Rochester Electronics

REI Datasheet

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

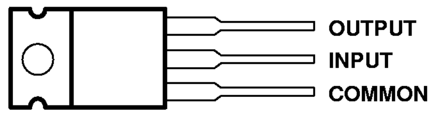
- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
    - Class Q Military
    - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)
    - Rochester is a critical supplier to DLA and meets all industry and DLA standards.

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.

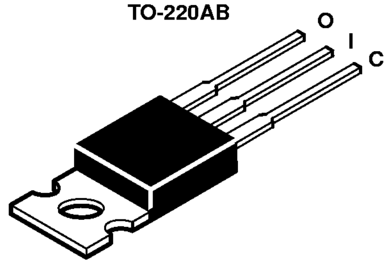
- **3-Terminal Regulators**
- **Output Current Up to 500 mA**
- **No External Components**
- **High Power Dissipation Capability**
- **Internal Short-Circuit Current Limiting**
- **Output Transistor Safe-Area Compensation**
- **Direct Replacements for Fairchild µA79M00 Series**

KC PACKAGE
(TOP VIEW)

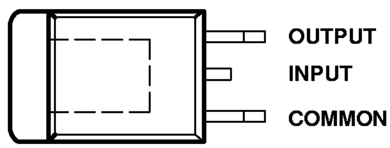


The input terminal is in electrical contact with the mounting base.

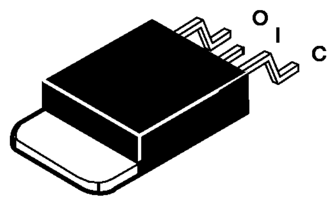
TO-220AB



KTP PACKAGE
(TOP VIEW)



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



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.

