

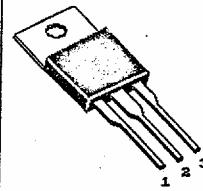
THREE-TERMINAL POSITIVE VOLTAGE REGULATOR

These voltage regulator are monolithic integrated circuits designed as fixed-voltage regulators for a wide variety of applications including local, on-card regulation. These regulators employ internal current limiting, thermal shutdown and safe-area compensation. With adequate heatsinking they can deliver output currents in excess of 1.0 ampere. Although designed primarily as a fixed voltage regulator, these devices can be used with external components to obtain adjustable voltages and currents.

- * Output Current in Excess of 1.0 Ampere
- * No External Components Required
- * Internal Thermal Overload Protection
- * Internal Short-Circuit Current Limiting
- * Output Transistor Safe-Area Compensation
- * Output Voltage Offered in 4% Tolerance

THREE-TERMINAL POSITIVE FIXED VOLTAGE REGULATOR 7815C

PLASTIC PACKAGE
TO-220

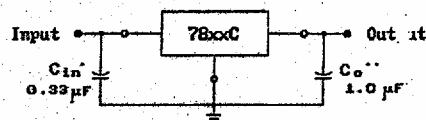


Pin: 1. INPUT
2. COMMON
3. OUTPUT

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Rating	Symbol	Value	Unit
Input Voltage	V_{IN}	35	Vdc
Power Dissipation	P_D	Internally Limited	Watts
Operating Junction Temperature Range	T_J	0 to +150	$^\circ\text{C}$

STANDARD APPLICATION



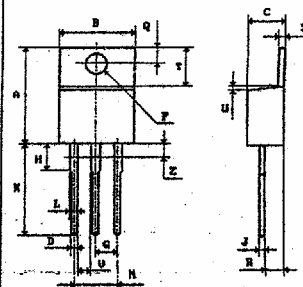
A common ground is required between the input and the output voltages. The input voltage must remain typically 2.0 V above the output voltage even during the low point on the input ripple voltage.

xx = these two digits of the type number indicate voltage.

. = C_{in} is required if regulator is located an appreciable distance from power supply filter.

.. = C_o is not needed for stability however, it does improve transient response.

xx - indicates nominal voltage



DIM	MIN	MAX
A	14.40	15.75
B	9.66	10.28
C	4.97	4.82
D	0.64	0.88
E	3.61	3.73
F	2.42	2.66
G	2.50	3.93
H	0.36	0.55
J	12.70	14.27
K	1.15	1.39
L	4.83	5.33
M	2.54	3.04
N	2.04	2.79
P	1.05	1.39
Q	5.97	6.47
R	0.00	1.27
S	1.15	-
T	-	2.04

ELECTRICAL CHARACTERISTICS: $V_{IN}=23V$, $I_{OUT}=500mA$, $T_J=25^{\circ}C$, $C_{IN}=0.33\mu F$, $C_{OUT}=0.1\mu F$, unless otherwise specified

Characteristics	Symbol	Min	Typ	Max	Unit
Output Voltage $V_{IN}=35Vdc$, $I_{OUT}=50mA$	V_0	14.4 14.25	15 15	15.6 15.75	Vdc
Output Voltage(0° to $+125^{\circ}C$) $5.0mA < I_{OUT} < 1.0A$, $P_0 < 15W$, $17.5Vdc < V_{IN} < 30Vdc$	V_0	14.25	15	15.75	Vdc
Line Regulation $17.5Vdc < V_{IN} < 30Vdc$ $20Vdc < V_{IN} < 26Vdc$	Reg_{line}	- -	- -	300 150	mV
Load Regulation $5.0mA < I_{OUT} < 1.5A$ $250mA < I_{OUT} < 750mA$	Reg_{load}	- -	- -	300 150	mV
Quiescent Current	I_B	-	-	8.0	mA
Quiescent Current Change $17.5Vdc < V_{IN} < 30Vdc$ $5.0mA < I_{OUT} < 1.0A$	ΔI_B	- -	- -	1.0 0.5	mA
Dropout Voltage $I_{OUT}=1.0A$	$V_{IN}-V_0$	-	2.0	-	Vdc
Peak Output Current	I_{max}	-	2.2	-	A

NOTE. Load and line regulation are specified at constant junction temperature. Changes in V_0 due to heating effects must be taken into account separately.

Pulse testing with low duty cycle is used.

Mounting Recommendations

To get the maximum dissipation power it is necessary:

1. The exterior radiator is to be used. The quality of the machined surface at the location of radiator and microcircuit contact is to be not worse than the quality of a microcircuit heatsink.

2. To use the grease for the microcircuit-to-radiator interface thermal resistance to be improved.

3. Mounting torque for screw mounting:

Minimum torque (for good heat transfer) 0.55Nm (5.5kgcm);

Maximum torque (to avoid damaging the device) 0.8Nm (8kgcm).

4. At the bending of the leads the maximum permissible force on the body, for 5 seconds is 20N (2kgf). The leads can be bent through 90° maximum besides the lead should be mainly bent not less than 2.4mm from the body.

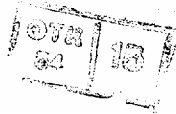
5. The leads are to be soldered:
-dip or wave soldering. Temperature $< 260^{\circ}C$ at a distance from the body 5mm and for a total time $< 7s$.

-hand soldering. Temperature at a distance from the body $> 3mm$ for a total time $< 5s$ is $275^{\circ}C$.

CERTIFICATE OF QUALITY

The specified products quality is in compliance with this specification.

SIGN of CONTROL



48-0