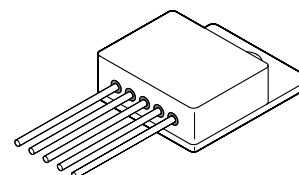


TECHNICAL DATA
DATA SHEET 1154, REV B
Formerly part number SHD50101

DUAL FIXED +/- 15.0 VOLT 1.5 AMP VOLTAGE REGULATOR

FEATURES:

- **ISOLATED HERMETIC PACKAGE**
- **SIMILAR to INDUSTRY TYPES 7815 / 7915**



MAXIMUM RATINGS (+15V)

All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Conditions	Maximum	Units
Input Voltage	-	35	Vdc
Ambient Operating Temperature Range (T_A)	-	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	-	-65 to +150	$^\circ\text{C}$
Thermal Resistance ($R_{\theta\text{JC}}$)	-	Per regulator	$^\circ\text{C/W}$
Rated Power	$T_C = +25^\circ\text{C}$	Per regulator	W

ELECTRICAL CHARACTERISTICS (+15V)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units	
V_O	Output Voltage	$T_A = 25^\circ\text{C}$	14.8	15	15.2	V	
		$18.5\text{V} \leq V_{\text{IN}} \leq 30\text{V}$	14.6	15	15.4	V	
		$P_D \leq 15\text{W}$, $5\text{ mA} \leq I_O \leq 1\text{A}$ $18.5\text{V} \leq V_{\text{IN}} \leq 30\text{V}$	14.4	-	15.6	V	
V_{RLINE}	Line Regulation	$17.5\text{V} \leq V_{\text{IN}} \leq 30\text{V}$	$T_A = 25^\circ\text{C}$	-	-	20	mV
			$-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	50	mV
		$20\text{V} \leq V_{\text{IN}} \leq 26\text{V}$	$T_C = 25^\circ\text{C}$	-	-	15	mV
			$-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	25	mV
V_{RLOAD}	Load Regulation	$T_J = 25^\circ\text{C}$	$5\text{ mA} \leq I_O \leq 1.5\text{A}$	-	-	35	mV
			$250\text{ mA} \leq I_O \leq 750\text{mA}$	-	-	21	mV
		$5\text{ mA} \leq I_O \leq 1\text{A}$, $-55^\circ \leq T_C \leq +125^\circ\text{C}$	-	-	75	mV	
I_Q	Quiescent Current	$T_C = 25^\circ\text{C}$	-	-	6	mA	
		$-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	6.5	mA	
ΔI_Q	Quiescent Current Change	$5\text{ mA} \leq I_O \leq 1.0\text{A}$, $-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	0.5	mA	
		$18.5\text{V} \leq V_{\text{IN}} \leq 30\text{V}$, $-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	0.8	mA	
V_{DO}	Dropout Voltage	$T_C = 25^\circ\text{C}$, $I_O = 1.0\text{A}$	-	-	2.5	V	
$I_{\text{O(pk)}}$	Peak Output Current	$T_C = 25^\circ\text{C}$	1.5	-	3.3	A	
I_{OS}	Short Circuit Current	$V_{\text{IN}} = 35\text{V}$	$T_C = 25^\circ\text{C}$	-	-	1.2	A
			$-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	2.8	A
$\frac{\Delta V_{\text{IN}}}{\Delta V_{\text{OUT}}}$	Ripple Rejection	$f = 120\text{Hz}$ $\Delta V_{\text{IN}} = 10\text{V}$	$I_O \leq 1\text{A}$, $T_C = 25^\circ\text{C}$	54	70	-	dB
			$I_O \leq 500\text{ mA}$, $-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	54	-	-	dB
N_O	Output Noise Voltage	$T_C = 25^\circ\text{C}$, $f = 10\text{Hz to } 100\text{kHz}$	-	-	40	$\mu\text{V/V rms}$	
$\frac{\Delta V_{\text{OUT}}}{\Delta t}$	Long Term Stability	$T_C = 25^\circ\text{C}$, $t = 1000\text{ hours}$	-	-	150	mV	

Note: Conditions unless otherwise noted: $I_{\text{OUT}} = 500\text{ mA}$, $C_{\text{IN}} = 2.2\ \mu\text{F}$, $C_{\text{OUT}} = 1\ \mu\text{f}$, $0^\circ\text{C} \leq T_J \leq +125^\circ\text{C}$, Power Dissipation = 1.5W, $V_{\text{in}} = 23\text{V}$.

DATASHEET 1154, REVISION B
Formerly part number SHD50101

MAXIMUM RATINGS (-15V)All ratings are at $T_C = 25^\circ\text{C}$ unless otherwise specified.