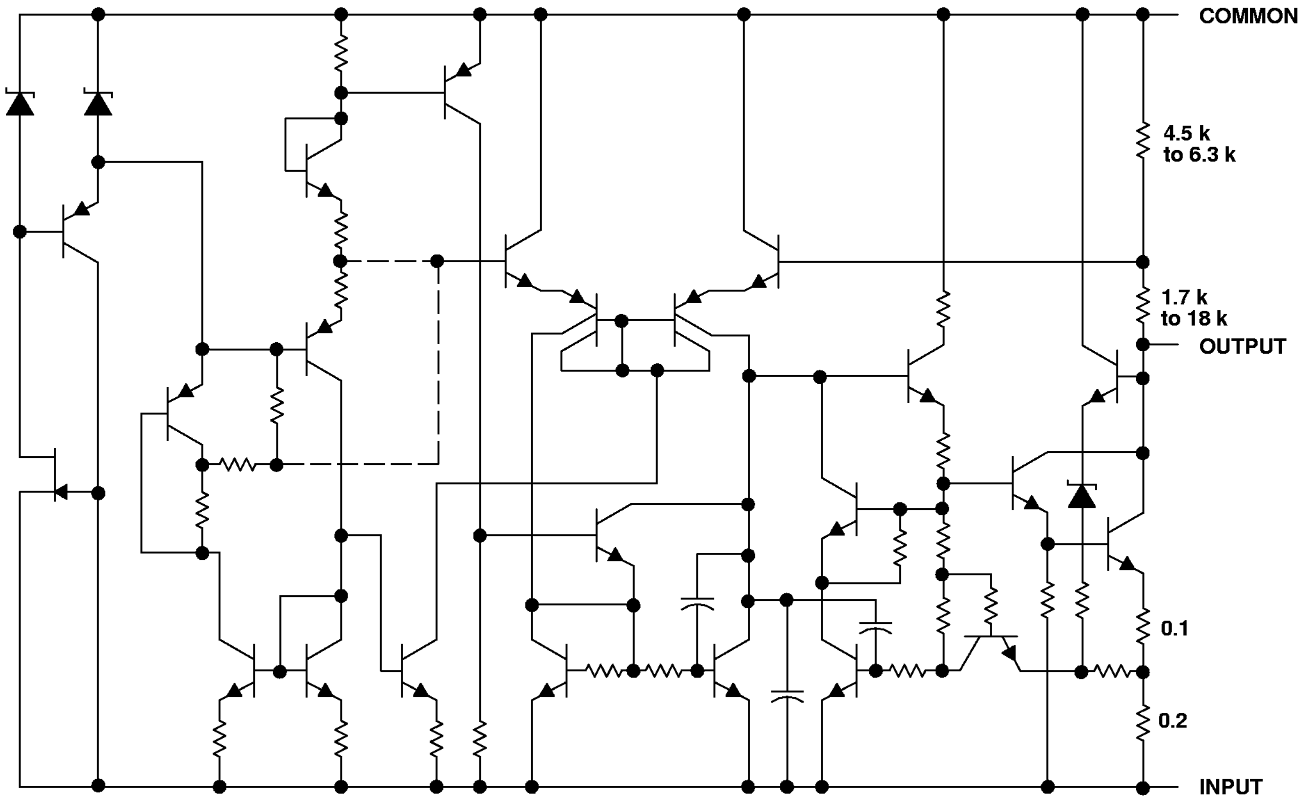
AVAILABLE OPTIONS

T_A	V_O(nom) (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.

SLVS060C – JUNE 1976 – REVISED JANUARY 1997

schematic

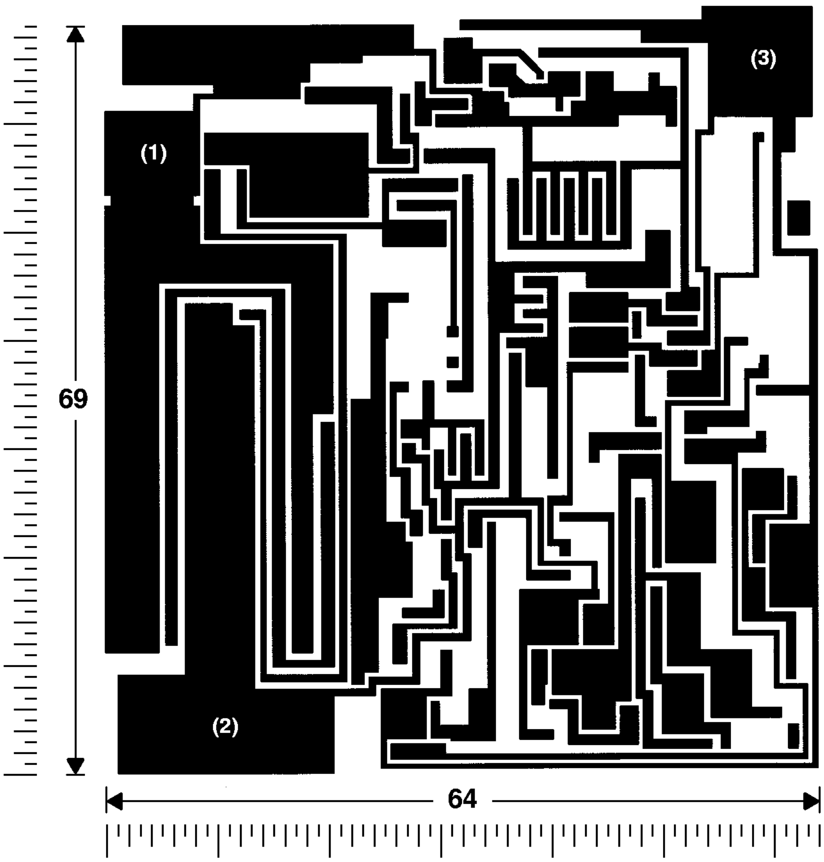


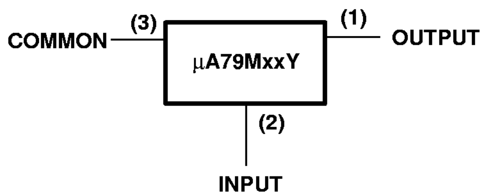
Resistor values shown are nominal and in Ω.

µA79MxxY chip information

This chip, when properly assembled, displays characteristics similar to the µA79MxxC. Thermal compression or ultrasonic bonding can be used on the doped aluminum bonding pads. The chip can be mounted with conductive epoxy or a gold-silicon preform.

