



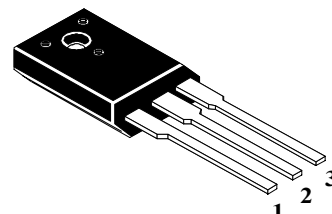
Quality System for producing discrete semiconductor devices and integrated circuits conforms to the requirements of ISO 9002-96

<h2>78F12C</h2>	<h3>THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC</h3>
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#### FEATURES:

- OUTPUT CURRENT IN EXCESS OF 1A;
- NO EXTERNAL COMPONENTS REQUIRED;
- INTERNAL SHORT CIRCUIT CURRENT LIMITING;
- INTERNAL THERMAL OVERLOAD PROTECTION;
- OUTPUT TRANSISTOR SAFE-AREA COMPENSATION;
- OUTPUT VOLTAGE OFFERED IN 4% TOLERANCE

**TO-126**



Pin #	Symbol	Function
1	IN	Input
2	GND	Ground
3	OUT	Output

#### ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

Characteristic	Symbol	Unit	Value
Input Voltage	V <sub>in</sub>	V	35
Maximum Dissipated Power (with heat sink)	P <sub>tot(max)</sub>	W	12
Maximum Dissipated Power (without heat sink)	P <sub>tot(max)</sub>	W	1.25
Thermal Resistance Junction to Case	θ <sub>jC</sub>	°C/W	7.5
Thermal Resistance, Junction to Air	θ <sub>jA</sub>	°C/W	100
Operating Junction Temperature Range	T <sub>j</sub>	°C	0 to 150
Operating Ambient Temperature Range	T <sub>a</sub>	°C	-10 to 70

#### ELECTRICAL CHARACTERISTICS

(V<sub>in</sub> =19V, I<sub>o</sub>=0.5A, C<sub>i</sub> =0.33μF, C<sub>o</sub> = 0.1μF, T<sub>j</sub> =0 to + 125°C, unless otherwise noted.)

Characteristic	Symbol	Norm			Unit
		Min	Typ	Max	
Output Voltage (T <sub>j</sub> =25°C)	V <sub>o</sub>	11.5		12.5	V
Output Voltage (5.0mA ≤ I <sub>o</sub> ≤ 1.0A, P <sub>o</sub> ≤12W) 14.5V ≤ V <sub>in</sub> ≤ 27V	V <sub>o</sub>	11.4		12.6	V
Line Regulation (T <sub>j</sub> =+25°C) 14.5V ≤ V <sub>in</sub> ≤ 30 V 16.0V ≤ V <sub>in</sub> ≤ 22 V	ΔV <sub>v</sub>			240 120	mV
Load Regulation (T <sub>j</sub> =+25°C) 5.0mA ≤ I <sub>o</sub> ≤ 1.0A 0.25A ≤ I <sub>o</sub> ≤ 0.75A	ΔV <sub>i</sub>			240 120	mV
Quiescent Current (T <sub>j</sub> =+25°C)	I <sub>b</sub>			6.0	mA
Quiescent Current Change 14,5 V ≤ V <sub>in</sub> ≤ 30 V 5 mA ≤ I <sub>o</sub> ≤ 1.0 A	ΔI <sub>b</sub>			1.0 0.5	mA
Dropout Voltage (T <sub>j</sub> =+25°C)	V <sub>i</sub> -V <sub>o</sub>		2.0		V
Short Circuit Current Limit (T <sub>a</sub> =+25°C), V <sub>in</sub> =35V	I <sub>sc</sub>		0.3		A
Peak Output Current (T <sub>j</sub> =+25°C)	I <sub>max</sub>		1.5		A
Average Temperature Coefficient of Output Voltage	TCV <sub>o</sub>		0.7		mV/°C