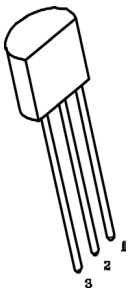
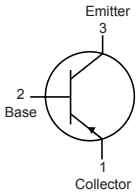
Bipolar Transistor

RoHS Compliant





Features:

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

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 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.

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Input Voltage	V_{IN}	40	V
Internal Power Dissipation (Note 1)	P_D	-	-
Internally Operating Junction Temperature Range	T_{opr}	-0 to +70	°C
Max. Junction Temperature	T_J	+125	
Storage Temperature Range	T_{stg}	-55 to +150	
Lead Temperature (During Soldering, 10sec)	T_L	+300	

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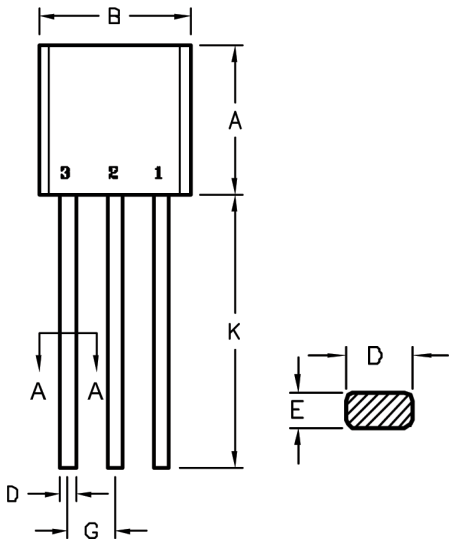
Electrical Characteristics: (T_A = +25°C Unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	T_J = +25°C	23	24	25	V
		1mA ≤I_O ≤100mA, 27V ≤V_{IN} ≤38V	22.8		25.2	
Line Regulation	Reg_{line}	T_J = +25°C, 27V ≤V_{IN} ≤38V	-	-	350	mA
Load Regulation	Reg_{load}	T_J = +25°C, 1mA ≤I_O ≤100mA			200	
Quiescent Current	I_B	T_J = +125°C			6	
Quiescent Current Change	I_B	With line, 28V ≤V_{IN} ≤38V			1.5	
		With load, 1mA ≤I_O ≤40mA			0.1	
Output Noise Voltage	V_N	T_J = +25°C, f = 10Hz to 10kHz		200	-	µA
Ripple Rejection	RR	29V ≤V_{IN} ≤35V, f = 120Hz	31	47		dB
Drop Out Voltage	V_{DO}	T_J = +25°C, I_C = 40mA	-	1.7		V

Notes:

1. Thermal resistance, junction-to-ambient is 180°C/W when mounted with 0.4" leads an a P.C. board and +160°C/W when mounted with 0.25" leads on a P.C. board
2. To ensure constant junction temperature, low duty cycle pulse testing is used.



Dimensions	A	B	C	D	E	F	G	H	K
Min.	4.32	4.45	3.18	0.41	0.35	5°	1.14	1.14	12.7
Max.	5.33	5.2	4.19	0.55	0.5		1.4	1.53	-

Dimensions : Millimetres

Pin Configuration:

1. Collector
2. Base
3. Emitter

Part Number Table

Description	Part Number
Transistor, PNP, 0.6A,150V, TO-92	2N5401