


1)	VENDOR	PART NUMBER	CATALOG REFERENCE
A.	LINFINITY MICRO ELECTRONICS, INC.	SG7815K	
B.	SGS-THOMSON	L7815CT	LINEAR INT. CIRC., 3RD ED.
C.	SEMTECH	LAS-1515	SEMTECH

2. DESCRIPTION \_\_\_\_\_ REGULATOR, POSITIVE VOLTAGE
3. VALUE \_\_\_\_\_ 15 V  $\pm$ 5%, @1.5A
4. SPECIFICATIONS NOT CALLED  
IN VENDOR SPECS \_\_\_\_\_ NONE
5. SPECIAL HANDLING  
REQUIREMENTS \_\_\_\_\_ 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 SPECIFICATIONS, SEE REVERSE SIDE OF THIS  
DOCUMENT AND/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 DOCUMENT.

REVISIONS					FIRST USED ON:	LF-9-04		TITLE:
REV.	DESCRIPTION	ENG	PUR	QUAL	ORIGINATED BY:	P. Kolsa 03Apr95		REGULATOR, $\pm$ 15V IC
F	SEE ECO# B14016 03APR95	AK	JK	PK	HANDLING:	ESD		
					HAZARD:			SCALE: N/A
					AGENCY:			PAGE 1 OF 2
					MATERIAL:			
					FINISH:			
					DWG. SIZE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND TOLERANCES ARE AS FOLLOWS: DECIMALS: .XXX $\pm$ .005 .XX $\pm$ .01 FRACTIONS $\pm$ 1/64 ANGLES $\pm$ 1/2		LAMBDA PART No.
					A			F
						F		F



# LINEAR INTEGRATED CIRCUITS

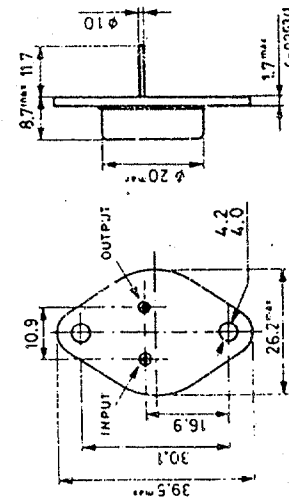
## 3-TERMINAL POSITIVE VOLTAGE REGULATORS

- OUTPUT CURRENT UP TO 1.5A
- ⊕ OUTPUT VOLTAGES OF 5; 6; 8; 12; 15; 18; 20; 24V
- ⊕ THERMAL OVERLOAD PROTECTION
- \* SHORT CIRCUIT PROTECTION
- ⊕ OUTPUT TRANSISTOR SOA PROTECTION

The L7800 series of three-terminal positive regulators is available in TO-220 and TO-3 packages and with several fixed output voltages, making it useful in a wide range of applications. These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation. Each type employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

## ABSOLUTE MAXIMUM RATINGS

$V_i$	DC input voltage (for $V_o = 5$ to 18V) (for $V_o = 20, 24V$ )	35 40	V
$I_o$	Output current	internally limited	V
$P_{test}$	Power dissipation	internally limited	°C
$T_{top}$	Operating junction temperature (for L7800J) (for L7800C)	-55 to +150 0 to +150	°C
$T_{stg}$	Storage temperature	-65 to +150	°C



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REV. F  
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Parameter	Test conditions		15		18		20		24		Unit			
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.		Typ.	Max.	
$V_o$ Output voltage	$T_J = 25^\circ C$		14.4	15	15.6	17.3	18	18.7	19.2	20	20.8	23	24	25
$\Delta V_o$ Line regulation	$I_o = 5$ mA to 1A $P_o \leq 15W$		14.25	15	15.75	17.1	18	18.9	19	20	21	22.8	24	25.2
	$T_J = 25^\circ C$		$(V_i = 17.5$ to 30V)		$(V_i = 21$ to 33V)		$(V_i = 23$ to 35V)		$(V_i = 27$ to 38V)					
$\Delta V_o$ Load regulation	$T_J = 25^\circ C$		300		300		360		460		460		480	
	$I_o = 5$ mA to 1.5A		$(V_i = 17.5$ to 30V)		$(V_i = 21$ to 33V)		$(V_i = 23.5$ to 35V)		$(V_i = 27$ to 38V)					
$\Delta V_o$ Quiescent current	$T_J = 25^\circ C$		150		150		180		200		200		240	
	$I_o = 250$ to 750 mA		$(V_i = 20$ to 26V)		$(V_i = 24$ to 30V)		$(V_i = 26$ to 32V)		$(V_i = 30$ to 36V)					
$\Delta I_o$ Quiescent current change	$T_J = 25^\circ C$		8		8		8		8		3		8	
	$I_o = 5$ mA to 1A		$(V_i = 17.5$ to 30V)		$(V_i = 21$ to 33V)		$(V_i = 23$ to 35V)		$(V_i = 27$ to 38V)					
$\frac{\Delta V_o}{\Delta T}$ Output voltage drift	$T_J = 25^\circ C$		-1		-1		-1		-1		-1.5		-1.5	
	$I_o = 5$ mA													
$\epsilon_N$ Output noise voltage	$B = 10$ Hz to 100 kHz $T_J = 25^\circ C$		90		90		110		150		170		170	
SVR Supply voltage rejection	$f = 120$ Hz		54		53		52		50		50		49	
$V_d$ Dropout voltage	$I_o = 1$ A		2		2		2		2		2		2	
$R_o$ Output resistance	$f = 1$ kHz		19		19		22		24		26		26	
$I_{sc}$ Short circuit current	$V_i = 35V$ $T_J = 25^\circ C$		230		230		200		180		150		150	
$I_{scf}$ Short circuit peak current	$T_J = 25^\circ C$		2.1		2.1		2.1		2.1		2.1		2.1	