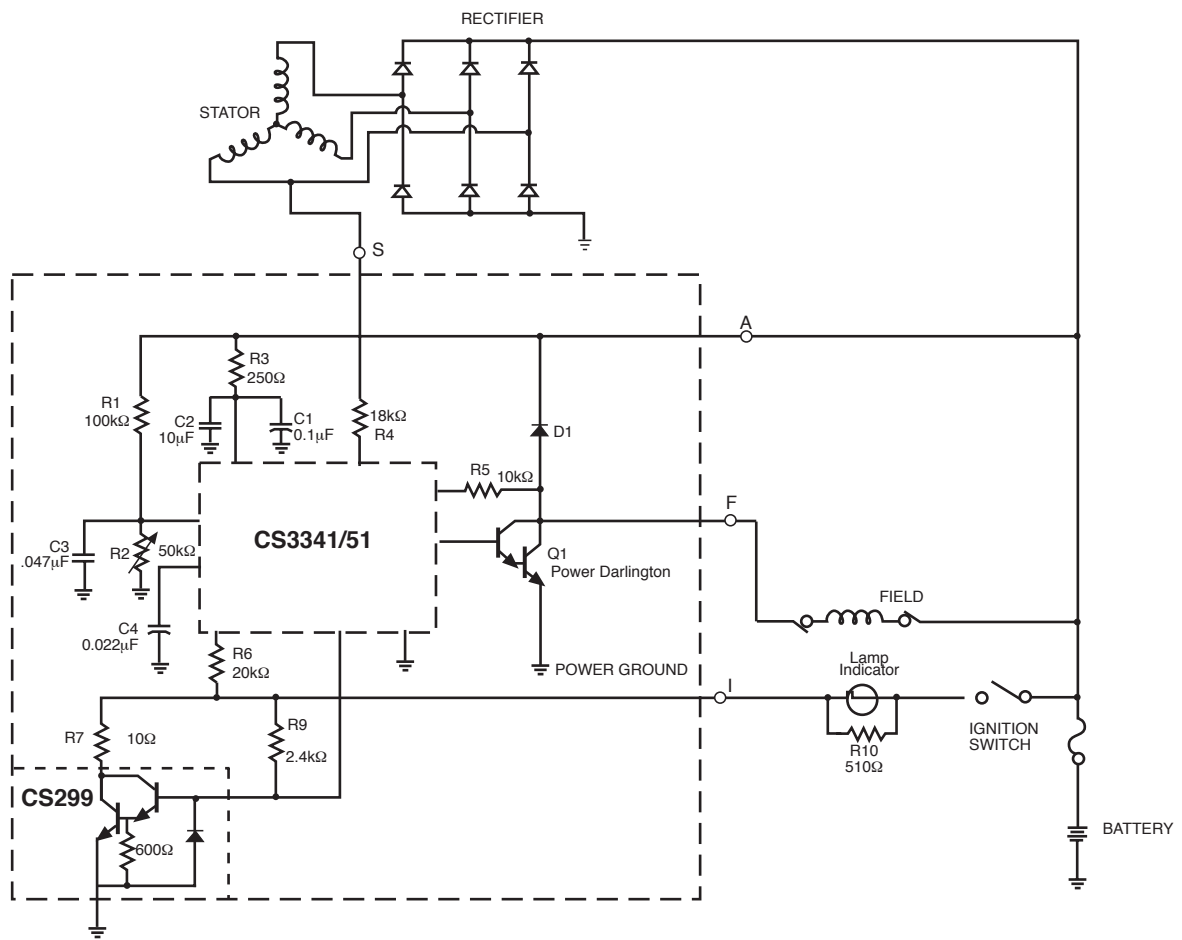
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
■ Supply Requirements					
Saturation Voltage	$I_{B1} = 0.6\text{mA}$, $I_{C2} = 350\text{mA}$			0.60	V
	$T_J = -30^\circ\text{C}$			0.55	V
	$T_J = 150^\circ\text{C}$			0.65	V
Collector Breakdown Voltage	$I_{C1} = I_{C2} = 1.0\text{mA}$, $R_{BE} = 200$, $V_{C1} = V_{C2}$	80			V
Collector Cut Off Current (I_{CEO})	$V_{CE1} = V_{CE2} = 60\text{V}$, $R_{BE} = 200$			10	μA
DC Current Gain (HFE)	$V_{C1} = V_{C2} = 1.0\text{V}$, $I_{B1} = 100\mu\text{A}$	1000			$\frac{(I_{C1}+I_{C2})}{I_{B1}}$
NPN β (Q1)	$I_{B1} = 1\mu\text{A}$, $V_{CE2} = 0\text{V}$, $V_{CE1} = 1.5\text{V}$	50			$\frac{I_{C1}}{I_{B1}}$
V_{BE} (in saturation)	$I_{B1} = 0.6\text{mA}$, $I_{C1} = 50\text{mA}$, $I_{C2} = 350\text{mA}$			2.0	V
Diode Forward Voltage (D1)	$I_{D1} = 25\text{mA}$	0.5		1.5	V

