

**ILA8133A**

**DUAL +5.1V +8V REGULATOR WITH DISABLE AND RESET**

The ILA8133A is a monolithic dual positive voltage regulator designed to provide fixed precision output voltages of 5.1 V and 8 V at currents up to 0.75 A. An internal reset circuit generates a reset pulse when the output 1 decreases below the regulated voltage value. Output 2 can be disabled by TTL input.

- Output currents up to 0.75 A
- Fixed precision OUTPUT 1 voltage 5.1 V ± 2%
- Fixed precision OUTPUT 2 voltage 8 V ± 2%
- OUTPUT 1 with RESET facility
- OUTPUT 2 with DISABLE by TTL input
- Short circuit protection at both outputs
- Thermal protection
- Low drop output voltage



**TO-220AB/7  
HEPTAWAT**

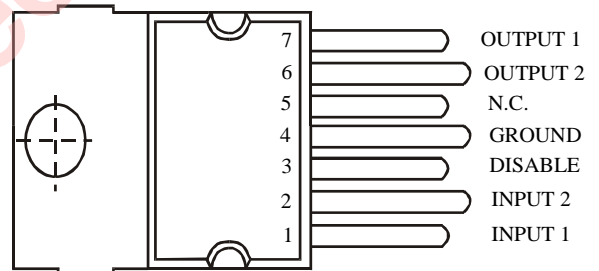
**ORDERING INFORMATION**

**ILA8133A** Plastic Package

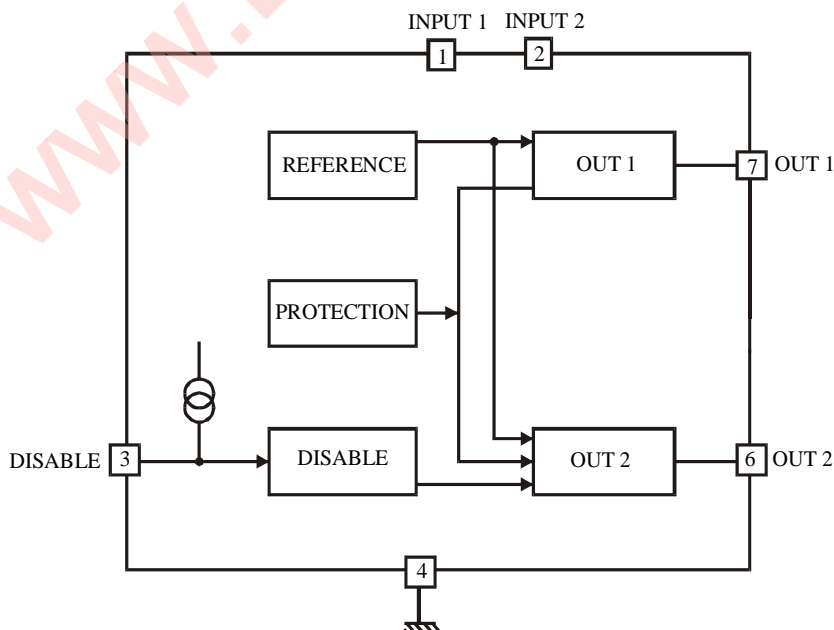
**IZ8133A** chip

$T_j = -0^\circ$  to  $130^\circ\text{C}$

**PIN ASSIGNMENT**



**BLOCK DIAGRAM**



**MAXIMUM RATINGS\***

Symbol	Parameter	Min	Max	Unit
$V_{IN1}$	DC Input Voltage Pin 1		20	V
$V_{IN2}$	DC Input Voltage Pin 2		20	V
$V_{DIS}$	Disable Input Voltage Pin 3		20	V
$I_{O1,2 SC}$	Short Circuit Output Current	$V_{IN1} = 7\text{ V}, V_{IN2} = 10\text{ V}$	1.6	A
		$V_{IN1} = V_{IN2} = 16\text{ V}$	1.0	
Tstg	Storage Temperature	-65	150	°C
$T_J$	Junction Temperature	0	150	°C

\*Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

**RECOMMENDED OPERATING CONDITIONS**

Symbol	Parameter	Min	Max	Unit
$V_{IN1}$	DC Input Voltage Pin 1	7.0	14	V
$V_{IN2}$	DC Input Voltage Pin 2	10	14	V
$V_{DIS}$	Disable Input Voltage Pin 3	0	7.0	V
$I_{O1,2}$	Output Currents		1.0	A
$T_J$	Junction Temperature	0	130	°C