BONDING PAD ASSIGNMENTS





CHIP THICKNESS: 11 MILS TYPICAL
BONDING PADS: 7 X 7 MILS MINIMUM
$T_J$max = 150°C
TOLERANCES ARE ±10%
ALL DIMENSIONS ARE IN MILS

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_A, case, T_C, or virtual junction, T_J, temperature range		0 to 150	°C
Storage temperature range, T_{stg}		−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	$T_A \le 25°C$ POWER RATING	DERATING FACTOR ABOVE $T_A = 25°C$	$T_A = 70°C$ POWER RATING	$T_A = 125°C$ 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	$T_C \le 120°C$ POWER RATING	DERATING FACTOR ABOVE $T_C = 120°C$	$T_C = 125°C$ 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_I	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_O			500	mA
Operating virtual junction temperature, T_J		0	125	°C

electrical characteristics at specified virtual junction temperature, $V_I = -10$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		µA79M05C MIN	µA79M05C TYP	µA79M05C MAX	UNIT
Output voltage‡			−4.8	−5	−5.2	V
	$V_I = -7$ V to −25 V, T_J = 0°C to 125°C	I_O = 5 mA to 350 mA,	−4.75		−5.25	
Input voltage regulation	$V_I = -7$ V to −25 V			7	50	mV
	$V_I = -8$ V to −18 V			3	30	
Ripple rejection	$V_I = -8$ V to −18 V, f = 120 Hz	I_O = 100 mA, T_J = 0°C to 125°C	50			dB
		I_O = 300 mA	54	60		
Output voltage regulation	I_O = 5 mA to 500 mA			75	100	mV
	I_O = 5 mA to 350 mA			50		
Temperature coefficient of output voltage	I_O = 5 mA,	T_J = 0°C to 125°C		−0.4		mV/°C
Output noise voltage	f = 10 Hz to 100 kHz			125		µV
Dropout voltage				1.1		V
Bias current				1	2	mA
Bias current change	$V_I = -8$ V to −18 V,	T_J = 0°C to 125°C			0.4	mA
	I_O = 5 mA to 350 mA,	T_J = 0°C to 125°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, $V_I = -11$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		µA79M06C MIN	µA79M06C TYP	µA79M06C MAX	UNIT
Output voltage‡			−5.75	−6	−6.25	V
	$V_I = -8$ V to −25 V, T_J = 0°C to 125°C	I_O = 5 mA to 350 mA,	−5.7		−6.3	
Input voltage regulation	$V_I = -8$ V to −25 V			7	60	mV
	$V_I = -9$ V to −19 V			3	40	
Ripple rejection	$V_I = -9$ V to −19 V, f = 120 Hz	I_O = 100 mA, T_J = 0°C to 125°C	50			dB
		I_O = 300 mA	54	60		
Output voltage regulation	I_O = 5 mA to 500 mA			80	120	mV
	I_O = 5 mA to 350 mA			55		
Temperature coefficient of output voltage	I_O = 5 mA,	T_J = 0°C to 125°C		−0.4		mV/°C
Output noise voltage	f = 10 Hz to 100 kHz			150		µV
Dropout voltage				1.1		V
Bias current				1	2	mA
Bias current change	$V_I = -9$ V to −25 V,	T_J = 0°C to 125°C			0.4	mA
	I_O = 5 mA to 350 mA,	T_J = 0°C to 125°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, $V_I = -19$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		μA79M08C MIN	μA79M08C TYP	μA79M08C MAX	UNIT
Output voltage‡			–7.7	–8	–8.3	V
	$V_I = -10.5$ V to –25 V, $T_J = 0°C$ to 125°C	$I_O = 5$ mA to 350 mA,	–7.6		–8.4	
Input voltage regulation	$V_I = -10.5$ V to –25 V			8	80	mV
	$V_I = -11$ V to –21 V			4	50	
Ripple rejection	$V_I = -11.5$ V to –21.5 V, f = 120 Hz	$I_O = 100$ mA, $T_J = 0°C$ to 125°C	50			dB
		$I_O = 300$ mA	54	59		
Output voltage regulation	$I_O = 5$ mA to 500 mA			90	160	mV
	$I_O = 5$ mA to 350 mA			60		
Temperature coefficient of output voltage	$I_O = 5$ mA,	$T_J = 0°C$ to 125°C		–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	2	mA
Bias current change	$V_I = -10.5$ V to –25 V,	$T_J = 0°C$ to 125°C			0.4	mA
	$I_O = 5$ mA to 350 mA,	$T_J = 0°C$ to 125°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, $V_I = -19$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		μA79M12C MIN	μA79M12C TYP	μA79M12C MAX	UNIT
Output voltage‡			–11.5	–12	–12.5	V
	$V_I = -14.5$ V to –30 V, $T_J = 0°C$ to 125°C	$I_O = 5$ mA to 350 mA,	–11.4		–12.6	
Input voltage regulation	$V_I = -14.5$ V to –30 V			9	80	mV
	$V_I = -15$ V to –25 V			5	50	
Ripple rejection	$V_I = -15$V to –25 V, f = 120 Hz	$I_O = 100$ mA, $T_J = 0°C$ to 125°C	50			dB
		$I_O = 300$ mA	54	60		
Output voltage regulation	$I_O = 5$ mA to 500 mA			65	240	mV
	$I_O = 5$ mA to 350 mA			45		
Temperature coefficient of output voltage	$I_O = 5$ mA,	$T_J = 0°C$ to 125°C		–0.8		mV/°C
Output noise voltage	f = 10 Hz to 100 kHz			300		μV
Dropout voltage				1.1		V
Bias current				1.5	3	mA
Bias current change	$V_I = -14.5$ V to –30 V,	$T_J = 0°C$ to 125°C			0.4	mA
	$I_O = 5$ mA to 350 mA,	$T_J = 0°C$ to 125°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, $V_I = -23$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		µA79M15C MIN	µA79M15C TYP	µA79M15C MAX	UNIT
Output voltage‡			−14.4	−15	−15.6	V
	$V_I = -17.5$ V to −30 V, $T_J = 0°C$ to 125°C	$I_O = 5$ mA to 350 mA,	−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, $T_J = 0°C$ to 125°C	50			dB
		$I_O = 300$ mA	54	59		
Output voltage regulation	$I_O = 5$ mA to 500 mA			65	240	mV
	$I_O = 5$ mA to 350 mA			45		
Temperature coefficient of output voltage	$I_O = 5$ mA,	$T_J = 0°C$ to 125°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,	$T_J = 0°C$ to 125°C			0.4	mA
	$I_O = 5$ mA to 350 mA,	$T_J = 0°C$ to 125°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, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		µA79M20C MIN	µA79M20C TYP	µA79M20C MAX	UNIT
Output voltage‡			−19.2	−20	−20.8	V
	$V_I = -23$ V to −35 V, $T_J = 0°C$ to 125°C	$I_O = 5$ mA to 350 mA,	−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, $T_J = 0°C$ to 125°C	50			dB
		$I_O = 300$ mA	54	58		
Output voltage regulation	$I_O = 5$ mA to 500 mA			75	300	mV
	$I_O = 5$ mA to 350 mA			50		
Temperature coefficient of output voltage	$I_O = 5$ mA,	$T_J = 0°C$ to 125°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,	$T_J = 0°C$ to 125°C			0.4	mA
	$I_O = 5$ mA to 350 mA,	$T_J = 0°C$ to 125°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 = –33 V, I_O = 350 mA, T_J = 25°C (unless otherwise noted)

