1.	VENDOR	PART NUMBER	CATALOG REFERENCE
A	SILICON GENERAL	SG7805AK	1990/1991
B	SGS - THOMSON	L7805CT	LINEAR INTEGRATED CIRCUITS 3RD EDITION
C	SEMTECH	LAS-1505	SEMTECH

2. DESCRIPTION..... POSITIVE VOLTAGE REGULATORS

3. VALUE..... 5V ± 5% 1.5AMPS.

4. SPECIFICATIONS NOT CALLED OUT IN VENDOR SPEC.....NONE

5. SPECIAL HANDLING REQUIREMENTS..... ESD PROTECTION: TO PROTECT AGAINST DAMAGE DUE TO ELECTROSTATIC DISCHARGE. THESE UNITS MUST BE MANUFACTURED,HANDLED,AND SHIPPED IN ACCORDANCE WITH DOD-STD-1686.

6. FOR VENDOR'S MECHANICAL AND ELECTRICAL SPECIFICATION,SEE REVERSE SIDE OF THIS DOCUMENT OR ATTACHED SHEET(S).

7. SOLDERABILITY.....PARTS MUST MEET THE SOLDERABILITY REQUIREMENTS OF MIL-STD-202,METHOD 208.

8. THERMAL SHOCK ..... PARTS MUST MEET THE THERMAL SHOCK REQUIREMENTS OF MIL-STD-750, METHOD 1051.2.

9. THE VENDOR HAS SUPPLIED A WRITTEN CONFIRMATION OF THIS SPECIFICATION CONTROL DRAWING.

REVISIONS		APPROVALS		
REV.	DESCRIPTION	ENG	PUR	QUAL
F	ECO#A03436 9/03/91	NY		
G	PAR#5160 8/18/93			ny

FIRST USED ON:	LF-9-04
ORIGINATED BY:	P.K
HANDLING:	ESD
HAZARD:	
AGENCY:	
DWG. SIZE	A

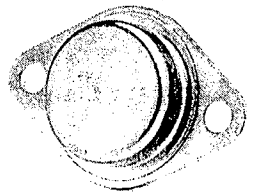
TITLE: **INTEGRATED CIRCUIT +5V REGULATOR**

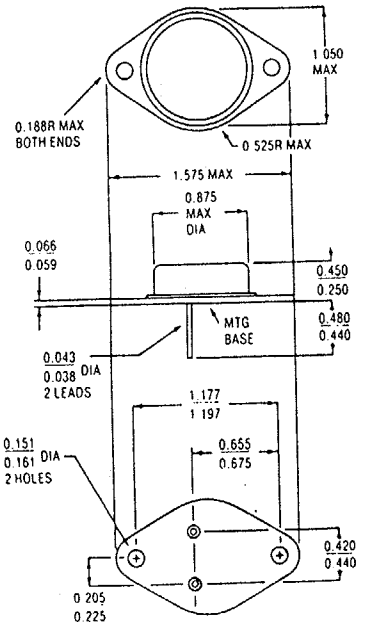
SCALE: N/A

LAMBDA ELECTRONICS

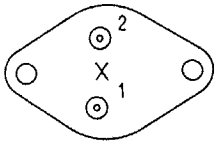
LAMBDA PART NO.	REV.
FBT-00-046	G

1.5 AMP POSITIVE VOLTAGE REGULATORS





Bottom View



LAS 1500

1 – Input
2 – Output
Case is common

ABSOLUTE MAXIMUM RATINGS

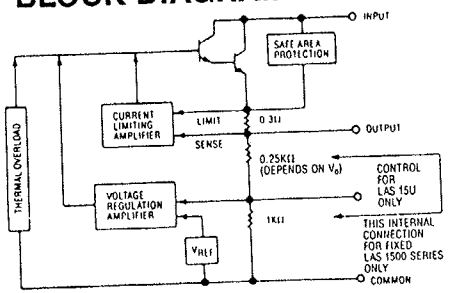
PARAMETER	SYMBOL	MINIMUM	MAXIMUM	UNITS
Input Voltage	V_{IN}		35(40)[1] [2]	Volts
Power Dissipation	P_D		Internally Limited[3]	
Thermal Resistance Junction to Case	θ_{JC}		2.5	°C/Watt
Operating Junction Temperature Range	T_J	– 55	150	°C
Storage Temperature Range	T_{STG}	– 65	150	°C
Lead Temperature (Soldering, 60 Seconds Time Limit)	T_{LEAD}		300	°C

