

## **μA79M00 Series**

### *Negative-Voltage Regulators*

This series of fixed-negative-voltage monolithic integrated-circuit voltage regulators is designed to complement the μA78M00 series in a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. Each of these regulators can deliver up to 500 mA of output current. The internal current limiting and thermal shutdown features of these regulators make them essentially immune to overload. In addition to use as fixed-voltage regulators, these devices can be used with external components to obtain adjustable output voltages and currents and also as the power pass element in precision regulators.

---

#### **Rochester Electronics Manufactured Components**

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All recreations are done with the approval of the OCM.

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

#### **Quality Overview**

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
  - Class Q Military
  - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)
  - Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

---

*The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OEM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.*

# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

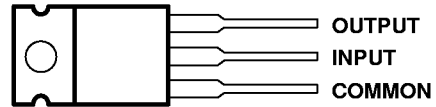
SLVS060C – JUNE 1976 – REVISED JANUARY 1997

- 3-Terminal Regulators
- Output Current Up to 500 mA
- No External Components
- High Power Dissipation Capability
- Internal Short-Circuit Current Limiting
- Output Transistor Safe-Area Compensation
- Direct Replacements for Fairchild μA79M00 Series

## description

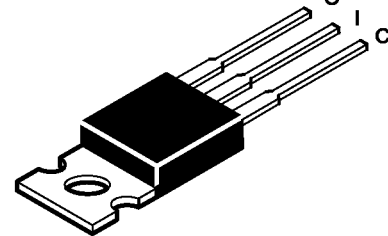
This series of fixed-negative-voltage monolithic integrated-circuit voltage regulators is designed to complement the μA78M00 series in a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. Each of these regulators can deliver up to 500 mA of output current. The internal current limiting and thermal shutdown features of these regulators make them essentially immune to overload. In addition to use as fixed-voltage regulators, these devices can be used with external components to obtain adjustable output voltages and currents and also as the power pass element in precision regulators.

KC PACKAGE  
(TOP VIEW)

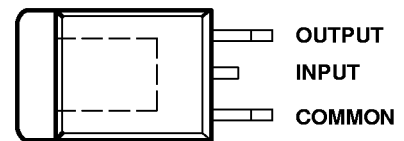


The input terminal is in electrical contact with the mounting base.

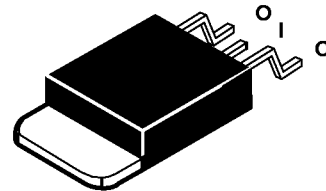
TO-220AB



KTP PACKAGE  
(TOP VIEW)



The input terminal is in electrical contact with the mounting base.



## AVAILABLE OPTIONS

T <sub>A</sub>	V <sub>O(nom)</sub> (V)	PACKAGED DEVICES		CHIP FORM (Y)
		HEAT-SINK MOUNTED (KC)	PLASTIC FLANGE MOUNTED† (KTP)	
0°C to 125°C	-5	μA79M05CKC	μA79M05CKTP	μA79M05Y
	-6	μA79M06CKC	μA79M06CKTP	μA79M06Y
	-8	μA79M08CKC	μA79M08CKTP	μA79M08Y
	-12	μA79M12CKC	μA79M12CKTP	μA79M12Y
	-15	μA79M15CKC	μA79M15CKTP	μA79M15Y
	-20	μA79M20CKC	μA79M20CKTP	μA79M20Y
	-24	μA79M24CKC	μA79M24CKTP	μA79M24Y

† The KTP package is also available in tape and reel.



