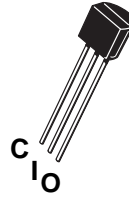


- 3-Terminal Regulators
- Output Current Up to 100 mA
- No External Components Required
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacement for Motorola MC79L15 Series

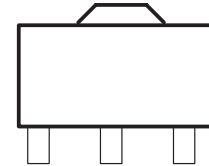


TO-92  
79L15ACZ



### description

This series of fixed negative-voltage integrated-circuit voltage regulators is designed for a wide range of applications. These include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used to control series pass elements to make high-current voltage-regulator circuits. One of these regulators can deliver up to 100 mA of output current. The internal current-limiting and thermal-shutdown features make them essentially immune to overload. When used as a replacement for a zener-diode and resistor combination, these devices can provide effective improvement in output impedance of two orders of magnitude, with lower bias current.



SOT-89  
79L15CPK COMMON INPUT OUTPUT

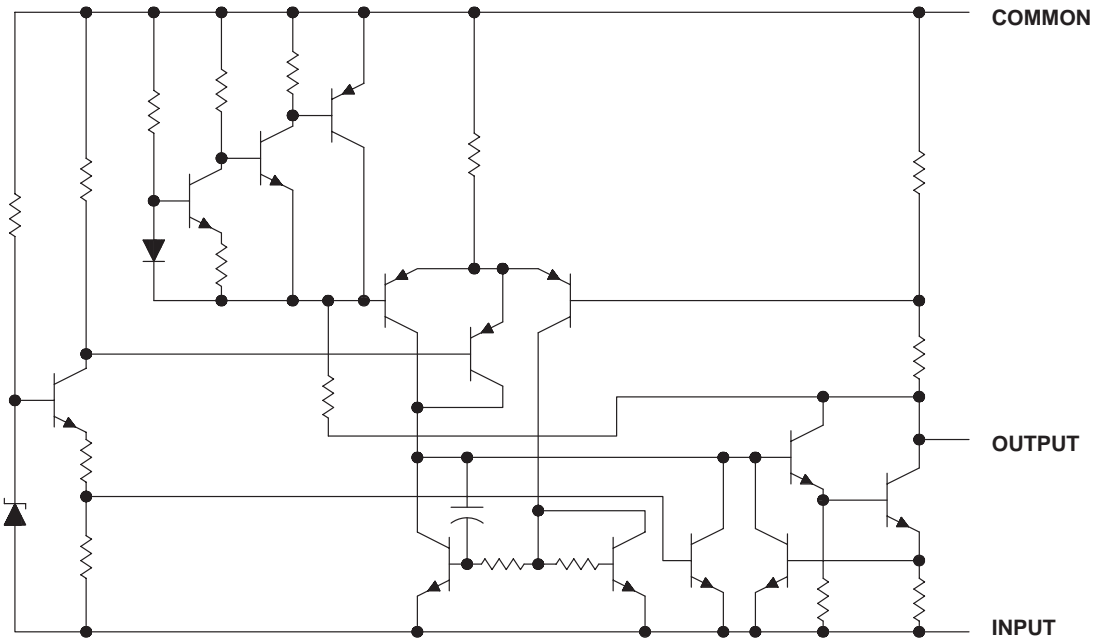
### electrical characteristics at specified virtual junction temperature, $V_I = -23V$ , $I_O = 40mA$ otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	79L15			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	-14.4	-15	-15.6	V
	$I_O = 1mA$ to 40mA, $V_I = -17.5V$ to -30V	Full range	-11.25		-15.75	
		Full range	-11.25		-15.75	
Input voltage regulation	$V_I = -17.5V$ to -30V	25°C		65	300	mV
	$V_I = -20V$ to -30V			50	250	
Ripple rejection	$V_I = -18.5V$ to -28.5V, $f = 120Hz$	25°C	34	39		dB
Output voltage regulation	$I_O = 1 mA$ to 100 mA	25°C		25	150	mV
	$I_O = 1 mA$ to 40 mA			15	75	
Output noise voltage	$f = 10 Hz$ to 100 kHz	25°C		90		µV
Dropout voltage		25°C		1.7		V
Bias current		25°C			6.5	mA
		125°C			6	
Bias current change	$V_I = -20V$ to -30V $I_O = 1 mA$ to 40 mA	Full range			1.5	mA
					0.1	

‡ 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 0.33-µF capacitor across the input and a 0.1-µF capacitor across the output. Full range for the 79L15 is  $T_J = 0°C$  to  $70°C$

# WS 79L15

## equivalent schematic



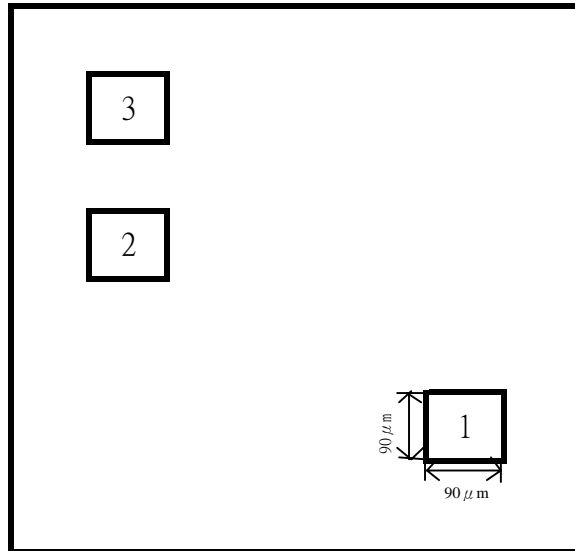
## absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†

- Input voltage: 79L15 ..... -35V
- Operating free-air, case, or virtual junction temperature.....150 °C
- Lead temperature 1.6 mm (1/16 inch) from case for 10 seconds ..... 260°C
- Storage temperature range,  $T_{stg}$  ..... -65°C to 150°C

## recommended operating conditions

79L15	MIN	MAX	UNIT
Input voltage, $V_I$	-17.5	-30	V
Output current, $I_O$		100	mA
Operating virtual junction temperature, $T_J$	0	70	°C

Pad Location WS79L00



chip size 1.15 x 1.35mm

**Pad Location Coordinates**

Pad N	Pad Name	X( $\mu$ m)	Y( $\mu$ m)
1	Ground	1150	115
2	Input	115	690
3	Output	115	950