



FEATURES

- Output Voltages Set Internally to $\pm 1\%$
- Output Voltage: +5 V (Contact Factory for other voltages)
- Internal Overload protection
- Hermetic TO-3 Package
- Thermally Optimized Package
- 100% Hi-Rel Tested
- Compatible with DLA 5962-8777502YA
- MIL-PRF-38534 Certified facility

Applications

- Power Management
- Local 5 Volts regulator
- Low noise Power Source

PRODUCT OVERVIEW

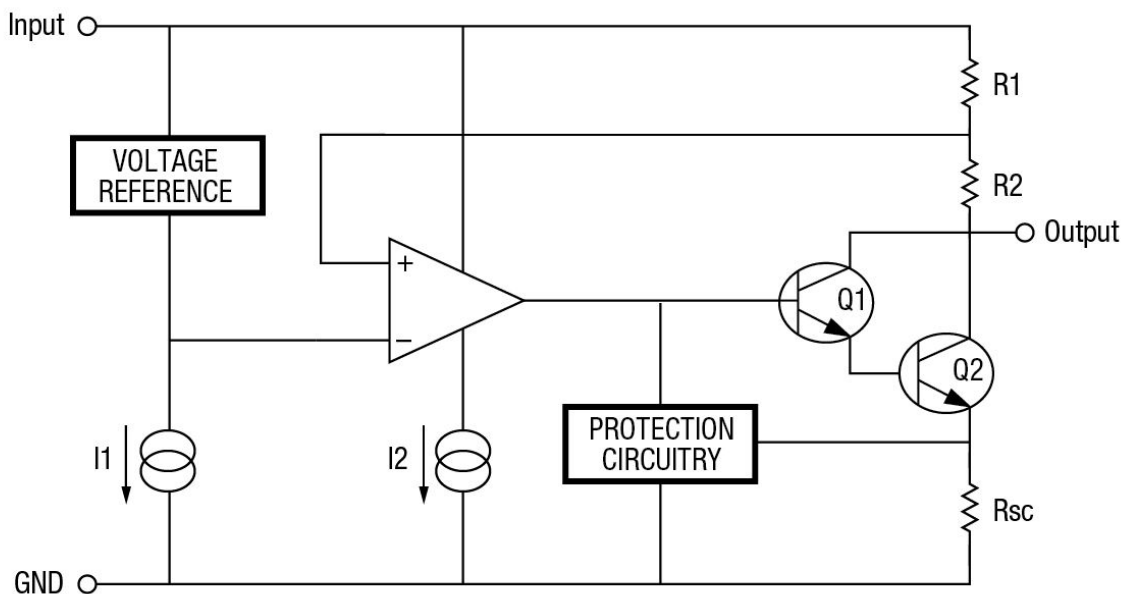
The LVR-123 positive regulators are supplied in a hermetically sealed TO-3 package. All protective features are designed into the circuit, including thermal shutdown and current limiting. This series of regulators can deliver over 3 amps of driving power.

The LVR-123 regulators are internally trimmed to provide a nominal voltage accuracy of 1%. The LVR-123 accepts a wide input voltage range of +7.5 to +15 volts and it has a +5 Volt output.

Models are available for use in commercial (0 to +70°C), extended (-40 to +110°C), and military or Hi-Rel (-55 to +125°C) operating temperature ranges. The QL model is equivalent to DLA part number 5962-8777502YA, is rated is over the operating temperature of -55 to +125°C, and is subjected to all environmental screening as the 5962-8777502YA model. Every unit is 100% tested for its rated grade and over the specified temperature.

The LVR-123 products are built on DATEL's MIL-PRF-38534 certified production line. They are the best choice for all military, aerospace, ruggedized, and demanding applications where a Hi-Rel and hermetic package is required. RoHS and Non-RoHS compliant models are available for all grades.

FUNCTIONAL BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS		
PARAMETERS	LIMITS	UNITS
Input Voltage	+20	V
Operating Junction Temperature Range	-55 to +125	°C
Lead temperature (soldering, 10 seconds)	+300	°C
Junction temperature (T _j)	+150	°C
Maximum Output Current	3	A
Maximum Power Dissipation	Internally Limited	W

PHYSICAL/ENVIRONMENTAL				
PARAMETERS	MIN.	TYP.	MAX.	UNITS
Operating Temp. Range, Case				
MC, MC-C	0		+70	°C
ME, ME-C	-40		+100	°C
MM, MM-C, QL, QL-C	-55		+125	°C
Thermal Resistance				
See MIL-STD-1835				
Junction to case θ_{jc} ①	—	3	—	°C/Watt
Storage Temperature Range	-65	—	+150	°C
Package Type	TO-3 Package			

① Without a heat sink, the thermal resistance of the TO-3 package is about 35°C/Watt. With a heat sink, the effective thermal resistance can only approach the value of 2°C/Watt, depending on the efficiency of the heat sink.