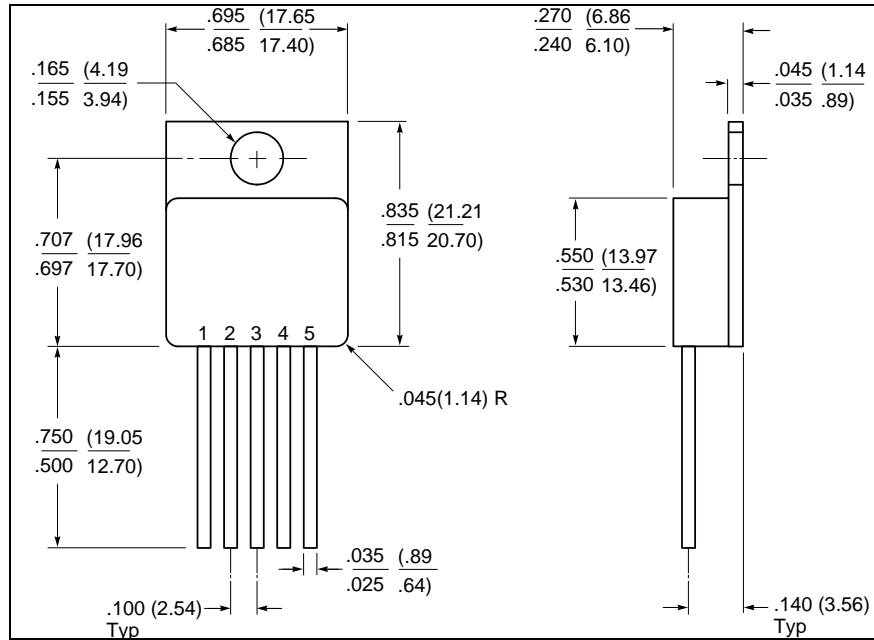
Parameter	Conditions	Maximum	Units
Input Voltage	-	-35	Vdc
Ambient Operating Temperature Range (T_A)	-	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	-	-65 to +150	$^\circ\text{C}$
Thermal Resistance ($R_{\theta\text{JC}}$)	-	Per regulator	$^\circ\text{C}/\text{W}$
Rated Power	$T_C = +25^\circ\text{C}$	Per regulator	W

ELECTRICAL CHARACTERISTICS (-15V)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_O	Output Voltage	$T_A = 25^\circ\text{C}$	-15.15	-15.0	-14.85	V
		$5\text{ mA} \leq I_O \leq 1\text{ A}$ $P \leq 15\text{ W}$	-15.75		-14.25	V
V_{RLINE}	Line Regulation	$T_J = 25^\circ\text{C}$, $V_{\text{IN}} = -17.5\text{ V to } -30\text{ V}$ $V_{\text{IN}} = -20\text{ V to } -26\text{ V}$	-	5.0	25	mV
			-	3.0	15	mV
V_{RLOAD}	Load Regulation	$T_J = 25^\circ\text{C}$ $5\text{ mA} \leq I_O \leq 1.5\text{ A}$ $250\text{ mA} \leq I_O \leq 750\text{ mA}$	-	-	35	mV
			-	-	21	mV
I_Q	Quiescent Current	$T_J = 25^\circ\text{C}$	-	-	6.0	mA
ΔI_Q	Quiescent Current Change	With Line	-	-	0.8	mA
		With Load, $5\text{ mA} \leq I_O \leq 1\text{ A}$	-	-	0.5	mA
V_{DO}	Dropout Voltage	$T_J = 25^\circ\text{C}$, $I_O = 1\text{ A}$	-	-	2.5	V
$I_{\text{O(pk)}}$	Peak Output Current	$T_J = 25$	1.5	-	3.3	A
I_{OS}	Short Circuit Current	$V_{\text{IN}} = -35\text{ V}$ $T_C = 25^\circ\text{C}$ $-55^\circ\text{C} \leq T_C \leq +125^\circ\text{C}$	-	-	1.2	A
			-	-	2.8	A
$\frac{\Delta V_{\text{IN}}}{\Delta V_{\text{OUT}}}$	Ripple Rejection	$f = 120\text{ Hz}$	54	70	-	dB
N_o	Output Noise Voltage	$T_A = 25^\circ\text{C}$, $f = 10\text{ Hz} \leq f \leq 100\text{ kHz}$	-	375	-	$\mu\text{V RMS}$
$\frac{\Delta V_{\text{OUT}}}{\Delta t}$	Long Term Stability	$T_C = 25^\circ\text{C}$, $t = 1000\text{ hours}$	-	-	150	mV

Note: Conditions unless otherwise noted: $I_{\text{OUT}} = 500\text{ mA}$, $C_{\text{IN}} = 2.2\ \mu\text{F}$, $C_{\text{OUT}} = 1\ \mu\text{f}$, $0^\circ\text{C} \leq T_J \leq +125^\circ\text{C}$, Power Dissipation = 1.5W, $V_{\text{in}} = -23\text{ V}$.

MECHANICAL DIMENSIONS: In Inches / mm



MO-078

PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5
+15V/-15V Voltage Regulator MO-078 Package	+ Input	+ Output	Common	- Input	- Output

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.