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

**TEXAS  
INSTRUMENTS**

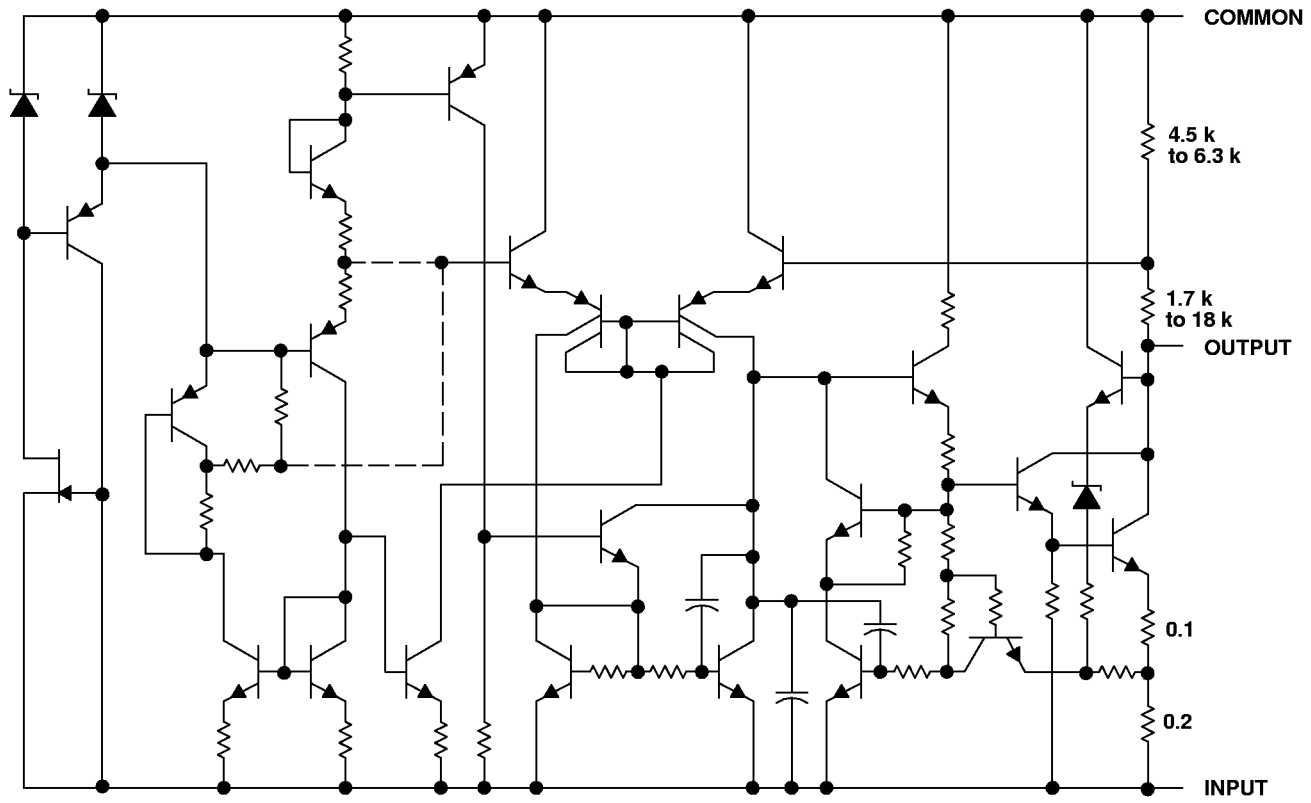
POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

Copyright © 1997, Texas Instruments Incorporated

# $\mu$ A79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

## schematic



Resistor values shown are nominal and in  $\Omega$ .



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

## absolute maximum ratings over operating temperature range (unless otherwise noted)†

		μA79MxxC	UNIT
Input voltage	μA79M20, μA79M24	-40	V
	All others	-35	
Continuous total power dissipation (see Note 1)		See Dissipation Rating Tables 1 and 2	
Operating free-air, T <sub>A</sub> , case, T <sub>C</sub> , or virtual junction, T <sub>J</sub> , temperature range		0 to 150	°C
Storage temperature range, T <sub>stg</sub>		-65 to 150	°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds		260	°C

† Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

NOTE 1: To avoid exceeding the design maximum virtual junction temperature, these ratings should not be exceeded. Due to variations in individual device electrical characteristics and thermal resistance, the built-in thermal overload protection may be activated at power levels slightly above or below the rated dissipation.

