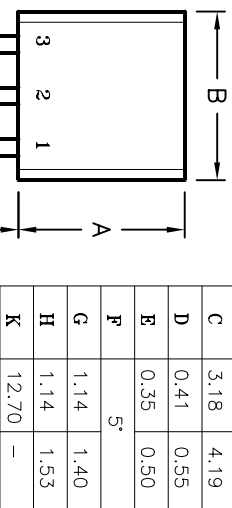


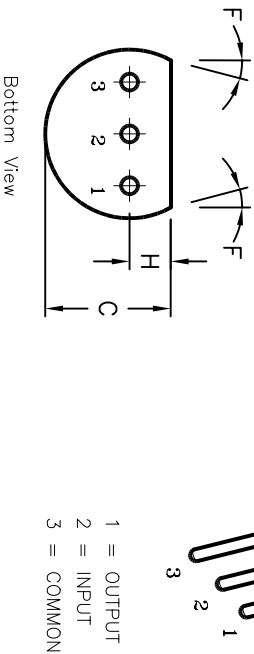
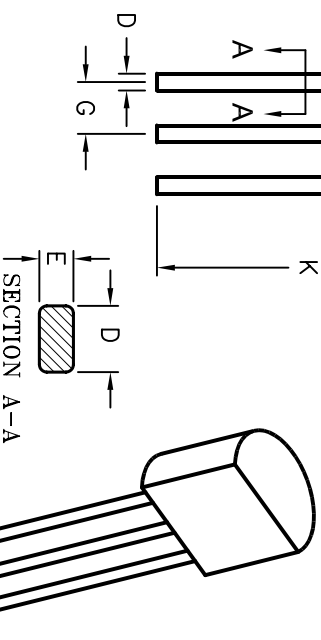
## REVISIONS

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRD	DATE
1262	A	RELEASED	HO	2/4/03	JWM	2/5/03	DJC	2/5/03

## TO-92



DIM.	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H	1.14	1.53
K	12.70	-



### Description:

A negative 3-terminal voltage regulator in a TO-92 type package suitable for numerous applications requiring up to 100mA. This device features thermal shutdown and current limiting making it remarkably rugged. In most applications, no external components are required for operation. Useful for on-card regulation or any other application where a regulated negative voltage at a modest current level is needed. This device offers a substantial advantage over the common resistor/zener diode approach.

### Features:

- No External Components Required
- Internal Short-Circuit Current Limiting
- Internal Thermal Overload Protection

### Absolute Maximum Ratings:

- Input Voltage,  $V_{IN} = -35V$
- Internal Power Dissipation (Note 1),  $P_D =$  Internally Limited
- Operating Junction Temperature Range,  $T_{opr} = 0^\circ C$  to  $+70^\circ C$
- Maximum Junction Temperature,  $T_J = +125^\circ C$
- Storage Temperature Range,  $T_{stg} = -55^\circ C$  to  $+150^\circ C$
- Lead Temperature (During soldering, 10sec.),  $T_L = +300^\circ C$

### Notes:

1. Thermal resistance, junction-to-ambient is  $+180^\circ C/W$  when mounted with 0.40 inch leads on a P.C. board, and  $+160^\circ C/W$  when mounted with 0.25 inch leads on a P.C. board.
2. To ensure constant junction temperature, low duty cycle pulse testing is used.

### Electrical Characteristics:

( $0^\circ \leq T_J \leq +125^\circ C$ ,  $V_{OUT} = -15V$ ,  $V_{IN} = -20V$ ,  $I_O = 40mA$ ,  $C_{IN} = 0.33\mu F$ ,  $C_{OUT} = 0.1\mu F$ , Note 2, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Output Voltage	$V_O$	$T_J = +25^\circ C$	-14.4	-15	-15.6	V
		$1mA \leq I_O \leq 100mA$ , $-30V \leq V_{IN} \leq -18V$	-14.25	-15	-15.75	V
Line Regulation	$Reg_{line}$	$T_J = +25^\circ C$ , $-30V \leq V_{IN} \leq -17.5V$	-	-	45	mV
		$T_J = +25^\circ C$ , $1mA \leq I_O \leq 100mA$	-	-	125	mV
Load Regulation	$Reg_{load}$	$I_O = 100mA$	-	2	6	mA
		With line, $-30V \leq V_{IN} \leq -18V$	-	-	0.25	mA
Quiescent Current Change	$I_Q$	With load, $1mA \leq I_O \leq 40mA$	-	-	0.1	mA
		$T_J = +25^\circ C$ , $f = 10Hz$ to $10KHz$	-	120	-	$\mu V$
Output Noise Voltage	$V_n$	$-28.5V \leq V_{IN} \leq -18.5V$ , $f = 120Hz$	-	-	-	dB
Ripple Rejection	RR	$T_J = +25^\circ C$	-	-	-	-
Input Voltage Required to Maintain Line Regulation	$TCV_O$	$T_J = +25^\circ C$	-	-	-17.5	V

### DISCLAIMER:

ALL STATEMENTS AND TECHNICAL INFORMATION CONTAINED HEREIN ARE BASED UPON INFORMATION AND/OR TESTS WE BELIEVE TO BE ACCURATE AND RELIABLE. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE INTENDED USE AND ASSUME ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.

### TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

- 1 = OUTPUT
- 2 = INPUT
- 3 = COMMON

### DRAWN BY:

HISHAM ODISH

### DATE:

2/4/03

### CHECKED BY:

JEFF MCWICKER

### DATE:

2/5/03

### APPROVED BY:

DANIEL CAREY

### DATE:

2/5/03

### SCALE:

NTS

### SHEET:

1 OF 1

### DRAWING TITLE:

TRANSISTOR, VOLTAGE REGULATOR, TO-92, NEGATIVE

### SIZE:

DWG. NO. 79L15

### ELECTRONIC FILE

35C0955.DWG

### REV

A