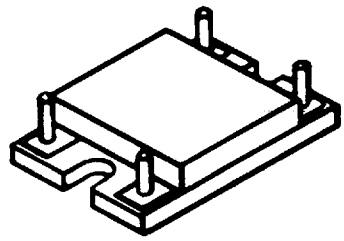
52079
1.5 AMP NEGATIVE VOLTAGE REGULATOR

FEATURES

- Electrically Isolated Package
- Surface Mount Device
- True Hermetic Seal
- Input output differential — 2.1 Volts
- Temperature Coefficient— (-55°C to 125°C) 0.03% $V_{OUT/C}$
- Load Regulation — 0.6% V_{OUT} @ 10 mA to 1.5 Amps
- Ripple Attenuation — 59 db
- Thermal Resistance, junction to case — 3°C/W



GENERAL DESCRIPTION

The 52079 is a 1.5 Amp hybrid four terminal adjustable regulator fabricated using hybrid techniques. A hermetically sealed Beryllium Oxide package is utilized for electrical isolation and low thermal resistance. Outstanding features include full power usage, up to 1.5 Amps of load current, excellent temperature regulation and very low output impedance which insures superior load regulation and performance.

The MII 52079 is a complement to the MII 52084 adjustable positive Regulator. (Fig.5)

A well regulated Negative output range of -2.6 to -30 volts can be obtained by a single potentiometer. No additional external components are required. Reduced size and a unique package makes this Regulator an ideal choice for Microwave Oscillators and Telecommunications.

ABSOLUTE MAXIMUM RATINGS FOR 52079

PARAMETER	SYMBOL	MIN	MAX	UNITS
Input Voltage	V_{IN}		-35	Volts
Power Dissipation	P_O		15(1)	Watts
Thermal Resistance Junction to Case	θ_{JC}		3	°C/Watt
Operating Junction Temperature Range	T_J	-55	+150	°C
Storage Temperature Range	T_{STG}	-65	+150	°C
Lead Temperature, Soldering (11 Seconds Max)	T_{LEAD}		240	°C
Shock			20	G
Vibration	50 G @ 2000 Hz Max			

(1) For operation above 105° C T case, derate @ 333mW/ °C

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SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS (T_C = 25 °C Unless Otherwise Noted)	TEST LIMITS MIN	TEST LIMITS MAX	UNITS
Output Voltage	V_O	$V_{IN} = V_O$ -5V TO V_O -10V I_O = 10mA TO 1.5A	-2.6 (1)	-30	Volts
Input-Output Differential	$V_{IN} - V_O$	T_C = -55 TO 125 °C I_O = 1.0 Amp	2.1		Volts
Output Current	I_O	$V_{IN} = V_O$ - 5V	10mA	1.5	Amps
Line Regulation (1)	$REG_{(LINE)}$	$V_{IN} = V_O$ -5 TO V_O -15V		2.0	% V_O
Load Regulation (1)	$REG_{(LOAD)}$	$V_{IN} = V_O$ -5V I_O = 10mA ΔI_O = 1000 mA		0.6	%V_O
Quiescent Current	I_O	$V_{IN} = V_O$ -5V I_O = 10mA		10	mA
Current Limit	I_{LIM}	$V_{IN} = V_O$ -5V		3.5	Amps
Temperature Coefficient	TC	$V_{IN} = V_O$ -5V T_C = -55 TO 125 °C I_O = 100 mA		0.03	%$V_{O/C}$
Output Noise Voltage	V_N	$V_{IN} = V_O$ -5V T_C = -55 TO 125 °C I_O = 100 mA		10(3)	µV/V RMS
Ripple Attenuation	R_A	V_{IN} = 10V - 5V T_C = -55 TO 125 °C I_O = 1.0 Amp	59 (4)		dB
Control Voltage	V_{CONT}	$V_{IN} = V_O$ -5 TO V_O -10V T_C = -55 TO 125 °C I_O = 10mA	-2.25	-2.6	Volts

1 - For V_0 = 2.6v, the minimum input-output differential is -5.1v
2 - Instantaneous Regulation
3 - BW = 10HZ - 100 KHZ
4 - 1 Vrms, 120 HQ Input Ripple

POWER DERATING

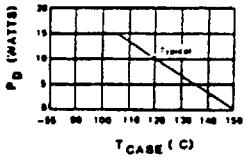
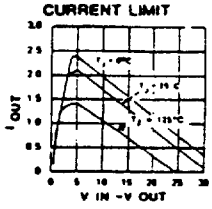


Fig. 1

OPERATIONAL DATA

CURRENT LIMIT



TYPICAL APPLICATIONS

1.5 AMP NEGATIVE ADJUSTABLE VOLTAGE REGULATOR

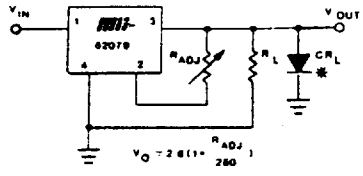


Fig. 3

1.5 AMP NEGATIVE ADJUSTABLE CURRENT REGULATOR

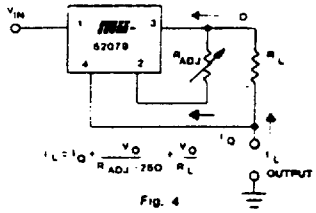
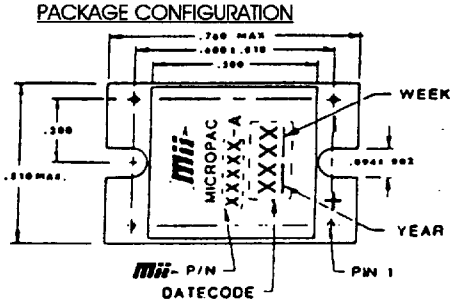
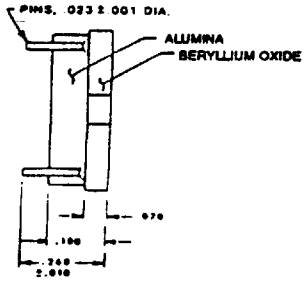


Fig. 4

PACKAGE CONFIGURATION





1.5 AMP DUAL ADJUSTABLE VOLTAGE REGULATOR

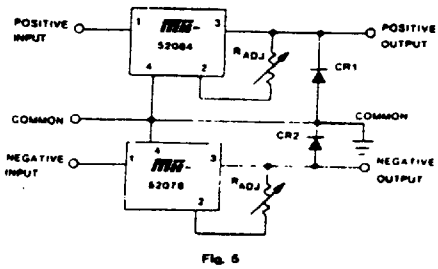


Fig. 5

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