DISSIPATION RATING TABLE 1–FREE-AIR TEMPERATURE

PACKAGE	T <sub>A</sub> ≤ 25°C POWER RATING	DERATING FACTOR ABOVE T <sub>A</sub> = 25°C	T <sub>A</sub> = 70°C POWER RATING	T <sub>A</sub> = 125°C POWER RATING
KC	2000 mW	16.0 mW/°C	1280 mW	400 mW
KTP	1800 mW	14.5 mW/°C	1147 mW	350 mW

DISSIPATION RATING TABLE 2–CASE TEMPERATURE

PACKAGE	T <sub>C</sub> ≤ 120°C POWER RATING	DERATING FACTOR ABOVE T <sub>C</sub> = 120°C	T <sub>C</sub> = 125°C POWER RATING
KC	20000 mW	200.0 mW/°C	5000 mW
KTP	18000 mW	181.1 mW/°C	4365 mW

## recommended operating conditions

		MIN	MAX	UNIT
Input voltage, V <sub>I</sub>	μA79M05C	-7	-25	V
	μA79M06C	-8	-25	
	μA79M08C	-10.5	-25	
	μA79M12C	-14.5	30	
	μA79M15C	-17.5	-30	
	μA79M20C	-23	-35	
	μA79M24C	-27	-38	
Output current, I <sub>O</sub>		500		mA
Operating virtual junction temperature, T <sub>J</sub>		0	125	°C



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

**electrical characteristics at specified virtual junction temperature,  $V_I = -10\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION†	μA79M05C			UNIT
		MIN	TYP	MAX	
Output voltage‡	$V_I = -7\text{ V to } -25\text{ V}$ , $I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	-4.8	-5	-5.2	V
		-4.75		-5.25	
Input voltage regulation	$V_I = -7\text{ V to } -25\text{ V}$		7	50	mV
	$V_I = -8\text{ V to } -18\text{ V}$		3	30	
Ripple rejection	$V_I = -8\text{ V to } -18\text{ V}$ , $f = 120\text{ Hz}$	$I_O = 100\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	50		dB
		$I_O = 300\text{ mA}$	54	60	
Output voltage regulation	$I_O = 5\text{ mA to } 500\text{ mA}$		75	100	mV
	$I_O = 5\text{ mA to } 350\text{ mA}$		50		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$		-0.4		mV/°C
Output noise voltage	$f = 10\text{ Hz to } 100\text{ kHz}$		125		μV
Dropout voltage			1.1		V
Bias current			1	2	mA
Bias current change	$V_I = -8\text{ V to } -18\text{ V}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	mA
	$I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.

**electrical characteristics at specified virtual junction temperature,  $V_I = -11\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION†	μA79M06C			UNIT
		MIN	TYP	MAX	
Output voltage‡	$V_I = -8\text{ V to } -25\text{ V}$ , $I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	-5.75	-6	-6.25	V
		-5.7		-6.3	
Input voltage regulation	$V_I = -8\text{ V to } -25\text{ V}$		7	60	mV
	$V_I = -9\text{ V to } -19\text{ V}$		3	40	
Ripple rejection	$V_I = -9\text{ V to } -19\text{ V}$ , $f = 120\text{ Hz}$	$I_O = 100\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	50		dB
		$I_O = 300\text{ mA}$	54	60	
Output voltage regulation	$I_O = 5\text{ mA to } 500\text{ mA}$		80	120	mV
	$I_O = 5\text{ mA to } 350\text{ mA}$		55		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$		-0.4		mV/°C
Output noise voltage	$f = 10\text{ Hz to } 100\text{ kHz}$		150		μV
Dropout voltage			1.1		V
Bias current			1	2	mA
Bias current change	$V_I = -9\text{ V to } -25\text{ V}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	mA
	$I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

