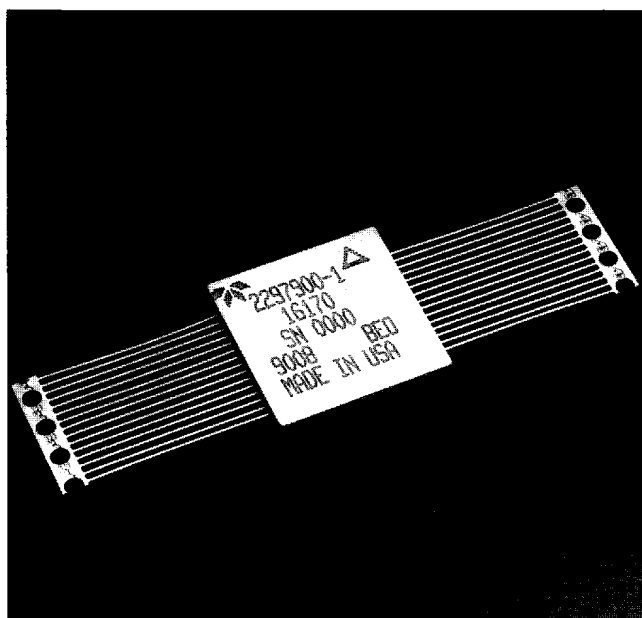




TELEDYNE MICROELECTRONICS



Dual Linear Voltage Regulator P/N 2297900

DESCRIPTION

The 2297900 Power Hybrid contains two completely separate linear voltage regulators; one for positive voltages and one for negative voltages. Each regulator features stable low noise output voltage, foldback current limiting and short circuit protection, over voltage protection and high input voltage ripple rejection. The hybrid can be modified to regulate at ± 5 , ± 10 , ± 12 , ± 15 , ± 18 and ± 24 Vdc or any combination thereof at a nominal current of 1 A. Total power dissipation of 34 watts is permissible. Data sheet characteristics have been performed at ± 15 Vdc at 0.8 A.

Components are housed in hermetically sealed 30-pin butterfly packages and specified for operation over the temperature range of -55°C to 125°C . Certification to MIL-H-38534 and screening to MIL-STD-883, Method 5008 makes this hybrid an excellent choice for Military, Avionic (Class "H") and Space (Class "K") applications.

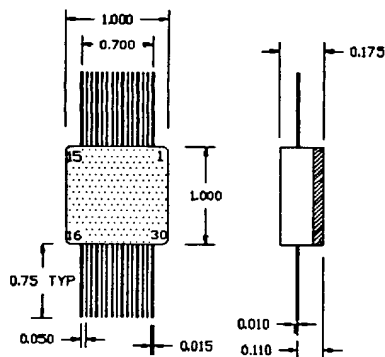
FEATURES

- ± 5 , ± 8 , ± 10 , ± 12 , ± 15 , ± 18 , ± 24 , ± 28 Vdc or any combination of the above.
- Low profile and isolated metal case
- Currents up to 1 A
- Isolated regulators
- Tight regulation over wide input range
- High ripple rejection
- Indefinite short circuit protection with automatic restart
- Overvoltage protection
- Foldback current limiting
- Output voltages, foldback and short circuit currents can be trimmed per customer's specifications

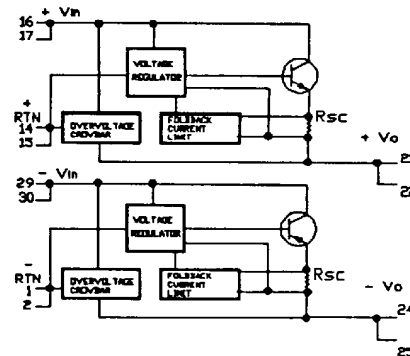
APPLICATIONS

- Local power distribution
- Low noise supply
- Instrumentation systems

PACKAGE DIMENSIONS (inches)



FUNCTIONAL DIAGRAM



ABSOLUTE MAXIMUM RATINGS

P/N 2297900

V _{IN}	Input Voltage	
	Positive Regulator	34 Vdc
	Negative Regulator	-34 Vdc
P _D	Internal Power Dissipation	
	Positive and Negative Regulator (T _C = 125 °C)	34W
T _{SC}	Output Short Circuit Duration	
	Positive and Negative Regulator	Continuous
T _J	Operating Junction Temperature	-55 °C to 150 °C
T _{STG}	Storage Junction Temperature	-65 °C to 150 °C

THERMAL CHARACTERISTICS

R θ_{JC}	Junction to Case of Series Pass Darlington Transistor	0.3 °C/W max
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ELECTRICAL CHARACTERISTICS

T _C	Baseplate	-55 °C to 125 °C
V _{IN}	Positive Regulator	20V to 26V
	Negative Regulator	-20V to -26V
C _{IN}		1uF (tantalum)
C _{OUT}		4.7uF (tantalum)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage (Active trimmed within $\pm 0.2\%$)					
Positive Regulator	$0 \leq I_o \leq 0.4A$	14.70	15.00	15.30	Vdc
Negative Regulator	$0 \leq I_o \leq -0.4A$	-14.70	-15.00	-15.30	Vdc
Line Regulation					
Positive and Negative Regulator	$0 \leq I_o \leq 0.4A$	—	—	0.2	% V _{OUT}
Load Regulation					
Positive and Negative Regulator	$I_o = 0A$ to $I_o = 0.4A$	—	—	0.5	% V _{OUT}
Current Limit/Short Circuit					
Positive Regulator		-0.01	—	0.8/0.1	A
Negative Regulator		-/-0.01	—	-0.8/-0.1	A
Quiescent Supply Current					
Positive and Negative Regulator	$I_o = 0.4A$	—	—	0.06	A
Over Voltage Limit					
Positive Regulator		15.6	—	18	V
Negative Regulator		-15.6	—	-18	V
Ripple Rejection					
Positive Regulator	$0 \leq f \leq 2.4 KHz, I_o = 0.4A$	60	—	—	dB
Negative Regulator	$0 \leq f \leq 2.4 KHz, I_o = -0.4A$	60	—	—	dB
Transient Response					
Positive and Negative Regulator	VV _{IN} = 10V at $I_o = 0.4A$ VI _o = 0.1A at $I_o = 0.2A$	—	—	50	uS
Overshoot					
Positive and Negative Regulator	VV _{IN} = 10V at $I_o = 0.4A$, VI _o = 0.1A at $I_o = 0.2A$	—	—	1	% V _{OUT}

Wherever possible, the information supplied is supported by performance and test data. However, no responsibility is assumed by Teledyne Microelectronics for its use. Teledyne reserves the right to make changes to this device or device specifications.

Contact your local authorized sales representative or the factory direct for any further information on the product.