PARAMETER	TEST CONDITIONS†		µA79M24C MIN	µA79M24C TYP	µA79M24C MAX	UNIT
Output voltage‡			–23	–24	–25	V
	V_I = –27 V to –38 V, T_J = 0°C to 125°C	I_O = 5 mA to 350 mA,	–22.8		–25.2	
Input voltage regulation	V_I = –27 V to –38 V			12	80	mV
	V_I = –28 V to –38 V			12	70	
Ripple rejection	V_I = –28 V to –38 V, f = 120 Hz	I_O = 100 mA, T_J = 0°C to 125°C	50			dB
		I_O = 300 mA	54	58		
Output voltage regulation	I_O = 5 mA to 500 mA			75	300	mV
	I_O = 5 mA to 350 mA			50		
Temperature coefficient of output voltage	I_O = 5 mA,	T_J = 0°C to 125°C		–1		mV/°C
Output noise voltage	f = 10 Hz to 100 kHz			600		µV
Dropout voltage				1.1		V
Bias current				1.5	3.5	mA
Bias current change	V_I = –27 V to –38 V,	T_J = 0°C to 125°C			0.4	mA
	I_O = 5 mA to 350 mA,	T_J = 0°C to 125°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, $V_I = -10$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M05Y MIN	μA79M05Y TYP	μA79M05Y MAX	UNIT
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, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M06Y MIN	μA79M06Y TYP	μA79M06Y MAX	UNIT
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.

electrical characteristics at specified virtual junction temperature, $V_I = -19$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	µA79M08Y MIN	µA79M08Y TYP	µA79M08Y MAX	UNIT
Output voltage‡			−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

† 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, $V_I = -19$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	µA79M12Y MIN	µA79M12Y TYP	µA79M12Y MAX	UNIT
Output voltage‡			−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

† 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, $V_I = -23$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	µA79M15Y MIN	µA79M15Y TYP	µA79M15Y MAX	UNIT
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, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	µA79M20Y MIN	µA79M20Y TYP	µA79M20Y MAX	UNIT
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.