electrical characteristics at specified virtual junction temperature,  $V_I = -19\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M08C			UNIT
		MIN	TYP	MAX	
Output voltage‡	$V_I = -10.5\text{ V to }-25\text{ V}$ , $I_O = 5\text{ mA to }350\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$	-7.7	-8	-8.3	V
		-7.6		-8.4	
Input voltage regulation	$V_I = -10.5\text{ V to }-25\text{ V}$		8	80	mV
	$V_I = -11\text{ V to }-21\text{ V}$		4	50	
Ripple rejection	$V_I = -11.5\text{ V to }-21.5\text{ V}$ , $f = 120\text{ Hz}$	$I_O = 100\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$	50		dB
		$I_O = 300\text{ mA}$	54	59	
Output voltage regulation	$I_O = 5\text{ mA to }500\text{ mA}$		90	160	mV
	$I_O = 5\text{ mA to }350\text{ mA}$		60		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$		-0.6		mV/°C
Output noise voltage	$f = 10\text{ Hz to }100\text{ kHz}$		200		μV
Dropout voltage	$I_O = 5\text{ mA}$		1.1		V
Bias current			1	2	mA
Bias current change	$V_I = -10.5\text{ V to }-25\text{ V}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$			0.4	mA
	$I_O = 5\text{ mA to }350\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$			0.4	
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.

electrical characteristics at specified virtual junction temperature,  $V_I = -19\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M12C			UNIT
		MIN	TYP	MAX	
Output voltage‡	$V_I = -14.5\text{ V to }-30\text{ V}$ , $I_O = 5\text{ mA to }350\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$	-11.5	-12	-12.5	V
		-11.4		-12.6	
Input voltage regulation	$V_I = -14.5\text{ V to }-30\text{ V}$		9	80	mV
	$V_I = -15\text{ V to }-25\text{ V}$		5	50	
Ripple rejection	$V_I = -15\text{ V to }-25\text{ V}$ , $f = 120\text{ Hz}$	$I_O = 100\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$	50		dB
		$I_O = 300\text{ mA}$	54	60	
Output voltage regulation	$I_O = 5\text{ mA to }500\text{ mA}$		65	240	mV
	$I_O = 5\text{ mA to }350\text{ mA}$		45		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$		-0.8		mV/°C
Output noise voltage	$f = 10\text{ Hz to }100\text{ kHz}$		300		μV
Dropout voltage			1.1		V
Bias current			1.5	3	mA
Bias current change	$V_I = -14.5\text{ V to }-30\text{ V}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$			0.4	mA
	$I_O = 5\text{ mA to }350\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$			0.4	
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

**electrical characteristics at specified virtual junction temperature,  $V_I = -23$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITIONST	μA79M15C			UNIT	
		MIN	TYP	MAX		
Output voltage‡	$V_I = -17.5$ V to $-30$ V, $I_O = 5$ mA to 350 mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$	-14.4	-15	-15.6	V	
	$V_I = -17.5$ V to $-30$ V	-14.25		-15.75		
Input voltage regulation	$V_I = -17.5$ V to $-30$ V		9	80	mV	
	$V_I = -18$ V to $-28$ V		7	50		
Ripple rejection	$V_I = -18.5$ V to $-28.5$ V, $f = 120$ Hz $I_O = 100$ mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$ $I_O = 300$ mA	50			dB	
		54	59			
Output voltage regulation	$I_O = 5$ mA to 500 mA	65			mV	
	$I_O = 5$ mA to 350 mA	45				
Temperature coefficient of output voltage	$I_O = 5$ mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$	-1			mV/°C	
Output noise voltage	$f = 10$ Hz to 100 kHz	375			μV	
Dropout voltage	$I_O = 5$ mA	1.1			V	
Bias current		1.5			3	mA
Bias current change	$V_I = -17.5$ V to $-30$ V, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$				0.4	mA
	$I_O = 5$ mA to 350 mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$				0.4	
Short-circuit output current	$V_I = -30$ V	140			mA	
Peak output current		0.65			A	

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.

**electrical characteristics at specified virtual junction temperature,  $V_I = -29$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITIONST	μA79M20C			UNIT	
		MIN	TYP	MAX		
Output voltage‡	$V_I = -23$ V to $-35$ V, $I_O = 5$ mA to 350 mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$	-19.2	-20	-20.8	V	
	$V_I = -23$ V to $-35$ V	-19		-21		
Input voltage regulation	$V_I = -23$ V to $-35$ V		12	80	mV	
	$V_I = -24$ V to $-34$ V		10	70		
Ripple rejection	$V_I = -24$ V to $-34$ V, $f = 120$ Hz $I_O = 100$ mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$ $I_O = 300$ mA	50			dB	
		54	58			
Output voltage regulation	$I_O = 5$ mA to 500 mA	75			mV	
	$I_O = 5$ mA to 350 mA	50				
Temperature coefficient of output voltage	$I_O = 5$ mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$	-1			mV/°C	
Output noise voltage	$f = 10$ Hz to 100 kHz	500			μV	
Dropout voltage		1.1			V	
Bias current		1.5			3.5	mA
Bias current change	$V_I = -23$ V to $-35$ V, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$				0.4	mA
	$I_O = 5$ mA to 350 mA, $T_J = 0^\circ\text{C}$ to $125^\circ\text{C}$				0.4	
Short-circuit output current	$V_I = -30$ V	140			mA	
Peak output current		0.65			A	

