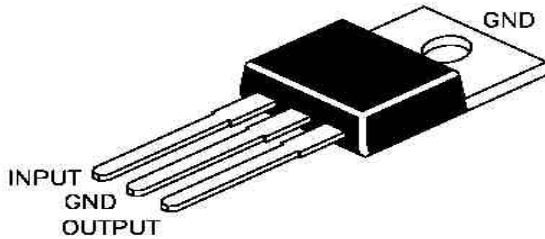


### 3-TERMINAL POSITIVE VOLTAGE REGULATOR

LM7805

TO-220  
Plastic Package



The Voltages Available allow these Regulators to be used in Logic Systems, Instrumentation, Hi-Fi Audio Circuits and other Solid State Electronic Equipment

#### ABSOLUTE MAXIMUM RATINGS

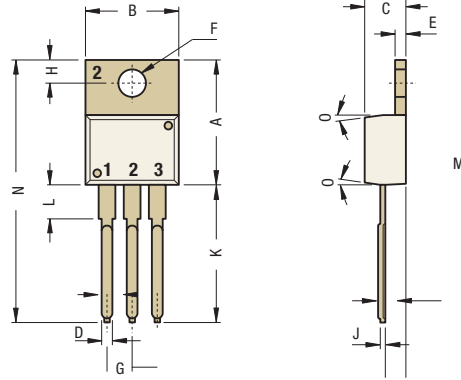
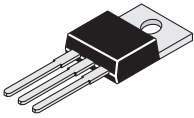
DESCRIPTION	SYMBOL	VALUE	UNIT
Input Voltage	$V_{IN}$	35	V
Continuous Total Dissipation at $T_a=25^\circ\text{C}$ free air Temperature	$P_D$	2.0	W
Continuous Total Dissipation at $T_c=25^\circ\text{C}$ case Temperature	$P_D$	15	W
Operating free-air, case, or Virtual Junction Temperature Range	$T_{OPR}$	0 to 150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to +150	$^\circ\text{C}$
Lead Temperature 1.6mm (1/16 inch) from Case for 10 seconds	$T_L$	260	$^\circ\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_j=25^\circ\text{C}$ unless specified otherwise)

$V_i=10\text{V}$ ,  $I_o=500\text{mA}$

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	$V_O$	$T_j=25^\circ\text{C}$	4.80		5.20	V
		$I_o=5\text{mA} \sim 1\text{A}$ $V_i=7\text{V} \sim 20\text{V}$ , $P \leq 15\text{W}$ $T_j=0 \sim 125^\circ\text{C}$	4.75		5.25	V
Line Regulation	$R_{EGV}$	$V_i=7.0 \sim 25\text{V}$ $T_j=25^\circ\text{C}$			100	mV
		$V_i=8.0 \sim 12\text{V}$			50	mV
Ripple Rejection	$R_R$	$V_i=8.0 \sim 18\text{V}$ , $f=120\text{Hz}$ $T_j=0 \sim 125^\circ\text{C}$	62			dB
Load Regulation	$R_{EGL}$	$I_o=5\text{mA} \sim 1.5\text{A}$ $T_j=25^\circ\text{C}$			100	mV
		$I_o=250\text{mA} \sim 750\text{mA}$			50	mV
Output Resistance	$R_O$	$f=1\text{KHz}$ $T_j=0 \sim 125^\circ\text{C}$		0.017		$\Omega$
Output Voltage Drift	$\Delta V_O/\Delta T$	$I_o=5\text{mA}$ $T_j=0 \sim 125^\circ\text{C}$		- 1.1		mV/ $^\circ\text{C}$
Output Noise Voltage	$V_{NO}$	$f=10\text{Hz} \sim 100\text{KHz}$ $T_j=25^\circ\text{C}$		40		$\mu\text{V}$
Dropout Voltage	$V_d$	$I_o=1\text{A}$ $T_j=25^\circ\text{C}$		2.0		V
Quiescent Current	$I_Q$	$T_j=25^\circ\text{C}$			8.0	mA
Quiescent Current Change	$\Delta I_Q$	$V_i=7.0 \sim 25\text{V}$ $T_j=0 \sim 125^\circ\text{C}$			1.3	mA
		$I_o=5\text{mA} \sim 1\text{A}$			0.5	mA
Short Circuit Output Current	$I_{SC}$	$T_j=25^\circ\text{C}$		750		mA
Peak Output Current	$I_{PK}$	$T_j=25^\circ\text{C}$		2.2		A

