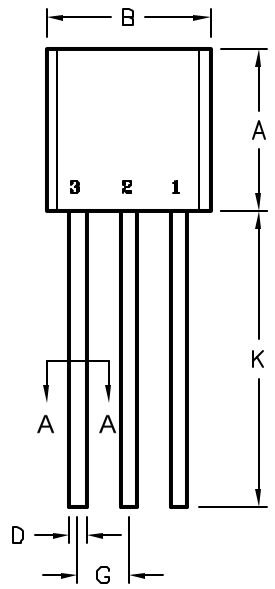
multicomp

SPC-F005.DWG

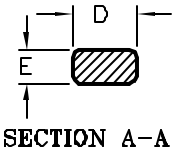
REVISIONS — DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1820	A	RELEASED	HO	3/24/05	JN	04/25/08	JN	04/25/08

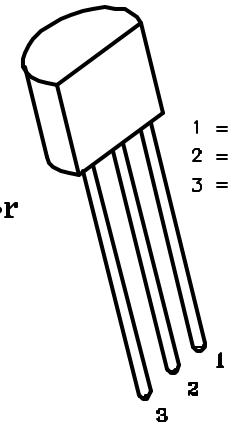
TO-92



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 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	–

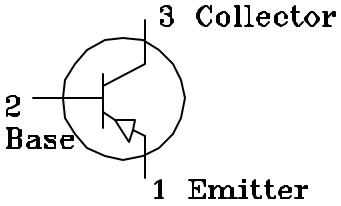


SECTION A-A



1 = Collector
2 = Base
3 = Emitter

PNP



A negative 3-terminal voltage regulator in a TO92 type package suitable for numerous applications requiring up to 100mA. This device features thermal shutdown and current limiting making the device remarkably rugged. In most applications, no external components are required for operation.
A 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, VIN-40VInternal Power Dissipation (Note 1), PDInternally LimitedOperating Junction Temperature Range, Topr0°C to +70°CMaximum Junction Temperature, TJ+125°CStorage Temperature Range, Tstg-55°C to +150°CLead Temperature (During Soldering, 10sec., TL+300°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Output Voltage	V_O	T_J = +25°C	23.0	24.0	25.0	V
		1mA ≤ I_O ≤ 100mA, 27V ≤ V_{IN} ≤ 38V	22.8	24.0	25.2	V
Line Regulation	Reg_{line}	T_J = +25°C, 27V ≤ V_{IN} ≤ 38V	–	–	350	mV
Load Regulation	Reg_{load}	T_J = +25°C, 1mA ≤ I_O ≤ 100mA	–	–	200	mV
Quiescent Current	I_B	T_J = +125°C	–	–	6	mA
Quiescent Current Change	I_B	With line, 28V ≤ V_{IN} ≤ 38V	–	–	1.5	mA
		With load, 1mA ≤ I_O ≤ 40mA	–	–	0.1	mA
Output Noise Voltage	V_N	T_J = +25°C, f = 10Hz to 10kHz	–	200	–	µV
Ripple Rejection	RR	29V ≤ V_{IN} ≤ 35V, f = 120Hz	31	47	–	dB
Drop Out Voltage	V_{DO}	T_J = +25°C, I_O = 40mA	–	1.7	–	V

Notes:

1- Thermal resistance, junction-to-ambient is +180°C/W when mounted with 0.40 inch leads on a P.C. board, and +160°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.

TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:	DATE:
HISHAM ODISH	3/24/05
CHECKED BY:	DATE:
Jason Nash	04/25/08
APPROVED BY:	DATE:
Jason Nash	04/25/08

DRAWING TITLE: Voltage Regulator, Bipolar, Plastic, TO-92, Positive

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N5401	35C0724.DWG	A

SCALE: NTS | U.O.M.: MILLIMETERS | SHEET: 1 OF 1