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.





# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

electrical characteristics at specified virtual junction temperature,  $V_I = -33\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)

PARAMETER	TEST CONDITION <sup>†</sup>	μA79M24C			UNIT
		MIN	TYP	MAX	
Output voltage <sup>‡</sup>	$V_I = -27\text{ V to } -38\text{ V}$ , $I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	-23	-24	-25	V
		-22.8		-25.2	
Input voltage regulation	$V_I = -27\text{ V to } -38\text{ V}$		12	80	mV
	$V_I = -28\text{ V to } -38\text{ V}$		12	70	
Ripple rejection	$V_I = -28\text{ V to } -38\text{ V}$ , $f = 120\text{ Hz}$	$I_O = 100\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$	50		dB
		$I_O = 300\text{ mA}$	54	58	
Output voltage regulation	$I_O = 5\text{ mA to } 500\text{ mA}$		75	300	mV
	$I_O = 5\text{ mA to } 350\text{ mA}$		50		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$		-1		mV/°C
Output noise voltage	$f = 10\text{ Hz to } 100\text{ kHz}$		600		μV
Dropout voltage			1.1		V
Bias current			1.5	3.5	mA
Bias current change	$V_I = -27\text{ V to } -38\text{ V}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	mA
	$I_O = 5\text{ mA to } 350\text{ mA}$ , $T_J = 0^\circ\text{C to } 125^\circ\text{C}$			0.4	
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

<sup>†</sup> Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

<sup>‡</sup> This specification applies only for dc power dissipation permitted by absolute maximum ratings.

# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

**electrical characteristics at specified virtual junction temperature,  $V_I = -10$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITIONS†	μA79M05Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			-5		V
Input voltage regulation	$V_I = -7$ V to $-25$ V		7		mV
	$V_I = -8$ V to $-18$ V		3		
Ripple rejection	$V_I = -8$ V to $-18$ V, $I_O = 300$ mA, $f = 120$ Hz		60		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		75		mV
	$I_O = 5$ mA to 350 mA		50		
Temperature coefficient of output voltage	$I_O = 5$ mA		-0.4		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		125		μV
Dropout voltage			1.1		V
Bias current			1		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.

**electrical characteristics at specified virtual junction temperature,  $V_I = -11$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITIONS†	μA79M06Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			-6		V
Input voltage regulation	$V_I = -8$ V to $-25$ V		7		mV
	$V_I = -9$ V to $-19$ V		3		
Ripple rejection	$V_I = -9$ V to $-19$ V, $I_O = 300$ mA, $f = 120$ Hz		60		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		80		mV
	$I_O = 5$ mA to 350 mA		55		
Temperature coefficient of output voltage	$I_O = 5$ mA		-0.4		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		150		μV
Dropout voltage			1.1		V
Bias current			1		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

**electrical characteristics at specified virtual junction temperature,  $V_I = -19$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION <sup>†</sup>	μA79M08Y			UNIT
		MIN	TYP	MAX	
Output voltage <sup>‡</sup>			-8		V
Input voltage regulation	$V_I = -10.5$ V to $-25$ V		8		mV
	$V_I = -11$ V to $-21$ V		4		
Ripple rejection	$V_I = -11.5$ V to $-21.5$ V, $I_O = 300$ mA, $f = 120$ Hz		59		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		90		mV
	$I_O = 5$ mA to 350 mA		60		
Temperature coefficient of output voltage	$I_O = 5$ mA		-0.6		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		200		μV
Dropout voltage	$I_O = 5$ mA		1.1		V
Bias current			1		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

<sup>†</sup> Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

<sup>‡</sup> This specification applies only for dc power dissipation permitted by absolute maximum ratings.

