SENSITRON SEMICONDUCTOR

DATA SHEET 5187, Rev A

POSITIVE LOW DROPOUT 3.0 AMP REGULATOR

FEATURES:

- **ISOLATED HERMETIC PACKAGE**
- **SIMILAR TO INDUSTRY TYPE LT1085M**
- **FIXED 3.3V, 5V, 12V OR ADJUSTABLE**
- **CUSTOM FIXED VOLTAGES AVAILABLE *(CONTACT FACTORY)***

MAXIMUM RATINGS

All ratings are at T_A = 25°C unless otherwise specified.

Parameter	Conditions	Limit	Units
Input to Output Voltage Differential		29	V
Power Dissipation (P_D)		Internally Limited	
Maximum Thermal Resistance Junction to Case (θ_{JC})		3.5	°C/W
Junction Temperature		-55 to +150	°C
Storage Temperature Range		-65 to +150	°C

Note: Lead soldering temperature shall comply with MIL-STD-883 Test Method 2036.1 requirements.

ELECTRICAL CHARACTERISTICS[1]

Parameter	Conditions	Min	Max	Units
Reference Voltage (V_{REF}) SHD526150	V_{IN} - V_{OUT} = 3.0V, I_{OUT} = 10mA 1.5V ≤ V_{IN} - V_{OUT} ≤ 15V, 10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	1.238 **1.225**	1.262 **1.270**	V
Output Voltage (V_{OUT})				
SHD526151	I_{OUT} = 0mA, V_{IN} = 8V 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 6.5V ≤ V_{IN} ≤ 20V	4.950 **4.900**	5.050 **5.100**	V
SHD526152	I_{OUT} = 0mA, V_{IN} = 15V 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 13.5V ≤ V_{IN} ≤ 25V	11.880 **11.760**	12.120 **12.240**	V
SHD526153	I_{OUT} = 0mA, V_{IN} = 18V 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 16.5V ≤ V_{IN} ≤ 28V	14.850 **14.700**	15.150 **15.300**	V
SHD526154	I_{OUT} = 0mA, V_{IN} = 5V 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 4.8V ≤ V_{IN} ≤ 15V	3.270 **3.235**	3.330 **3.365**	V
Line Regulation (V_{RLINE})		-		
SHD526150	I_{OUT} = 10mA , 1.5V ≤ V_{IN} - V_{OUT} ≤ 15V		0.2 **0.2**	%
SHD526151	I_{OUT} = 0mA, 6.5V ≤ V_{IN} ≤ 20V		10 **10**	mV
SHD526152	I_{OUT} = 0mA, 13.5V ≤ V_{IN} ≤ 25V		25 **25**	mV
SHD526153	I_{OUT} = 0mA, 16.5V ≤ V_{IN} ≤ 28V		30 **30**	mV
SHD526154	I_{OUT} = 0mA, 4.8V ≤ V_{IN} ≤ 15V		6 **6**	mV
Load Regulation (V_{RLOAD}) SHD526150	V_{IN} - V_{OUT} = 3.0V,10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	-	1.2 **1.8**	%
SHD526151	V_{IN} = 8V, 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	-	60 **90**	mV
SHD526152	V_{IN} = 15V, 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	-	144 **216**	mV
SHD526153	V_{IN} = 18V, 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	-	180 **270**	mV
SHD526154	V_{IN} = 5V, 0 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$	-	40 **59**	mV

©2017 Sensitron Semiconductor • 221 West Industry Court • Deer Park, NY 11729
(631) 586 7600, FAX 631 242 9798 • www.sensitron.com • sales@sensitron.com

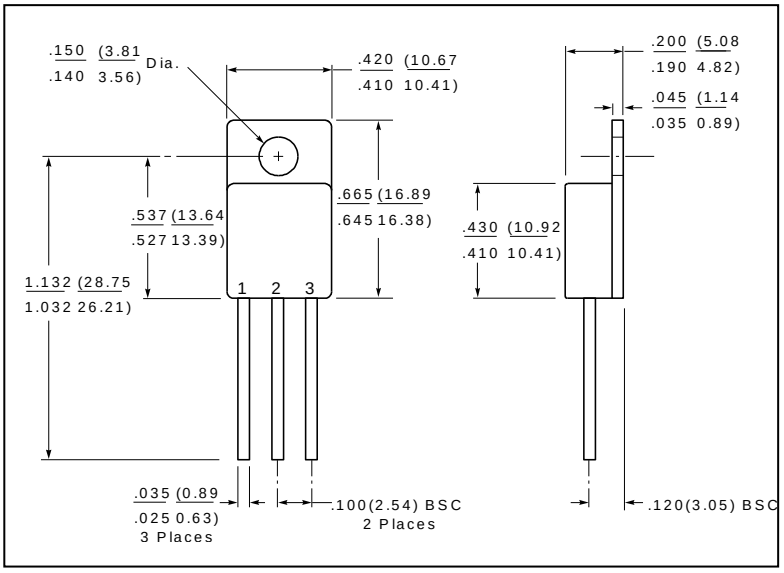
SENSITRON
SEMICONDUCTOR

DATA SHEET 5187, Rev A

Adjust Pin Current SHD526150		- 	 **120**	µA
Adjust Pin Current Change SHD526150	10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 1.5V ≤ V_{IN} - V_{OUT} ≤ 25V	-	**5.0**	µA
Minimum Load Current SHD526150	V_{IN} - V_{OUT} = 25V	-	**10**	mA
Quiescent Current SHD526151 SHD526152 SHD526153 SHD526154	 V_{IN} ≤ 20V V_{IN} ≤ 25V V_{IN} ≤ 28V V_{IN} ≤ 18V	- 	 **10** **10** **10** **10**	 mA mA mA mA
Current Limit SHD526150 SHD526151 SHD526152 SHD526153 SHD526154	 V_{IN} - V_{OUT} = 5.0V V_{IN} - V_{OUT} = 25V V_{IN} - V_{OUT} = 10.0V V_{IN} - V_{OUT} = 17.0V V_{IN} - V_{OUT} = 20.0V V_{IN} - V_{OUT} = 8.0V	 **3.2** **0.2** **3.2** **3.2** **3.2** **3.2**	 	 A A A A A A
Ripple Rejection[2] SHD526150 SHD526151 SHD526152 SHD526153 SHD526154	f = 120Hz, C_{OUT} = 25µF (tant), I_{OUT} = 3.0A, C_{ADJ} = 25µF, V_{IN} - V_{OUT} = 3.0V V_{IN} = 8.0V V_{IN} = 15.0V V_{IN} = 18.0V V_{IN} = 6.3V	 **60** **60** **54** **52** **60**	 - - - - -	 dB dB dB dB dB
Dropout Voltage	I_{OUT} = 3.0A, ΔV_{REF} = 1%	-	**1.5**	V
Long Term Stability[2]	T_A = +125°C, t = 1,000hrs	-	1.0	%

[1]Parameters in boldface denotes the specification applies over the full operating temperature range. Testing is performed at 25°C only.
[2]Guaranteed but not tested.

MECHANICAL DIMENSIONS: inches/mm



TO-257

PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3
TO - 257, 3.0A Regulator, Adj	ADJUST	V_{OUT}	V_{IN}
TO - 257, 3.0A Regulator, Fixed	V_{IN}	GND	V_{OUT}

Alternate pinouts, packages, and lead bends available. Contact factory.

SENSITRON SEMICONDUCTOR

DATA SHEET 5187, Rev A

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .

3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.