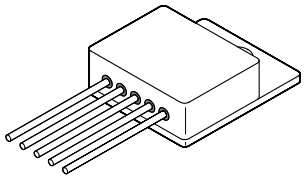
SENSITRON
SEMICONDUCTOR

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°C unless otherwise specified.

Parameter	Conditions		Maximum	Units
Input Voltage	-		35	Vdc
Ambient Operating Temperature Range (T_A)	-		-55 to +150	°C
Storage Temperature Range	-		-65 to +150	°C
Thermal Resistance ($R_{\theta JC}$)	-	Per regulator	3.0	°C/W
Rated Power	T_C = +25°C	Per regulator	17.5	W

ELECTRICAL CHARACTERISTICS (+15V)

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

Note: Conditions unless otherwise noted: I_{OUT} = 500 mA, C_{IN} = 2.2 µF, C_{OUT} = 1µf, 0°C ≤ T_J ≤ +125°C, Power Dissipation = 1.5W, V_{in} = 23V.

MAXIMUM RATINGS (-15V)

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

Parameter	Conditions		Maximum	Units
Input Voltage	-		-35	Vdc
Ambient Operating Temperature Range (T_A)	-		-55 to +150	°C
Storage Temperature Range	-		-65 to +150	°C
Thermal Resistance ($R_{\theta JC}$)	-	Per regulator	3.0	°C/W
Rated Power	T_C = +25°C	Per regulator	17.5	W

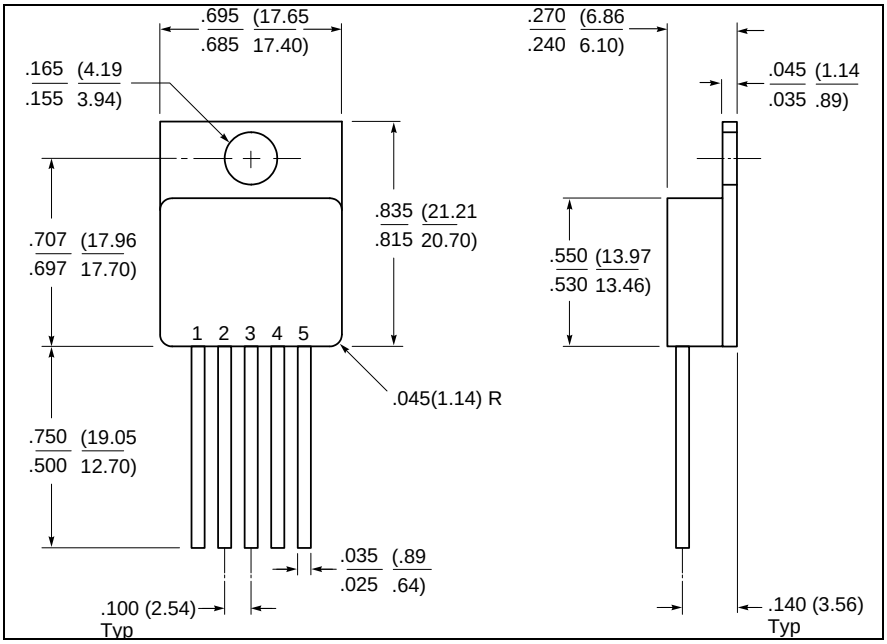
ELECTRICAL CHARACTERISTICS (-15V)

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

Note: Conditions unless otherwise noted: I_{OUT} = 500 mA, C_{IN} = 2.2 µF, C_{OUT} = 1µf, 0°C ≤ T_J ≤ +125°C, Power Dissipation = 1.5W, V_{in} = -23V.

DATASHEET 1154, REVISION B
Formerly part number SHD50101

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