**electrical characteristics at specified virtual junction temperature,  $V_I = -19$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION <sup>†</sup>	μA79M12Y			UNIT
		MIN	TYP	MAX	
Output voltage <sup>‡</sup>			-12		V
Input voltage regulation	$V_I = -14.5$ V to $-30$ V		9		mV
	$V_I = -15$ V to $-25$ V		5		
Ripple rejection	$V_I = -15$ V to $-25$ V, $I_O = 300$ mA, $f = 120$ Hz		60		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		65		mV
	$I_O = 5$ mA to 350 mA		45		
Temperature coefficient of output voltage	$I_O = 5$ mA		-0.8		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		300		μV
Dropout voltage			1.1		V
Bias current			1.5		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

<sup>†</sup> Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

<sup>‡</sup> This specification applies only for dc power dissipation permitted by absolute maximum ratings.



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

**electrical characteristics at specified virtual junction temperature,  $V_I = -23$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION†	μA79M15Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			-15		V
Input voltage regulation	$V_I = -17.5$ V to $-30$ V		9		mV
	$V_I = -18$ V to $-28$ V		7		
Ripple rejection	$V_I = -18.5$ V to $-28.5$ V, $I_O = 300$ mA, $f = 120$ Hz		59		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		65		mV
	$I_O = 5$ mA to 350 mA		45		
Temperature coefficient of output voltage	$I_O = 5$ mA		-1		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		375		μV
Dropout voltage	$I_O = 5$ mA		1.1		V
Bias current			1.5		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.

**electrical characteristics at specified virtual junction temperature,  $V_I = -29$  V,  $I_O = 350$  mA,  $T_J = 25^\circ\text{C}$  (unless otherwise noted)**

PARAMETER	TEST CONDITION†	μA79M20Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			-20		V
Input voltage regulation	$V_I = -23$ V to $-35$ V		12		mV
	$V_I = -24$ V to $-34$ V		10		
Ripple rejection	$V_I = -24$ V to $-34$ V, $I_O = 300$ mA, $f = 120$ Hz		58		dB
Output voltage regulation	$I_O = 5$ mA to 500 mA		75		mV
	$I_O = 5$ mA to 350 mA		50		
Temperature coefficient of output voltage	$I_O = 5$ mA		-1		mV/°C
Output noise voltage	$f = 10$ Hz to 100 kHz		500		μV
Dropout voltage			1.1		V
Bias current			1.5		mA
Short-circuit output current	$V_I = -30$ V		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.



# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

electrical characteristics at specified virtual junction temperature,  $V_I = -33\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = 25^\circ\text{C}$   
(unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M24Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			-24		V
Input voltage regulation	$V_I = -27\text{ V to }-38\text{ V}$		12		mV
	$V_I = -28\text{ V to }-38\text{ V}$		12		
Ripple rejection	$V_I = -28\text{ V to }-38\text{ V}$ , $I_O = 300\text{ mA}$ , $f = 120\text{ Hz}$		58		dB
Output voltage regulation	$I_O = 5\text{ mA to }500\text{ mA}$		75		mV
	$I_O = 5\text{ mA to }350\text{ mA}$		50		
Temperature coefficient of output voltage	$I_O = 5\text{ mA}$ , $T_J = 0^\circ\text{C to }125^\circ\text{C}$		-1		mV/°C
Output noise voltage	$f = 10\text{ Hz to }100\text{ kHz}$		600		μV
Dropout voltage			1.1		V
Bias current			1.5		mA
Short-circuit output current	$V_I = -30\text{ V}$		140		mA
Peak output current			0.65		A

† Pulse-testing techniques maintain  $T_J$  as close to  $T_A$  as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 2-μF capacitor across the input and a 1-μF capacitor across the output.