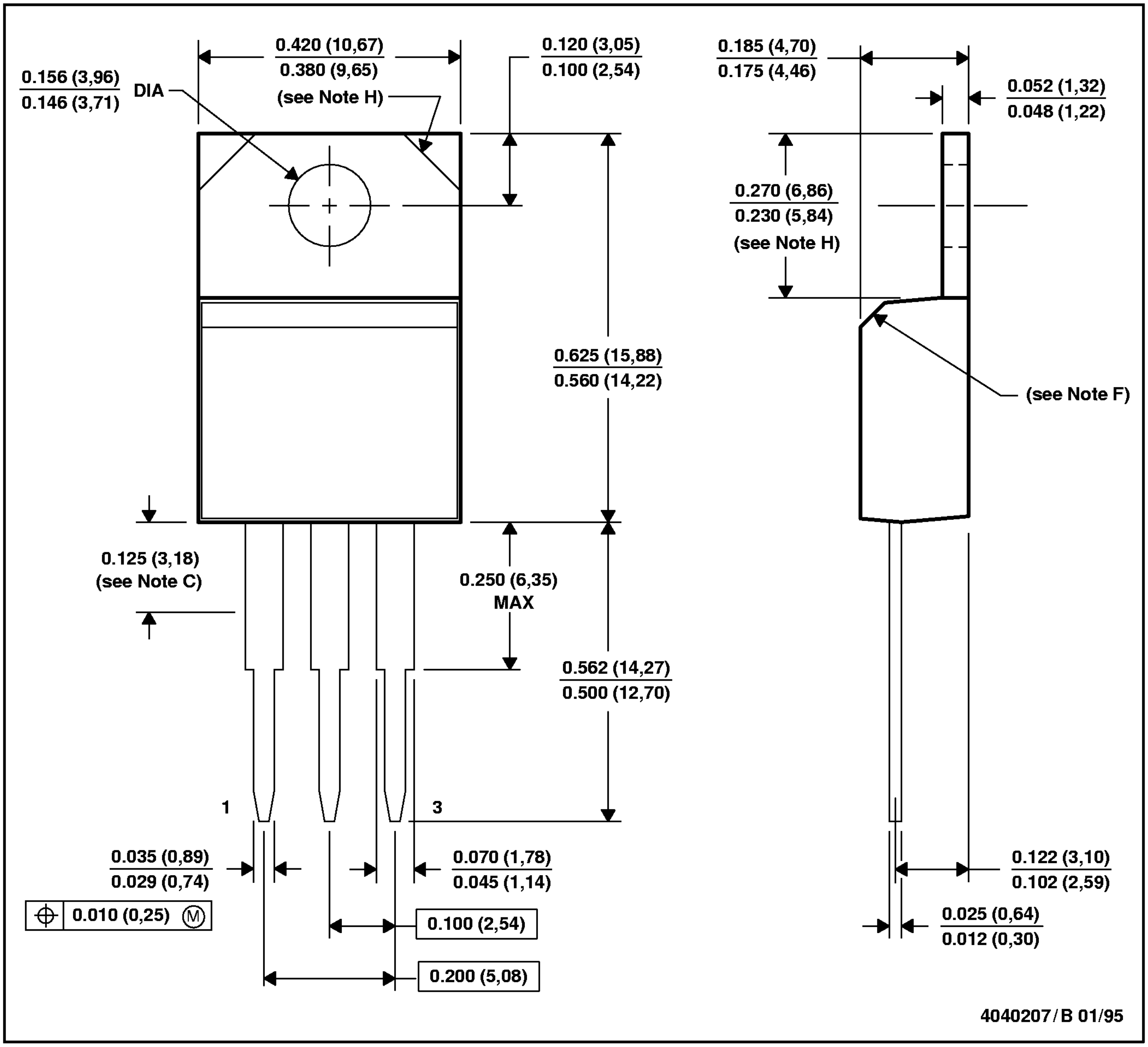
electrical characteristics at specified virtual junction temperature, $V_I = -33$ V, $I_O = 350$ mA, $T_J = 25°C$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	μA79M24Y			UNIT
		MIN	TYP	MAX	
Output voltage‡			−24		V
Input voltage regulation	$V_I = -27$ V to −38 V		12		mV
	$V_I = -28$ V to −38 V		12		
Ripple rejection	$V_I = -28$ V to −38 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, $T_J = 0°C$ to 125°C		−1		mV/°C
Output noise voltage	f = 10 Hz to 100 kHz		600		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.