[1] Short circuit protection is only assured to V_{IN} max. Value of 35V applies to V_O of + 5V to + 12V. Value of 40V applies to V_O of 13.8V to 24V and LAS 15U.
[2] In case of short circuit with input-output voltages approaching V_{IN} max, regulator may require the removal of the input voltage to restart.
[3] For operation above 87.5°C T_{CASE}, derate at 400 mW/°C.

DEVICE SELECTION GUIDE

V_{OUT}	V_{OUT} TOLERANCE ±5%	V_{OUT} TOLERANCE ±2%
5	LAS 1505	LAS 15A05
6	LAS 1506	LAS 15A06
8	LAS 1508	LAS 15A08
10	LAS 1510	LAS 15A10
12	LAS 1512	LAS 15A12
13.8	LAS 15CB	–
15	LAS 1515	LAS 15A15
18	LAS 1518	LAS 15A18
20	LAS 1520	LAS 15A20
24	LAS 1524	LAS 15A24
4 to 30	LAS 15U (Adjustable/Remote Sense)	

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS

Input voltage test conditions are as follows: $V_1 = V_O + 3$ Volts, $V_2 = V_O + 10$ Volts, $V_3 = V_O + 15$ Volts, or the maximum input, whichever is less.

		Test Conditions			Test Limits		
Parameter	Symbol	V_{IN}	I_O	T_J	Min	Max	Units
Output Voltage[2] LAS 1500[1] LAS 15A00[1] LAS 15U[5]	V_O	V_1 to V_2	10mA to 1.5A	25°C	$0.95\|V_O\|$ $0.98\|V_O\|$ 4.0	$1.05\|V_O\|$ $1.02\|V_O\|$ 30.0	Volts
Input-Output Differential	V_{IN}-V_O		1.5A	0-125°C	2.4		Volts
Line Regulation[2]	REG (LINE)	V_1 to V_3	1.5A	25°C		1.5	% V_O
Load Regulation[2]	REG (LOAD)	V_O + 5V	10mA to 1.5A	25°C		0.6	% V_O
Quiescent Current	I_Q	V_1	10mA	25°C		18.0	mA
Quiescent Current Line	I_Q (LINE)	V_1 to V_2	10mA	25°C		5.0	mA
Quiescent Current Load	I_Q (LOAD)	V_1	10mA to 1.5A	25°C		5.0	mA
Current Limit[2]	I_{LIM}	V_O + 5V		25°C		5.2	Amps
Temperature Coefficient	T_C	V_1	0.1A	0-125°C		0.02	$\%V_O$/°C
Output Noise[3] Voltage	V_N	V_1	0.1A	0-125°C		10	$\mu V_{rms}/V$
Ripple Attenuation[4]	R_A	V_O + 5V	1.0A	0-125°C	60		dB
Control Voltage LAS 15U	V_C	V_1 to V_2	10mA	25°C	3.6	4.0	Volts
Power Dissipation	P_D	V_{IN}-V_{OUT} 2.4V to 10.0V	10mA to 1.5A	0-125°C		15	Watts

(1) Nominal output voltages are specified under Device Selection Guide.
(2) Low duty cycle pulse testing with Kelvin connections required. Die temperature changes must be accounted for separately.
(3) BW = 10Hz - 100KHz
(4) Ripple attenuation is specified for a 1Vrms, 120Hz, input ripple.
Ripple attenuation is minimum of 60 dB at 5V output and is 1 dB less for each volt increase in the output voltage.
(5) $V_O = V_C (1 + R1/R2)$
R1 = Resistance from output to control
R2 = Resistance from control to common