‡ This specification applies only for dc power dissipation permitted by absolute maximum ratings.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265



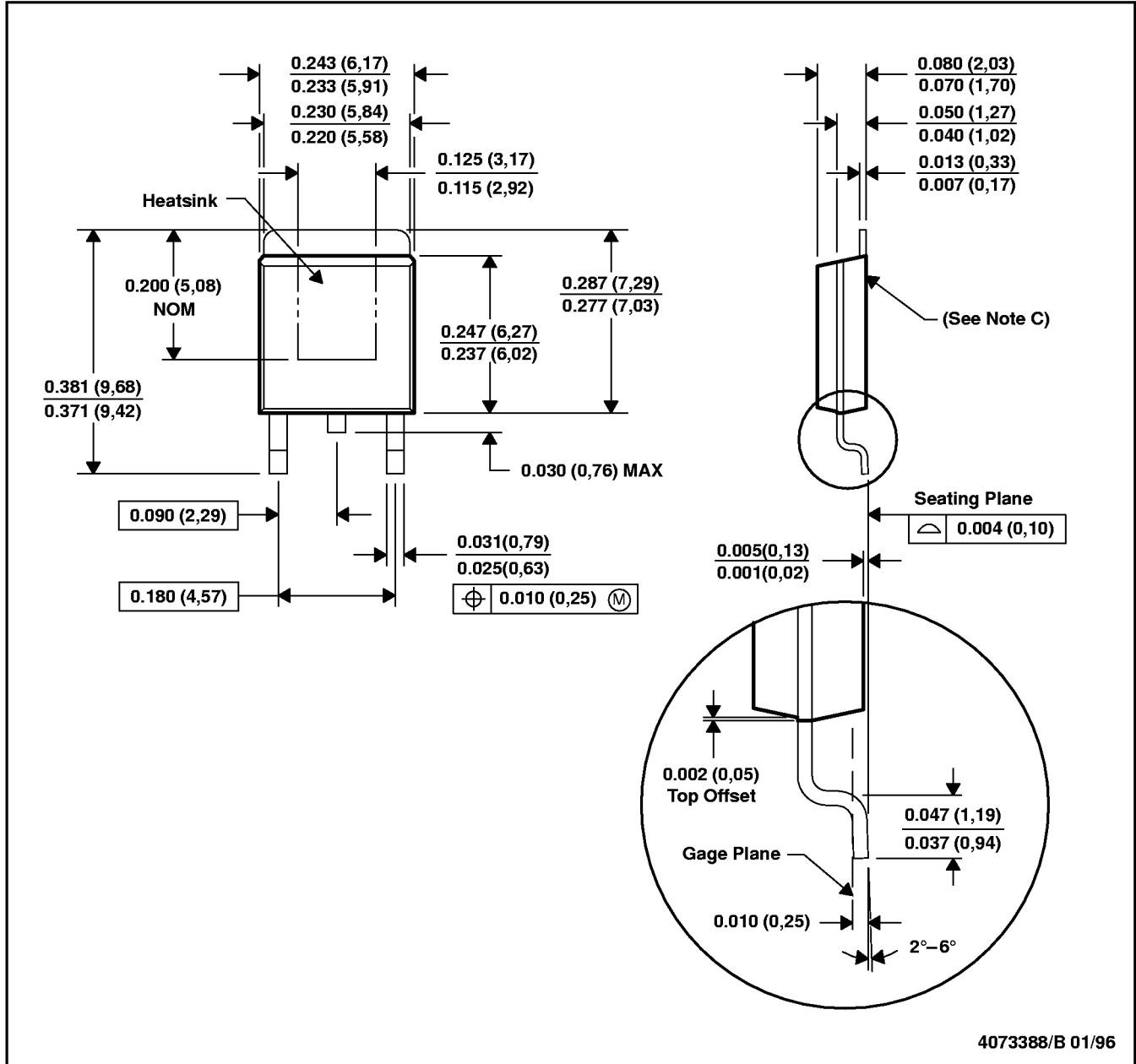
# μA79M00 SERIES NEGATIVE-VOLTAGE REGULATORS

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

## MECHANICAL INFORMATION

KTP (R-PSFM-T3)

PLASTIC FLANGE-MOUNT PACKAGE



NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. The heatsink area is approximately 28K sq mils.