**TO-220**  
Leaded Plastic  
Package



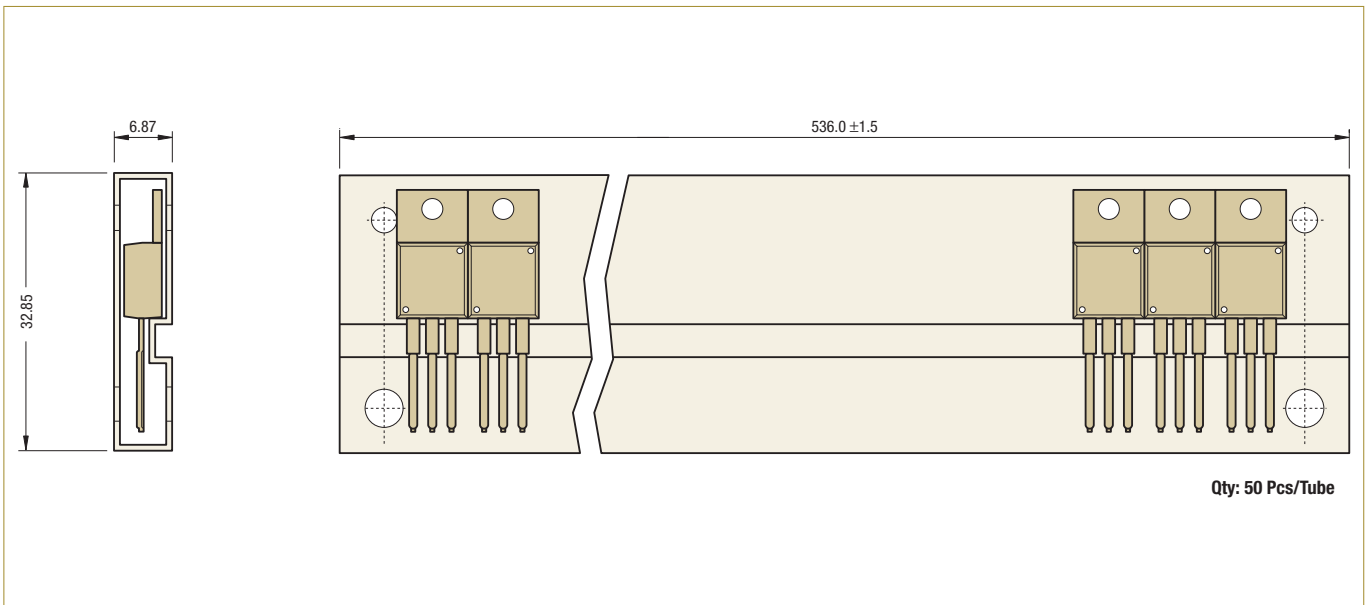
DIM	Min	Max
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	—	0.90
E	1.15	1.50
F	3.53	4.10
G	2.29	2.79

DIM	Min	Max
H	2.54	3.43
J	0.36	0.61
K	12.00	14.73
L	2.80	6.35
M	2.00	2.92
N	—	31.24
O	7°	

**Pin Configurations**

Regulators      Pin 1: In      Pin 2: Ground      Pin 3: Out

**TO-220 Series Packaging Tube**



Qty: 50 Pcs/Tube

Packaging dimensions, tube dimensions and quantity/tube are approximate and subject to change.

**... Packaging Specifications**

T & A: Tape and Ammo Pack; T & R: Tape and Reel; Bulk: Loose in Poly Bags; Tube: Tube and Carton; K: 1,000

Package / Case Type	Packaging Type	Std. Packing		Inner Carton		Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-220	Bulk	1,000	1K	19 x 19 x 8	2.0	10K	46 x 38 x 22	21.6
	Tube	1,000 (50 pcs/tube)	1K	55 x 8 x 10	2.8	10K	55 x 35 x 27	28.3

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

**Disclaimer**

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of  
Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119  
email@cdil.com www.cdilsemi.com