

TECHNICAL DATA
DATA SHEET 5036, REV. A
Formerly part number SHD52629

POSITIVE 12 VOLT VERY LOW DROPOUT VOLTAGE REGULATOR

FEATURES:

- **LOW DROPOUT VOLTAGE**
- **ISOLATED HERMETIC PACKAGE**
- **SIMILAR to INDUSTRY TYPE LM2940 - 12**

ELECTRICAL CHARACTERISTICS

All ratings are at $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$ unless otherwise specified.

Parameter	Conditions	Typical	Limit	Units
Output Voltage	$5 \text{ mA} \leq I_O \leq 1 \text{ A}$, $13.6 \text{ V} \leq V_{IN} \leq 26 \text{ V}$	12.00	11.40 12.60	V_{MIN} V_{MAX}
Line Regulation	$V_O + 2 \text{ V} \leq V_{IN} \leq 26 \text{ V}$, $I_O = 5 \text{ mA}$	20	120	mV_{max}
Load Regulation	$50 \text{ mA} \leq I_O \leq 1 \text{ A}$	55	190	mV_{MAX}
Output Impedance *	100 mA DC and 20 mA _{rms} , $f_O = 120 \text{ Hz}$	80	1000	$\text{m}\Omega$
Quiescent Current	$V_O + 2 \text{ V} \leq V_{IN} \leq 26 \text{ V}$, $I_O = 5 \text{ mA}$	10	20	mA_{MAX}
	$V_{IN} = V_O + 5 \text{ V}$, $I_O = 1 \text{ A}$	30	60	mA_{MAX}
Output Noise Voltage *	10 Hz - 100kHz, $I_O = 5 \text{ mA}$	360	1000	μV_{rms}
Ripple Rejection *	$f_O = 1 \text{ kHz}$, 1 V_{rms} , $I_O = 5 \text{ mA}$	-	46	dB_{MIN}
Long Term Stability *	-	48	-	$\text{mV}/1000 \text{ Hr}$
Dropout Voltage	$I_O = 1 \text{ A}$	0.5	1.0	V_{MAX}
	$I_O = 100 \text{ mA}$	110	200	mV_{MAX}
Short Circuit Current	See Note 1	1.9	1.3	A_{MIN}
Maximum Line Transient *	$R_O = 100\Omega$ $t \leq 20 \text{ ms}$	55	40	V_{MIN}
Reverse Polarity DC Input Voltage *	$R_O = 100\Omega$	-30	-15	V_{MIN}
Reverse Polarity Transient Input Voltage *	$R_O = 100\Omega$ $t \leq 20 \text{ ms}$	-55	-45	V_{MIN}
Maximum Junction Temperature	-	-	150	$^{\circ}\text{C}$
Storage Temperature Range	-	-	$-65^{\circ}\text{C} \leq T_J \leq +150^{\circ}\text{C}$	$^{\circ}\text{C}$
Input Voltage ²	-	-	26	V
Operating Temperature Range	-	-	$-55^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$	$^{\circ}\text{C}$
Maximum Thermal Resistance Junction to Case *	-	-	3	$^{\circ}\text{C}/\text{W}$

- $V_{IN} = V_O + 5 \text{ V}$, $I_O = 1 \text{ A}$, $C_O = 22\mu\text{F}$, unless otherwise specified.

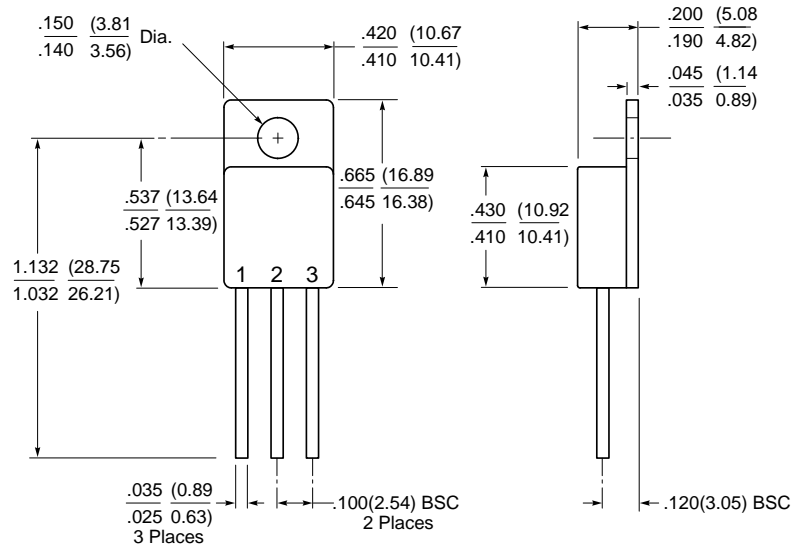
1. Output current will decrease with increasing temperature but will not drop below 1A at the maximum specified temperature.

2. 45V for $t \leq 1 \text{ ms}$

* indicates parameters that are guaranteed by design (not tested in production)

MECHANICAL DIMENSIONS

TO-257



PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3
TO - 257, 12V Regulator	V _{IN}	GROUND	V _{OUT}

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.