FUNCTIONAL SPECIFICATIONS

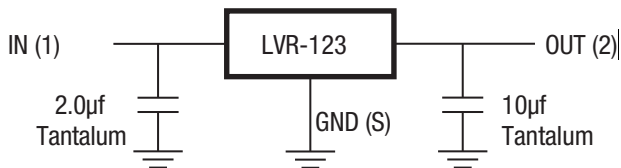
ELECTRICAL CHARACTERISTICS, -55°C ≤ T_A ≤ 125°C (unless otherwise specified).

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	MAX.	UNIT	
Output Voltage	V _{out}	V _{IN} = 7.5V, I _o = 0mA	TA = +25°C	4.95	5.05	V
		7.5V ≤ V _{IN} ≤ 15V, 0A ≤ I _o ≤ 3A, P ≤ 30W	-55°C to +125°C	4.85	5.15	V
Line Regulation ①	V _{RLine}	7.5V ≤ V _{IN} ≤ 15V, I _o = 0mA	TA = +25°C	-10	+10	mV
Load Regulation ①	V _{RLoad}	V _{IN} = 7.5, 0A ≤ I _o ≤ 3A	TA = +25°C	-50	+50	mV
Quiescent current	I _o	7.5V ≤ V _{IN} ≤ 15V, 0A ≤ I _o ≤ 3A	TA = +25°C	—	20	mA
			-55°C to +125°C	—	20	mA
Short Circuit Current	I _{SC}	V _{IN} = 7.5V	TA = +25°C	—	6	A
		V _{IN} = 15 V	TA = +25°C	—	4.5	A
Ripple Rejection	RR	8V ≤ V _{IN} ≤ 18V, I _{OUT} = 2.0 A, f = 120 Hz,	TA = +25°C	56	-	dB
Long Term Stability ②	S		-55°C to +125°C	—	35	mV

① Load and line regulation are tested with pulsed low duty cycle techniques where pulse width ≤ 1 ms and duty cycle ≤ 5 percent.

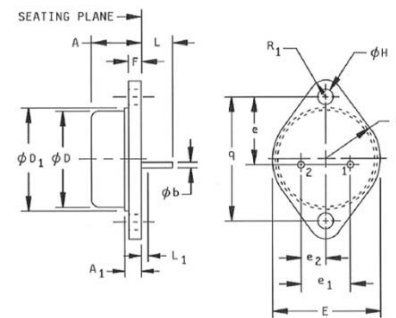
② Guaranteed, if not tested, to the limits specified herein.

MECHANICAL DIMENSIONS



Connections fixed Regulator

INPUT/OUTPUT CONNECTIONS	
PIN	FUNCTION
1	V _{IN}
2	V _{OUT}
Case	GND



Letter	Inches		Millimeters	
	Min	Max	Min	Max
A	0.325	0.352	8.26	8.94
A1	—	0.116	—	2.95
ϕD	0.760	0.775	19.30	19.66
ϕD1	0.880	0.915	22.35	23.24
E	0.980	1.020	24.90	25.91
e	0.660	0.670	16.76	17.02
e1	0.425	0.435	10.80	11.05
e2	0.210	0.220	5.33	5.59
F	0.060	0.070	1.52	1.78
L	0.420	0.480	10.67	12.19
L1	—	0.025	—	0.64
R	0.485	0.510	12.39	12.95
R1	0.168	0.178	4.27	4.52
ϕb	0.038	0.043	0.97	1.09
ϕH	0.151	0.151	3.84	4.09
q	1.177	1.197	29.90	30.40

ORDERING GUIDE		
MODEL	OPERATING TEMPERATURE RANGE	RoHS
LVR-123MC	0 to +70°C	Non-RoHS
LVR-123MC-C	0 to +70°C	RoHS
LVR-123ME	-40 to +100°C	Non-RoHS
LVR-123ME-C	-40 to +100°C	RoHS
LVR-123MM	-55 to +125°C	Non-RoHS
LVR-123MM-C	-55 to +125°C	RoHS
LVR-123-QL ①	-55 to +125°C	Non-RoHS
LVR-123-QL-C	-55 to +125°C	RoHS

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