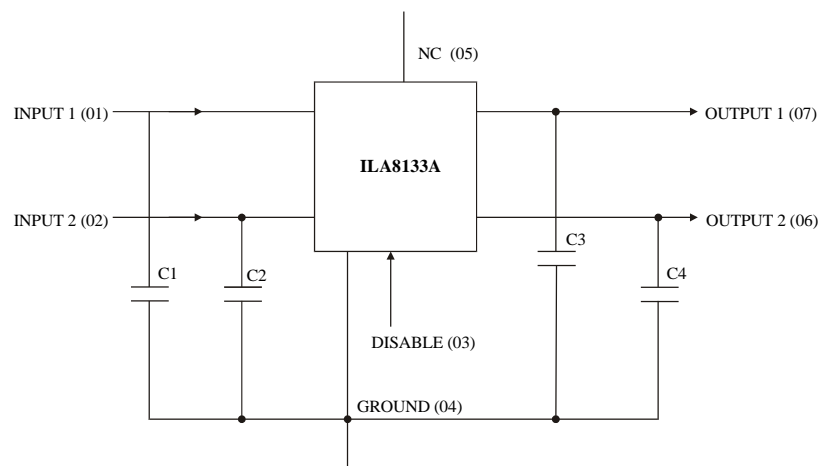
**THERMAL DATA**

Symbol	Parameter	Value	Unit
Rth (j-c)	Maximum Thermal Resistance Junction-case	6	°C/W
Rth (j-a)	Maximum Thermal Resistance Junction-ambient	60	°C/W

**ELECTRICAL CHARACTERISTICS** ( $V_{IN1} = 7\text{ V}$ ,  $V_{IN2} = 10\text{ V}$ ,  $T_J = 25^\circ\text{C}$ , unless otherwise specified)

Symbol	Parameter	Test Conditions	Guaranteed Limit		Unit
			Min	Max	
$V_{O1}$	Output Voltage	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$ , $V_{DIS} = 2.0\text{ V}$ , $I_{O1} = -10\text{ mA}$	5.0	5.2	V
		$7\text{ V} \leq V_{IN2} \leq 14\text{ V}$ , $-5\text{ mA} \leq I_{O1} \leq -750\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$	4.9	5.3	
$V_{O2}$	Output Voltage	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$ , $I_{O2} = -10\text{ mA}$	7.84	8.16	V
		$10\text{ V} \leq V_{IN2} \leq 14\text{ V}$ , $-5\text{ mA} \leq I_{O1} \leq -750\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$ , $V_{IN1} = 7\text{ V}$	7.7	8.3	
$\Delta V_{O1LI}$	Line Regulation	$7\text{ V} \leq V_{IN2} \leq 14\text{ V}$ , $I_{O1} = -200\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$ , $V_{IN2} = 10\text{ V}$		50	mV
$\Delta V_{O2LI}$		$10\text{ V} \leq V_{IN2} \leq 14\text{ V}$ , $I_{O2} = -200\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$ , $V_{IN1} = 7\text{ V}$		80	
$\Delta V_{O1LO}$	Load Regulation	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$ , - $5\text{ mA} \leq I_{O1} \leq -0.6\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$		100	mV
$\Delta V_{O2LO}$		$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$ , $-5\text{ mA} \leq I_{O2} \leq -0.6\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$		160	
$V_{IO1,2}$	Dropout Voltage	$I_{O1,2} = -750\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$		1.4	V
		$I_{O1,2} = -1.0\text{ mA}$ , $V_{DIS} = 2.0\text{ V}$		2.0	
$I_Q$	Quiescent Current	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$ , $V_{DIS} = 0.8\text{ V}$ , $I_{O1} = -10\text{ mA}$		2.0	mA
$I_{DIS}$	Disable Bias Current	$0\text{ V} \leq V_{DIS} \leq 7\text{ V}$ , $V_{IN1} = 7\text{ V}$ , $V_{IN2} = 10\text{ V}$	-100	2.0	$\mu\text{A}$
$V_{DISH}$	Disable Voltage High (out 2 active)	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 14\text{ V}$	2		V
$V_{DISL}$	Disable Voltage Low (out 2 disabled)	$V_{IN1} = 7\text{ V}$ , $V_{IN2} = 14\text{ V}$		0.8	V

**TYPICAL APPLICATION**



C1 to C4 = 10 Mf

TO-220 AB/7