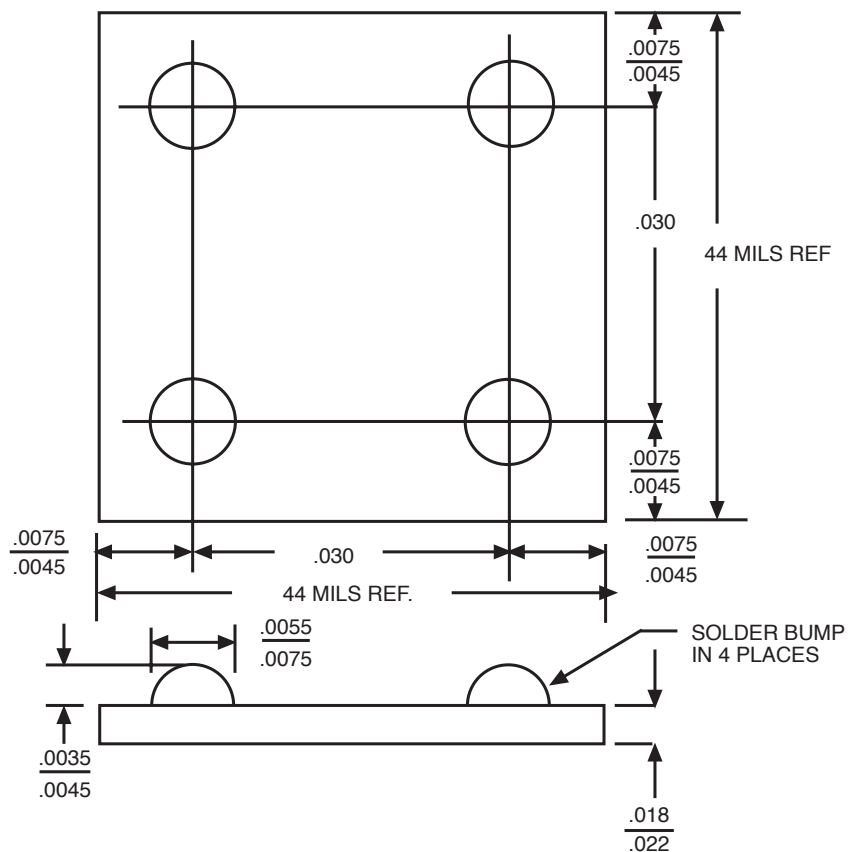
Package Pin Description

PACKAGE PIN #	PIN SYMBOL	FUNCTION
Flip Chip		
	B	Base of input darlington.
	C1	Collector of darlington input device.
	C2	Collector of darlington output driver.
	E	Emitter of darlington driver. Base/Emitter resistor and substrate are also connected here.

Application Diagram

CS299





Note: All dimensions are in inches.

Ordering Information

Part Number	Description
CS299H	Flip Chip

Cherry Semiconductor Corporation reserves the right to make changes to the specifications without notice. Please contact Cherry Semiconductor Corporation for the latest available information.