MECHANICAL INFORMATION

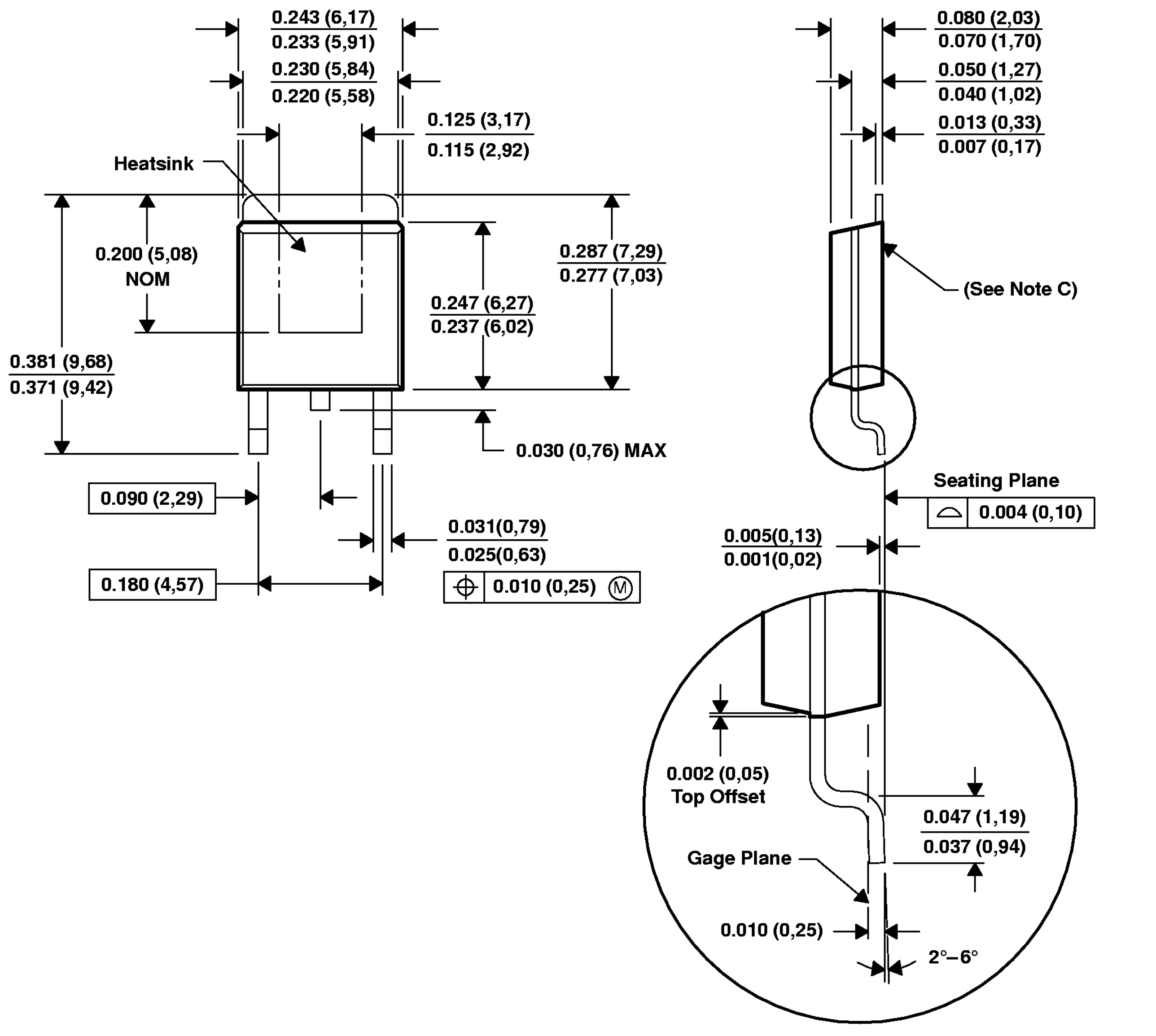
KC (R-PSFM-T3) **PLASTIC FLANGE-MOUNT PACKAGE**



NOTES:
- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. Lead dimensions are not controlled within this area.
- D. All lead dimensions apply before solder dip.
- E. The center lead is in electrical contact with the mounting tab.
- F. The chamfer is optional.
- G. Falls within JEDEC TO-220AB
- H. Tab contour optional within these dimensions

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.